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Prevalence of Insomnia In Students of Department of Physiotherapy, Career Point University, Kota

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Abstract Rest is a functioning neurobehavioral state kept up with by the exceptionally coordinated collaboration of brain organizations and synapses of the CNS. Insomnia stays one of the most widely recognized rest problems experienced in the Adults and more seasoned populace, much of the time described by the abstract grumbling of trouble falling or keeping up with rest, or non-helpful rest, creating huge daytime side effects including trouble concentrating and temperament aggravations. Rest issues incredibly affect the understudies' day to day routine, for instance, the grade point normal. Because of sporadic daytime schedules, chronotype changes, side positions and test periods, they need specific therapies for further developing rest. The study of disease transmission uncovers that the flow pervasiveness pace of sleep deprivation in youthful populace is 8 to 40%.

Aim & Objectives: The point of the review was to assess the inescapability of sleep deprivation among the BPT understudies of Career Point University, Kota.

Methodology: A Google form was created with the basic history taking and information with Insomnia Severity Index (ISI). The Google form was circulated among the students of physiotherapy of Career Point University, Kota. 72 students of 91 responded to the Google form and rest were declared uncooperative. The data was analyzed according to the responses.

That's what the information showed, the age bunch was between 17-24 years. As per the information gathered, it is seen that 77.77% understudy experience the ill effects of no kind of a sleeping disorder and rest problem, 16.66% understudies experience the ill effects of sub-edge a sleeping disorder, 2.77% understudy experience the ill effects of moderate sleep deprivation and 2.77% understudies experience the ill effects of extreme a sleeping disorder. 79.4% populace has no set of experiences of past sickness, and 20.8% populace was concerned of bad dreams.

Conclusion: The study concludes that the students of department of Physiotherapy of Career Point University, Kota do not suffer much from insomnia and sleep related disorders but there is a remarkable population seen who are suffering from nightmares

Key Words- Insomnia, ISI, Sleep Disorders, Prevalence, Sleep Cycle, Circadian Rhythm

I INTRODUCTION

Rest is one of the fundamental and essential Physiological cycles in our body and is kept up with by inside body clock. It is a functioning neurobehavioral state kept up with by profoundly coordinated connection of brain organizations and synapses of CNS.

It controls the digestion, catabolism, temperature, learning and memory solidification. (1) Nerve-flagging synthetic compounds called synapses control whether we are snoozing or alert by following up on various gatherings of neurons in the CNS. (2)

II LITERATURE REVIEW

Rest is viewed as adequate when there is no daytime sluggishness or brokenness. Most rest specialists concur that the grown-up rest prerequisite is commonly somewhere in the range of 6 and 10 hours of rest each 24-hour time frame, with most of people requiring roughly 8 hours of rest a day. (3) Optimum sum and great prominence rest keeps up with fragile balance between the condition of rest and attentiveness. Absence of rest might have extreme wellbeing outcomes, prompting expanding illness grimness and mortality. It had been hypothesized that lack of sleep might be related to abandon inside the insusceptible capability, and might be embroiled inside the pathogenesis of mental issues and metabolic issues like diabetes mellitus, metabolic disorder, and stoutness. (4)

The variables which for the most part influence rest are utilization of liquor, jazzed drinks, cigarettes, and so on, expanded possibility of nervousness, melancholy, bipolar and other neurological circumstances influence the rest quality with maturing, expanded utilization of meds like beta blockers, antihypertensive medications, and steroids

influence the rest cycles, and a large portion of these elements are tracked down normal in undergrads. Scholastic strain and its related pressure are responsible for aggravations inside the circadian pattern of the researchers. The fundamental parts which since sleep deprivation are natural factors like ongoing torment, respiratory sicknesses, and mental elements like nervousness, melancholy, OCD (Obsessive Compulsive Disorder), social issues, actual incapacity and chronic weakness. (5) The analytic measures for Insomnia is given in Table 1. Sleep deprivation is related with huge incapacitation whenever left untreated. The most grounded degree of proof is for psychological maladjustment. (6)

A sleeping disorder is a basic issue which is portrayed by struggling with starting rest, blockaded to keep up with rest, awakening regularly during the evening, be responsible to get up too soon and can't return to rest, rest is non-supportive or of low quality.

III METHODOLOGY

Study deign:This is Questioner based Analytical review including Insomnia Severity Index on 72 physiotherapy understudies send Google structure. Flowed to every one of the clusters of Physiotherapy. Understudies were drawn closer to fill the structure and direction given to them. To guarantee continued filling examiner same KID is just submitted once.

The members were effectively available and were not difficult to impart through WhatsApp, email and online entertainment foundation of 91 understudies 72 understudies answered and others were announced uncooperative.

This study is embraced to figure out the inescapability of sleep deprivation among the college understudies of Career Point University, Alaniya, Kota, who are concentrating on Bachelor of Physiotherapy in the meeting 2021-2022. There are not very many examinations accessible which learn about the resting problems of the school going understudies. Being familiar with the resting example, problems and seriousness of the disease is exceptionally vital. The concentrate additionally means to execute the rest cleanliness schooling to the understudies who are experiencing restlessness and furthermore to every one of the understudies taking part in the review.

IV OUTCOME MEASURE

INSOMNIA SEVERITY INDEX (ISI)

The evaluation of a sleeping disorder is complex and ought to in a perfect world incorporate a clinical assessment and be supplemented by self-report polls and everyday rest journals. While a clinical assessment stays the highest quality level for making a legitimate sleep deprivation conclusion, such an assessment can be tedious in routine clinical practice and may deter some wellbeing experts from methodically asking about

snooze every one of them patients. There are as of now a few patient-revealed surveys accessible for evaluating sleep deprivation side effects, seriousness, corresponds, and different builds ventured to add to the etiology of a sleeping disorder. Concerning evaluating for a sleeping disorder and assessing treatment result, there are less decisions accessible. Probably the most broadly involved instruments for these reasons incorporate, for instance, the Insomnia Severity Index, the Pittsburgh Sleep Quality Index, the Insomnia Symptom Questionnaire, and the Athens Insomnia Scale

The Insomnia Severity Index (ISI) is a short instrument that was intended to evaluate the seriousness of both in afternoon and night hours' parts of sleep deprivation. It is accessible in a few dialects and is progressively utilized as a measurement of treatment reaction in clinical examination.

The ISI is a 7-thing self-report survey evaluating the nature, seriousness, and effect of a sleeping disorder. The typical review time frame is the "last month" and the aspects assessed are: seriousness of rest beginning, rest support, and early daytime arousing issues, rest disappointment, obstruction of rest challenges with daytime working, recognizability of rest issues by others, and misery brought about by the rest hardships

INSOMNIA SEVERITY INDEX

A 5-point Likert scale is utilized to rate everything (e.g., 0 = no issue; 4 = extremely serious issue), yielding an all-out score going from 0 to 28. The all out score is deciphered as follows: nonappearance of sleep deprivation (0-7); sub-limit sleep deprivation (8-14); moderate sleep deprivation (15-21); and extreme a sleeping disorder (22-28). Three variants are accessible — patient, clinician, and life partners — however the current paper centers around the patient adaptation as it were. Past investigations have detailed satisfactory psychometric properties for both the English and French variants. (15)

Q.1 Please rate the current (for example multi week) seriousness your sleep deprivation issue (s)	1. Difficult y fallin g asleep:	0 =None	1= Mild	2= Moderate	3= Severe	4= Very severe
	2. Difficulty stayi ng asleep					
	3. Probl em waki ng up to early					
Q.2 How you Satis- fied/disap pointed with your ongoing rest de- sign?	0 =Very Satisfied	1= Mild	2= Moderate	3= Satis- fied	4= Very Dis- satisfied	

Q.3 To what extent do you think about your rest issue INTERFARE with your day to day working (for example day time weakness, capacity to work at home/ever yday errands, focus, memory, temperament and so on.)	0= Not at all interfering	1= A little	2=Somewhat	3= Never	4= very much interfere
Q.4 How NOTICEABLE to others your rest issue in term of disabling the personal satisfaction?	0= Not at all noticeable	1= Barely	2=Somewhat	3= Much noticeable	4=Very Much
5 How WORRIED/distress are you about your current sleep pattern?	0= Not at all noticeable	1= A little	2=Somewhat	3= Never	4=Very Much

V DISCUSSION

The task work planned to extensively assess the inescapability of sleep deprivation in the understudies of division of physiotherapy of Career Point University Kota, utilizing the Insomnia Severity Index as a device. The bigger populace was viewed as exceptionally happy with their rest, but a little populace was found being experienced sleep deprivation. It was normal at first that understudies who concentrate on Health Sciences are more inclined to be determined to have sleep deprivation on account of their enormous prospectus, as per sohanjan Chakraborty Epidemiological review among under graduate (16). Clinical understudies, they presumed that 51% of understudies experienced the most. A measurably critical affiliation was found among sleep deprivation and discouragement. Rabha an el Shaly et al (17). Evaluation of sleep deprivation and rest quality among clinical understudies benghazi college: A cross sectional review, propose that 76.67% understudies were unfortunate sleeper insect the pervasiveness of unfortunate rest quality was somewhat higher among females than guys (76%) and (74%) individually (18). However, in the event of understudies of Career Point University, Department of Physiotherapy the understudies are happy with their rest and are not experiencing a lot of a sleeping disorder and rest related messes, however a more prominent populace is stressed

over bad dreams, which involves concern. There is a need of additional examinations in such kind of populace about sleep deprivation and rest related issues, particularly about bad dreams.

ISI is a broadly involved instrument for evaluating rest quality and it estimates rest quality alongside five parts (19). In this review, every one of the examinations have involved ISI for estimating the predominance of sleep deprivation among understudies. Notwithstanding, various sorts of scales can be utilized to gauge the commonness of sleep deprivation and numerous distinctions are seen in the predominance of sleep deprivation while utilizing various scales (20). In this way, more all-around planned examinations are expected for the assessment of sleep deprivation predominance among college understudies.

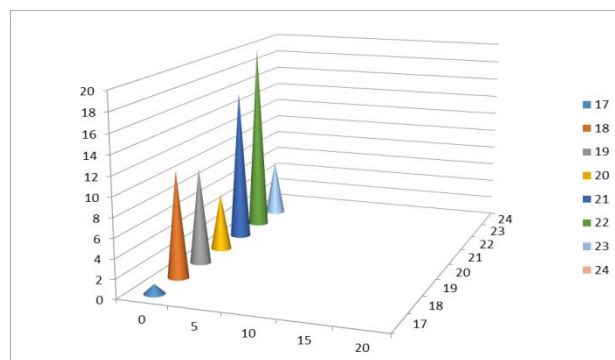
VI RESULTS

That's what the information showed, the age bunch was between 17-24 years. Enormous quantities of members were old enough 22 years (27.8%), 22.2% were of 21 years, 15.3% were of 18 years, 13.9% were of 19 years, 8.3% were of 20 and 23 years, 2.8% were of 24 years and 1.4% were of 17 years of age. The mean age determined was 20.5 years. The bar graph shows the fluctuation old enough present in the branch of Physiotherapy, CPU, Kota. As indicated by the information gathered, it is seen that 77.77% understudy experience the ill effects of no

sort of sleep deprivation and rest problem, 16.66% understudies experience the ill effects of sub-edge a sleeping disorder, 2.77% understudy experience the ill effects of moderate a sleeping disorder and 2.77% understudies experience the ill effects of extreme sleep deprivation. The information additionally shows individual responses to the subject of ISI that is,

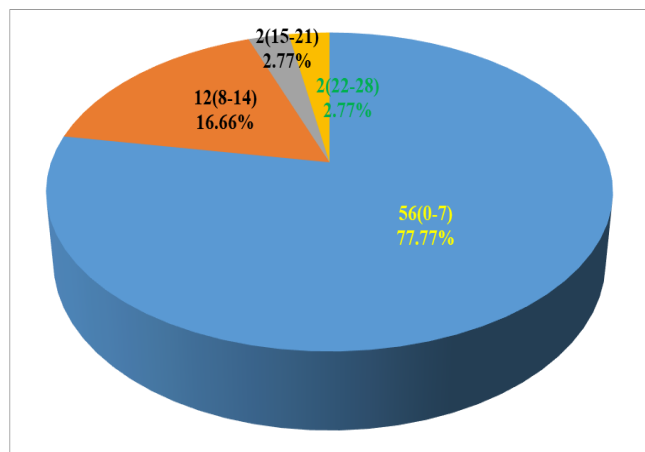
at the point when gotten some information about counsel to any doctor, 94.4% populace not counseled to any doctor for rest, 97.2% addressed that they are not taking medication for their rest issues, 79.4% populace has no set of experiences of past illness.

Graph 1 VARIABILITY OF AGE OF STUDENTS



At the point when gotten some information about trouble nodding off, 30.6% dealt with any consequences regarding moderate and 54.2% go for no any trouble. For trouble staying unconscious 23.6% go with gentle and 68.1% go with no any trouble. The greater part of the populace went for the response about fulfillment of rest design with happy with 37.5%, 63.9% are not stressed by any means over their rest issue and when gotten some

information about the bad dreams 20.8% populace was concerned of bad dreams.



Graph 2 PREVALENCE OF INSOMNIA IN STUDENTS OF CPU

VII CONCLUSIONS

The review presumes that the understudies of branch of Physiotherapy of Career Point University, Kota don't experience the ill effects of a sleeping disorder and rest related messes as the bigger rate populace which is 77.77% experience the ill effects of no kind of sleep deprivation and rest related issues, though the populace which experiences a sleeping disorder (gentle and direct) which is 5.54% has a high score in ISI which is 15-28, however there is an exceptional populace seen who are experiencing bad dreams and they are stressed over it.

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Screening of Forward Head Posture And Its Impact On The Activity of Daily Living Among Collegiate Adults of Career Point University

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Abstract: Finding out the prevalence of forward head posture and its effects on daily living activities among Career Point University Kota students is the study's goal and objective. Cross-Sectional Study 98 participants who met the inclusion and exclusion criteria of a CV angle of less than 53° were enrolled in the study at Career Point University in Kota, Rajasthan. The woman was made to sit upright with her legs bent 90 degrees. Two points are marked: one on the subject's tragus and one on the skin overlaying the C7 vertebra. Following the acquisition of the shot, we used image tool software to quantify FHP using the CV angle. After analysing the data of 98 individuals, we discovered that 66 of the students had forward head posture while the remaining 32 had normal posture.

The data from 98 patients were analysed using the mean percentage to determine the prevalence, and it was discovered that 66 of the 98 subjects had FHP whereas 32 had normal posture. In the pupils, FHP prevalence was reported to be 67%. An NDI questionnaire was administered to these 66 pupils in order to assess the effect on daily life activities. The majority of the pupils reported little to no discomfort and numbness both during the day and at night. Students who reported moderate or severe neck pain revealed that 6.06% of them experienced pain while performing personal care, whereas other activities like lifting heavy objects, working, participating in social activities, and driving were only marginally impacted by a forward-leaning head posture. While reading and watching TV, students who reported discomfort 48.49% displayed

mild pain and 21.23% displayed moderate pain.

According to all study findings, career point university students have a 67% prevalence of forward head posture, which to some extent interferes with daily activities

Keyword : FHP, NDI, CAV, VAS, Cranio Vertebral Angle, Moderate Pain

I INTRODUCTION

The public frequently complains of neck pain, which has a significant impact on people and their families, communities, the healthcare system, and enterprises. (2,3,4) The repetitive use of devices like computers, TVs, phones, and even bag packs causes the body to adopt poor posture (10), which causes numerous body parts to malfunction by shortening and lengthening as a result of muscular imbalance. (11)

Due to the biomechanical link between the head, cervical, and dentofacial structures, head and cervical posture has become increasingly problematic in recent years. (1) Forward head posture is caused by the cervical spine's anterior placement, which adds 10 lbs (4.5 kg) of weight to the cervical spine for every inch the head is moved forward. This results in the dysfunction of the musculoskeletal,

neurological, and circulatory systems. (7,9)

Numerous research have been conducted to examine the relationship between forward head position and neck pain, and the results suggest that the forward head posture produces severe neck pain because it shortens muscle fibres and reduces the muscles' ability to produce tension. (8) Along with excruciating neck pain and muscular imbalance, the forward head posture can cause fatigue, limited range of motion, temporomandibular joint dysfunction, teeth grinding, pinched nerves, myofascial pain syndrome, headaches, migraines, numbness, tingling, and muscle spasms, all of which can make it difficult to perform daily tasks. (8,5)

II Literature Review

In order to provide students with the appropriate awareness of posture and ergonomic advice to treat neck pain, the current study was conducted to examine the prevalence of forward head posture and its impact on daily living activities in students. The lack of awareness of posture while working is a major factor in causing improper posture of the head and neck.

When the head is positioned anterior to the vertical line, this is known as forward head

posture. CVA (craniovertebral angle) should be less than 53 when the head is positioned forward.

Forward head posture (FHP), which is the forward positioning of the head in reference to the shoulder, may be facilitated by neck flexion (12). This is the most prevalent cervical postural error in the sagittal plan, and it can be seen in almost every population with varying degrees of severity. (12) Deficits in cervical range of motion, particularly neck flexion and rotation, have been linked to higher FHP. (12,13)

III METHODOLOGY

A Total 98 subjects were included in the present study according to the inclusion and exclusion criteria. All the subjects were taken from Career Point University Kota, Rajasthan

A cross sectional study.

Inclusion Criteria

- 1.Forward head posture (CVA <53) and rounded shoulder
- 2.Age between: - 18-25
- 3.Heterogenous population.

Exclusion Criteria

- 1.Fracture
- 2.Malignancy
- 3.Infection

4.Progressive Neuromuscular Deficit

5.Myelopathy

Instrumentations / Outcome Measures

- 1.Digital Video camera
- 2.Ruler (one meter)
3. Plastic pointer
- 4.Chair (with-out Arm Rest)
- 5.Rigid standard plastic transparent right angle
- 6.Plumb line
- 7.Marker
- 8.FHP Image tool software for CVA angle measurement.
- 9.Visual Analogue Scale (VAS)
- 10.Neck disability index

With the aid of the FHP application, the subjects were chosen and screened for forward head position by measuring the craniovertebral angle. It was determined that the participants with craniovertebral angles less than 53° had forward head position. They were given an explanation of the process for assessing forward head posture.

- To assess head and neck posture while standing, a digital imaging technique (FHP Image tool software) was employed.
- A camera was mounted on a tripod stand at a distance of 150 cm, with the height adjusted to the subject's shoulder level.

• The subject was instructed to sit in front of the camera and face the lens in a straight line. The picture was taken and saved as a jpg in the FHP programme. The angle was calculated along the line drawn from the tragus of the ear to the spinous process.

In order to determine the prevalence, the data from 98 subjects were examined using the mean percentage. It was discovered that, of the 98 subjects, 66 had forward head position while 32 had normal head posture. The prevalence of forward head posture in pupils was found to be 67%.

Sr. No.	FHP Reading	Sr. No.	FHP Reading	Sr. No.	FHP Reading
1	44.45	23	36.75	45	37.25
2	34.22	24	37.10	46	35.79
3	40.95	25	46.57	47	34.31
4	41.96	26	47.67	48	41.42
5	34.41	27	37.42	49	38.66
6	41.66	28	37.50	50	41.69
7	34.66	29	37.90	51	41.77
8	37.95	30	37.92	52	34.54
9	34.81	31	40.23	53	43.38
10	45.68	32	38.14	54	34.82
11	40.79	33	38.19	55	44.13
12	35.27	34	38.25	56	40.55
13	35.54	35	46.64	57	37.38
14	35.54	36	38.75	58	45.00
15	34.78	37	45.95	59	35.86
16	47.77	38	39.02	60	34.99
17	36.19	39	39.27	61	36.49
18	44.47	40	45.20	62	36.33

19	36.37	41	39.87	63	46.62
20	43.47	42	38.76	64	34.19
21	36.54	43	40.24	65	39.75
22	36.68	44	40.39	66	34.26

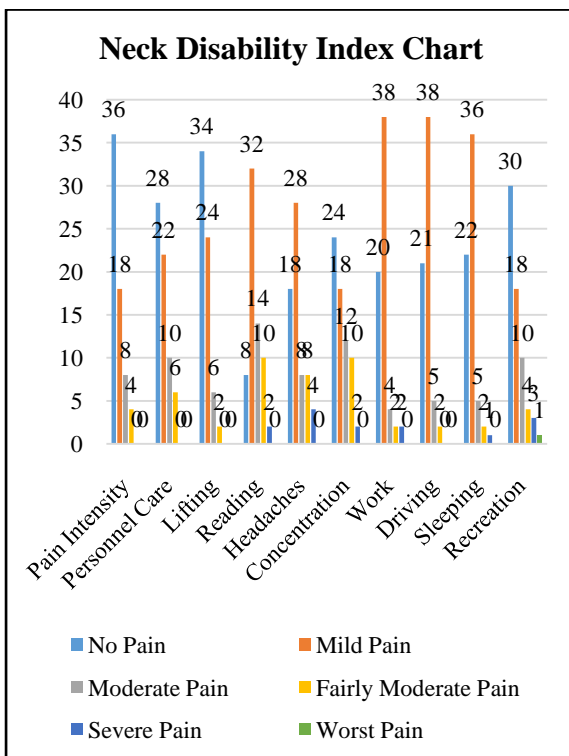
The information gathered via a questionnaire from the respondents with forward head posture is described. Distribution of data from the Neck Disability Index Questionnaire, where a score of 0 indicates no pain and a score of 5 indicates very severe pain.

Sr. No.	Parameters	Score					
		0	1	2	3	4	5
		No Pain	Mild Pain	Moderate Pain	Fairly Moderate Pain	Severe Pain	Worst Pain
1	Pain Intensity	36	18	8	4	0	0
2	Personnel Care	28	22	10	6	0	0
3	Lifting	34	24	6	2	0	0
4	Reading	8	32	14	10	2	0
5	Head aches	18	28	8	8	4	0
6	Concentration	24	18	12	10	2	0

7	Work	20	38	4	2	2	0
8	Driving	21	38	5	2	0	0
9	Sleeping	22	36	5	2	1	0
10	Recreation	30	18	10	4	3	1

of the risks associated with forward head posture and may be adopting some preventative measures, hence the impact on the outcomes was not significant. Numerous populations can be used for the investigation. It is possible to prevent forward head position with exercises. Before there are any structural alterations, ergonomics can be advised.

IV Result



According to this study, students have a 67% prevalence of forward head position, which may be related to their habit of studying while hunched over with their necks bent.

Another cross-sectional study conducted by Mamania and Anap to determine the prevalence of forward head posture among physiotherapy students found that there is a 70% prevalence of the posture. They also discovered that students spent the majority of their time on books, laptops, and mobile devices, which may have contributed to their findings. [15]

In our study, we discovered little or minor difficulties with daily living tasks among Career Point University students who had a forward head posture. The effects of a forward head posture on everyday life tasks were insignificant. The majority of the group chosen for the study were physiotherapy students, who may be aware

The forward head posture has effects on respiration, palpitations, sleep difficulties, and numbness in the limbs in addition to pain. [17,18] Consequently, we may claim that it has an impact on the neurological, musculoskeletal, and respiratory systems.

In our study, we discovered little or minor difficulties with daily living tasks among

Career Point University students who had a forward head posture. The effects of a forward head posture on everyday life tasks were insignificant. The majority of the group chosen for the study were physiotherapy students, who may be aware of the risks associated with forward head posture and may be adopting some preventative measures, hence the impact on the outcomes was not significant. Numerous populations can be used for the investigation. It is possible to prevent forward head position with exercises. Before there are any structural alterations, ergonomics can be advised.

V CONCLUSION

The study's findings suggest that out of 98 pupils, there is a large prevalence of forward head posture, and that this defective posture has certain negative effects on daily activities. Since perfect posture can be achieved via conscious effort, a programme that incorporates exercises and a postural exam could help individuals become more aware of their posture and possibly alter their default positions.

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Recent trends in delivery of Natural Products

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Abstract— Natural products are recommended in today's scenario due to less toxicity, more nutritional value and less repetition of symptoms related to disease. Isolation of Phytomolecules opens a new era of active pharmaceutical ingredients which helps in generating novel formulation using them. In this context, curcumin, taxol, andrographalide are some unique examples which provide enhance pharmacological activity during treatment. In a general view, the large size of molecule needs less particle size to enhance the penetration and mechanism of action at a particular site. Novel Drug delivery system revolutionized both of the above factors and the formulations containing liposomes, nanoparticles, phytosomes, microspheres, emulsion, transferosomes, ethosomes, micropellates are unique examples that set a benchmark.

Keywords— Novel Drug delivery systems, Curcumin, andrographalide, taxol, pharmacological activity.

I. INTRODUCTION

Nature is the ultimate source of Healing, the synthetic routes itself are the copy of natural phenomenon. The Phytomolecules are Natural products which are healing, detoxifying, boosting immunity and providing Nutrition to Mankind from centuries. The crude plant drug, extract, juices and powders are in use. But due to the need of fast healing and remediation, the way of formulation requires more skillful work. Nies S. et al., (2007), reported that the Diseases require the medicine along with nutritional benefit to the body. Natural compounds are used in history along with other compounds in the form of extracts which provide the body a synergistic effect during the treatment [1].

Nishiyama N. et al., (2007) the powder of crude drugs is no doubt full of Nutritional benefits and other remedial effects for the body along with unwanted impurities that delay the pharmacological profile of herbal medicines. Wang et al., (2008), suggest that the process of removing such impurities improves the quality of herbal medicine and give its more remedial effect, this process is known as enrichment, it is a proven fact that the particle size matter for almost all the alterations in physicochemical properties of a drug. Enhancement of bioavailability leads to improvement in pharmacological activity [2,3].

II. TYPES OF NATURAL PRODUCTS BASED NOVEL DRUG DELIVERY IN NANOMEDICINES

A. LIPOSOMES BASED DRUG DELIVERY SYSTEM

Liposomes are defined as nanosized vesicular structure consisting of aqueous core surrounding with phospholipid layer as depicted from fig.1. McNeil S.E. *et al.*, (2009) reported that for the pharmacological prospects of liposomes are improved during studies. Jagtap S. et al., (2009) informed that Quercetin, curcumin are some legendry examples for the liposomal drug delivery system [4,5].

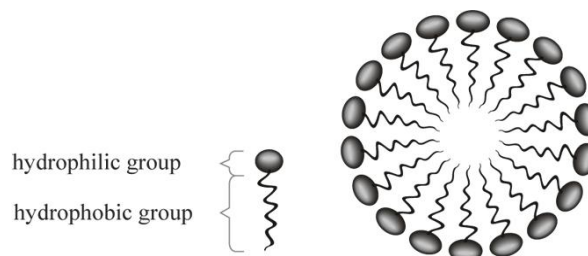


Fig.1. Structure of Liposome

B. NANO PARTICLE DRUG DELIVERY SYSTEM

Nanoparticles are the microscopic particles confined to nanoscale in all three dimensions (1-100nm). The structure is described by fig 2. Li DC. *et al.*, (2009) informed about the application of targeted drug delivery system in Chinese medicine in which they discussed the nano particle drug delivery system for the drug having short half-life and solubility problems[22].

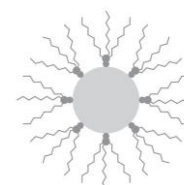


Fig 2. Structure of Nanoparticle

C. PHYTOSOMAL DRUG DELIVERY SYSTEM

Phytosome is a biocompatible and biodegradable delivery system that is formed through complexation –in a stoichiometric ratio-of a phytochemical, or a mixture of phytochemicals, with a phospholipid, mainly phosphatidylcholine or phosphatidylserine, in an aprotic solvent as shown in Fig. 3. Leonard K. *et al.*, (2010) and Hou J. *et al.*, (2008) reported the in situ green synthesis of biocompatible ginseng capped gold nanoparticles with remarkable stability, in their studies the phytosomal preparations of ginseng extract were observed and compared with the stability of ginseng capped gold nanoparticles [40, 41].

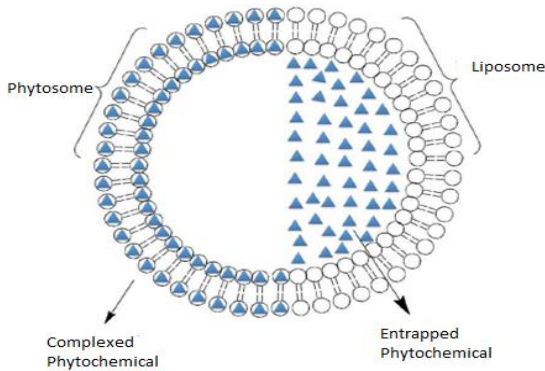


Fig 3. Structure of Phytosome

D. MICROSPHERE DRUG DELIVERY SYSTEMS

Microsphere are the spherical microparticles with diameters from 1 to 1000 μm. Fig. 4 depicted the formation of microspheres, Lertsuthiwong P. *et al.*, (2008) prepared alginate capsules containing turmeric oil such formulation contains the microspherical size particles which act as shell to the oil. Chauhan H.S. *et al.*, (2009) reported that phospholipid contain drug delivery system increases the systematic drug delivery. Verma H. *et al.*, (2011) informed that the compounds having the antioxidant, anticancer, hepatoprotective activities get effective delivery by novel drug delivery system. Maiti K. *et al.*, (2006) gave the data which relate the phospholipid-curmin complex with restoration of liver glutathione system in liver. [50, 51, 52, 53].

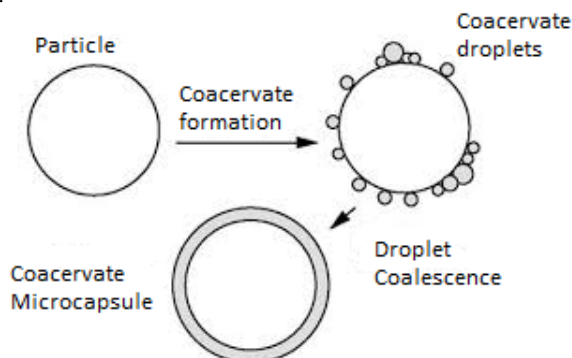


Fig 4 Structure of Microsphere

E. EMULSION SYSTEMS

Emulsions are the class of dispersed system consists of two immiscible liquids. Yue PF. *et al.*, (2010) reported the oxymatrine-phospholipid complex was studied for the enhancement of the oral bioavailability and this study also shows that oxymatrine-phospholipid complex increase the permeability of hepatocytes. Das MK. *et al.*, (2008) informed about the Morphology and release characteristics of ionic cross linking technique during which the stage of emulsion was also studied. Kanan K. *et al.*, (2009) gave the evaluation of sustained release microspheres of acetazolamide by solvent evaporation technique such technique include the stage where initially the emulsion stage occurs [59, 60, 61].

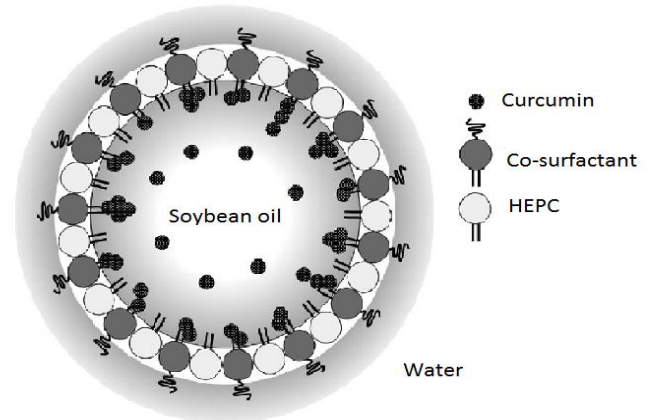


Fig.5 Structure of Emulsion system for curcumin

F. TRANSFEROSOMAL DRUG DELIVERY SYSTEM

Gangwar S. *et al.*, (2010) reviewed that the Ethosomes are the novel tool for drug delivery system through the skin. For transdermal delivery of drug the ethosomes are the ethanolic phospholipids vesicles which increase the permeation by increasing the cell membrane fluidity. The deliver the drug by increase the permeation inside the skin and fuse with cell membrane [68].

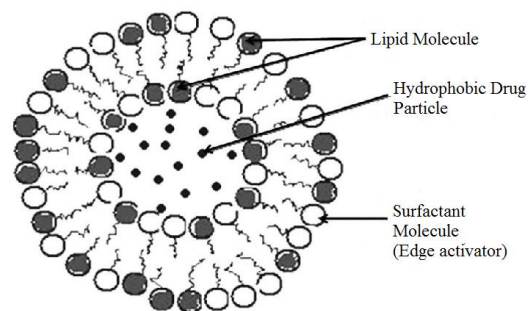


Fig.6 Structure of Transferosomes

G. ETHOSOMAL DRUG DELIVERY SYSTEM

Ethosomes are noninvasive delivery carriers that enable drugs to reach the deep skin layers and/or the systemic circulation. Yun Z. *et al.*, (2010) prepared the Ethosomal total alkaloids of alopecuroides and performed their evaluation by transmembrane pH- gradient method [71].

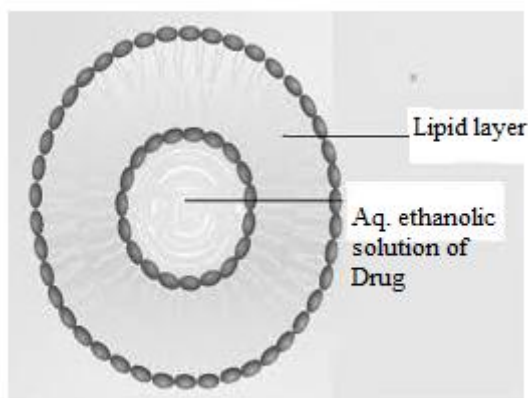


Fig.7 Structure of Ethosomes

H. MICROPELLATIZATION DRUG DELIVERY SYSTEM

Prabhakaran L. *et al.*, (2007) gave an overview of the pharmaceutical micropellets and discussed that the pellets of size 1-1000 μm are suitable for dosage form design and also increase the efficacy of the bioactive agents. Shariff *et al.*, (2007) formulate the andrographalide in cross linked alginate pellets evaluate the associated release kinetics. Kumar RS. *et al.*, (2009) formulate and evaluate the curcumin pellets for colon delivery of pectin hydroxyl methylcellulose coating. Fig.8 depicted the process of micropellets formation [75, 76, 77].

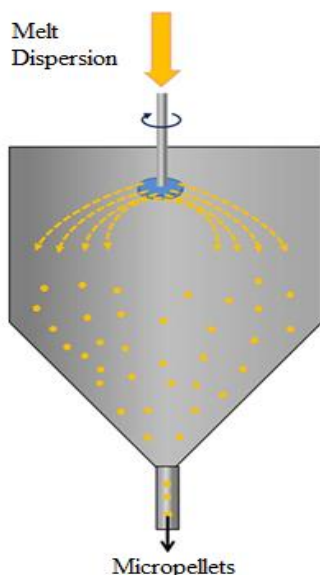


Fig.8 Preparation of Micropellets

III. CURRENT CHALLENGES AND POTENTIAL OPPORTUNITIES

A. Quality of source of Plant material and evaluation of its constituents

Devi VK. *et al.*, (2010) reported that the modern phytopharmaceutical research can solve the scientific need of herbal medicine to be incorporated in novel drug delivery system. Quality of plant material depends on the authenticity of seeds requires for sowing, the quantity of excess fertilizer, pesticides given during the cultivation and the ripening, contaminating conditions during storage. The systematic approaches in cultivation, postharvest management will improve the quality of medicinal plants [80].

B. Innovation in the evaluation of the pharmacological profile of Herbal medicines

Pinto JF (2009) gives evaluation of the pharmacological profile of the Drugs includes the studies with respect to a single molecule. In case of herbal medicine, the pharmacological profile the synergistic effect of the number of molecules present in the extract. The evaluation of this synergistic effect requires the development of the efficient pharmacological model which can differentiate the specific and general effect of the herbal medicine. Further he studied the site specific drug delivery system [81].

C. The Interface with Regulatory Science

Singh H., (2011) suggested that traditional medicine the use of Natural products is an integral part. The International organization such as WHO is working to classify the Natural products in context to the International classification of Diseases. The International Standardization organization is trying to develop the international standards for a group of products. The export-import of Natural medicines requires proper controls. "Dreadful ducklings" is a term general use by medicinal chemist for Natural products as they contain structural complexity, multiple hydroxyl moieties and chiral centers. To overcome this problem, combinatorial chemistry is emerge as new area for chemical diversities. It is proven in case of HIV protease inhibitors as drug discovery [82].

IV. RECENT ADVANCES

Nanotechnology is an emerging field in drug delivery systems. The definition of Nanoparticles, however, debated and many sources define them as the particles having the size of range 1nm to 100 nm. Bhatta RS. *et al.*, (2012) concluded that at nanoscale structure the properties and interactions are unique which improves the pharmacological action. Polymer Nanoparticles, solid lipid nanoparticles (SLNs), liposomes, crystal nanoparticles, dendrimers and micelles are the types of Nanoparticles havine potential applications in Pharmaceutical sciences [83].

Natural products have been tested mostly with polymeric nanoparticles. Poly (lactic-co-glycolic acid) (PLGA), polyethylene glycol (PEG), polyvinyl alcohol(PVP), polycaprolactone (PCL), chitosan and poly-L-lactic acid (PLA) are the commonly used polymers which are used to the properties of biodegradability, biocompatibility and funtionalizability. Li Y. *et al.*, (2013) reported that Biopharmaceutical classification system (BCS IV) flavonoid

glycosides have poor membrane permeability and permeation this problem is resolved by developing bioactive lipophilic aglycone icaritin into nanocrystals by anti-solvent precipitation method. Natural polymer, chitosan, is currently proves its applications in natural product delivery. Nanocapsules and nanospheres are two polymeric types of nanoparticles. Nanocapsules are drug delivery systems which contain a core part of drug-filled at center and polymer membrane is surrounding it. The nanospheres are porous in nature and the drug is distributed uniformly at pores. Phospholipids are composed of liposomes and micelles [84].

Solid lipid nanoparticles are choice of drug delivery system for hydrophobic drugs. These are more stable than liposomes and less toxic than polymeric nanoparticles. Tran TH. *et al.*, (2014) reported that quercetin-containing self nanoemulsifying drug delivery system improves the oral bioavailability. Further, liquid lipid has introduced into the solid structure which forms nano structured lipid carriers. Such systems are divided into imperfect type, an amorphous type and multiple type. The drug loading capacity is enhanced by imperfect type of system. In amorphous type system, the solid lipids are mixed with special lipids, e.g. medium-chain triglycerides which prevent crystallization and drug expulsion during storage. The solubility of drugs enhance due to multiple-type system [85].

Cancer and other chronic human diseases needs the nanotechnology based delivery system especially in case of natural products. Such system improves the bioavailability, targeting and controlled release profiles of Herbal medicines.

V. BENEFITS OF NANOTECHNOLOGY

A. Bioavailability

Both the prevention and treatment of disease can improve by using natural compounds as Nanoparticles due to increase in their bioavailability. Siddiqui IA. *et al.*, 2010 studied the efficacy of well identified chemopreventive agent epigallocatechin-3-gallate encapsulated in polylactic acid and polyethylene glycol nanoparticles. Highly lipophilic drugs like curcumin, resveratrol are not ideal for drug delivery due to their dissolution problem in bloodstream. For the desired therapeutic effect their large quantity is required due to less bioavailability.

But the large dose of these compounds leads to acute toxicity and low patient compliance. Their solubility and efficiency can be improved by encapsulation. Singh M. *et al.*, (2011) found that when the bergamot essential oil is encapsulated in liposomes, the solubility of drug increases and increase in anticancer properties has observed by increase cell death in vitro [86,87].

Same is the case of nanoemulsified berberine. Golukumar M. *et al.*, (2014) reported that silybin loaded nanoparticles enhanced cytotoxicity and apoptosis induced anticancer effect. When nanoberberine was added to a phosphate buffer, 85% of the compound was dissolved in 45 minutes,

as compared to the 60% of the free berberine with same time interval. Tannins and terpenoids are highly hydrophilic and have low bioavailability. Nanoparticle drug delivery system increases the bioavailability and lowers the therapeutic dose [88].

Majumdar D. *et al.*, (2014), studied the invitro and invivo anticancer activity of luteolin nanoparticles in chemoprevention. Administered orally liposome-encapsulated curcumin (LEC) nanoparticles to Sprague Dawley rats and measured their plasma curcumin levels. The area under the curve values for the LEC was 4.96 times greater than those for curcumin [89].

Bhardwaj RK. *et al.*, (2002) studied that piperine inhibits human P-glycoprotein and CYP3A4. Biopotential is a term used by ayurvedic peoples also known as “Yogvahi” that meant to use herbs to increase plasma concentration of drug. Piperine from black pepper is the first in the series of biopotential. Study reveals that biopotential show enhancement of bioavailability of active pharmaceutical ingredient at lower dose. Naringin, quercetin, glycyrrhizin, genistein, sinomenine, cow urine distillate, nitrile glycoside have proven to be biopotential. The effect of biopotential reduces dose, toxicity and adverse effects of Drug. As a result, the time and cost of treatment is also reduced. Many novel drug delivery formulations such as liposomes, transferosomes, ethosomes are recently incorporated with bioenhancer. Other drugs like antibiotics, antitubercular, anticancer and cardiovascular were used with this concept [90]. Bioenhancer should have following properties-

1. They should be nontoxic, non-allergenic and non-irritating.
2. They should not produce own pharmacological effects.
3. They should be rapid-acting with predictable and reproducible activity.
4. They should be unidirectional in action.
5. They should be compatible with other active pharmaceutical ingredients.
6. They should be stable with time and environment.
7. They should be easily formulated into a various dosage form.

They should be easily available and cost effective.

B. Targeting

Nanoparticle drug delivery of natural compounds increases the ability to target specific tissues or organs. Following are the reasons which describe the beneficial effects of targeting-

1. Improvement in the amount of fractions of drug reaches the tissue of interest.
2. Targeted drug delivery is released in a localized area of the body which reduces the toxic side effects of the drug.

Al shawi. *et al.*, (2005) described the multidrug transporter role of P-glycoprotein. Their targeting approaches depend upon the different types of nanoparticles. In the first case, the ligand is attached to the surface of the nanoparticle and it is known as active targeting. In the second type, the nanoparticle reaches the targeted area without specific chemical interaction due to the properties of size, shape and surface charge [91].

When nanoparticles are functionalized with protein, peptide, antibody, or other small molecule, then only active targeting is generally possible. Gupta V. *et al.*, (2009) reported about the fabrication and characterization of silk fibroin derived curcumin nanoparticles for cancer chemotherapy. As a result of this functionalization, the particles are allowed to localize and internalize in specific tissues. When nanoparticles are conjugated with monoclonal antibodies, even the blood-brain barrier can be targeted. In case of natural products, this conjugation has not been used. In case of a natural product, this conjugation has not been used. In the treatment of cancer cells, the conjugation of nanoparticles with folic acid (FA) has shown a promising effect. Many types of cancers overexpress FA receptors on the cell surface; this induces the targeting of cancer cells with the conjugation of FA to the nanoparticle. This method is used for the encapsulation of quercetin in PLGA nanoparticles, which are stabilized by PEG. As a result, biocompatibility and the circulation lifetime increase. Some targeting techniques are given in the following table 9 [92].

C. Controlled release

The release of the drug can also be achieved by using nanoparticles for the delivery of natural compounds. Min KH. *et al.*, (2008) reported that tumor targeting in cancer therapy is enhanced by formulating hydrophobically modified glycol chitosan nanoparticles of camptothecin. Particle type, size, amount of drug encapsulated, natural compound used are the factors on which the rate and amount of drug released depend. The drug release profile of the drug depends on the type of nanoparticle. Some natural-based nanoparticles for controlled release are summarized in table 10 [97].

VI. NATURAL PRODUCT BASED NOVEL DRUG DELIVERY FORMULATIONS AVAILABLE IN MARKET

A. New Formulations

Biological sciences, engineering, chemistry and medicine are the major fields in which nanotechnology is emerging as a modern tool/technique. Italia JL. *et al.*, (2008) informed that nanoparticles enhance oral bioavailability. Nanoscale herbal decoction attenuates hepatic stellate cell activity and chloroform-induced liver damage in rats. Nanotechnology deals with the control of matter on a molecular scale, usually ranging in 10^{-9} m and used to develop devices on the same scale. The principle behind nanotechnology is the novel properties of optical, electronic, magnetic and structural behavior of nanoparticles of polymeric, semiconductor and

metals. Individual molecules and bulk solids lack such properties. Cancer management and therapeutics is the emerging area where nanotechnology plays a major role in diagnosis and treatment [102].

Epigallocatechin-3-gallate (EGCG)

Dube A. *et al.*, (2010) reported that green tea contains a polyphenol epigallocatechin-3-gallate (EGCG) formulated as a sustained release nanoparticle system using nanotechnology. Han D.W., (2009) reported the *in vitro* and *in vivo* efficacy of EGCG was assessed by encapsulating EGCG in poly(L-lactide)-poly(ethylene glycol) (PLA-PEG). Italia JL. *et al.*, (2008) concluded that a 10-fold dose advantage for exerting efficacy of drug was observed. The following method was employed [100, 101, 102].

Curcumin

Yadav V.R., *et al.*, (2011) reported that curcumin is a golden spice that targets multiple angiogenic pathways. It is the most extensively studied molecule in nanotechnology. Curcumin is the principal curcuminoid of the Indian spice turmeric (*Curcuma longa*). Ghoneum M. *et al.*, (2011) concluded the synergistic apoptotic effect of rice bran oil and curcumin on human multiple myeloma cell lines U266. The capacity to exert apoptosis in cancer cells which show anticancer potential. The major issues reported are its low solubility, bioavailability, instability in the gut and rapid degradation in the GI tract. Nanotechnology solves these issues, Bisht *et al.*, (2007), reported the incorporation of N-isopropylacrylamide (NIPAAm) with N-vinyl-2-pyrrolidone (VP) and poly(ethylene glycol) monoacrylate (PEG-A) nanoparticles. In another study, the following method was employed [103, 104].

Taxol

George J., (2009) reported that a combination of taxol and Bcl-2 siRNA induces apoptosis in human glioblastoma cells and inhibits invasion, angiogenesis and tumor growth. Taxol is the first FDA-approved chemotherapy drug that originated from natural sources; its brand name is Paclitaxel. Feng S.S. *et al.*, (2004) informed that the nanoparticle with biodegradable polymer for clinical administration of Paclitaxel. The problem associated with Taxol is its water insolubility. For solubilization, ethanol or cremophor EL are used but their own side effects are another problem. For improving therapeutic index, the polymeric drug delivery system was developed which also reduces the adverse effects of cremophor EL. Feng *et al.*, (2015) reported that modified solvent extraction/evaporation techniques for paclitaxel in PLGA nanoparticles. It was also observed that natural emulsifiers are more effective in this case. Almost 100% drug encapsulation efficiency was observed [108, 109].

Camptothecin

Wall and Wani in 1966 had discovered Camptothecin, which is a cytotoxic alkaloid. The major problem was the extreme

lypophilicity and instability of the lactone ring. Onishi *et al.*, (2003), used the incorporation of irinotecan with PLGA nanoparticles. Ebrahimnejad P *et al.*, (2008) studied the antibody targeting of camptothecin loaded PLGA loaded particles to tumour cell. Min K.H. *et al.*, (2008) studied the hydrophobically modified glycol chitosan nanoparticles encapsulated camptothecin enhanced the drug stability and tumour targeting in cancer therapy. It was observed that drug residence time was improved with better suppression of the tumor [95,97].

VII. MARKETED HERBAL NOVEL DRUG DELIVERY FORMULATIONS

Li Z. *et al.*, (2011) studied the fabrication of nanoparticles using partially purified pomegranate ellagitannins and gelatin for their apoptotic effect. Nanotechnology is emerging as a potential tool for cancer diagnosis and treatment because the biological processes like cancer-related take place on a nanometer scale, thus this field is also known as 'cancer nanotechnology'. These novel therapies enable the drug to increase its solubility, bioavailability and designed them to target tumors. National cancer institute consider cancer nanotechnology as an extraordinary, paradigm-shifting advances in treatment of Cancer. Here are some examples of drug where nanotechnology plays a key role to enhance their potential. Following is the list of phytosomes available in market manufactured by Indena international ltd. Italy [110].

VIII. ISSUES

Novel drug delivery systems works on very small particle size due to which potential toxicity is the major problem. Narayanan S. *et al.*, (2010) reported folate targeted polymeric 'green' nanotherapy for cancer. Very small particle size enables the drug to cross blood brain barrier and can be phagocytocised. The systemic toxicity may occur because nanoparticles can undergoes endocytosis. Zhang L. *et al.*, (2008) informed about the therapeutic application and development of nanoparticles in medicine. The biocompatible polymers, phospholipids are safe to healthy cells and hence, their incorporation with nanoparticles is safe. In another case, nanoparticles undergoes changes in the body. Kawasaki E.S. *et al.*, (2005) reported the effective therapies for cancer using nanomedicine. The shape and surface charge of the particles changes due to the movement of these particles through different membranes, tissues, and organs in the body. Such changes affects the bioavailability, targeting and release kinetics of the drug. The immune macrophage system in the liver and spleen shortened the half-life of nanoparticles. PEGylation and adjustment of size and charge are some techniques that lowers the detection of nanoparticles by macrophages [111,112,113].

IX. CONCLUSION

Novel drug delivery system changes the era of herbal medicine and open a new stream of technology to introduce herbal medicine in market. The efficacy of herbal medicines

enhance by other novel drug delivery systems. First pass metabolism is the major problem associated with herbal drugs which is solved by using novel drug delivery system such as sublingual tablets. Enhancement in bioavailability is absorbed due to the increment of absorption of drug molecule which can be used as unit dosage form under mucoadhesive drug delivery system.

The drugs which are having the properties of absorption in upper GI tract, then for such systems Floating drug delivery system can be used.

ACKNOWLEDGMENT

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Fundamental Duties: A Study on Sensibility Among Citizens of India

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Abstract— India is the world's youngest country, with 64 percent of the population of working age. The future of the nation is in the hands of its youth, who can build and transform the current state of affairs and write the destiny of their beloved country. However, the question is whether the country's youth love it and refer to it as their "Beloved Nation." The philosophy expressed in the Preamble emphasizes that citizens should not only have the Fundamental Rights outlined in Part III of the Constitution, but they should also have Fundamental Duties towards the country, such as upholding the sovereignty, unity, and integrity of the nation, maintaining secularism, and the common brotherhood among all the people of the country. This survey is an attempt to find out the objectives of individual's awareness and sensitivity to or emotional attachment to national signs and symbols of Fundamental Duties in the present era. The survey was done on 18 to 50 & above years old people from the Rajasthan state during 5th may 2022 to 15th May 2022. Total 50 responses were collected and studied by the researcher. The study's findings will aid future researchers and other stakeholders in sensitizing/educating Indian children and youth about patriotic values.

Keywords: *Fundamental Duties, sensibility, Love towards nation, Indian citizen, sensivity*

I Introduction

Citizenship is the validation of a social contract between the people of a country and the government elected by them, which is legitimized by a country's Constitution. This contract is based on citizens' rights. While emphasizing rights, it is critical that citizens are also sincere about their responsibilities to society and the country, particularly its safety and security imperatives. A closer examination of the Fundamental duties reveals that several of them refer to values that have long been embedded in Indian tradition, mythology, religion, and practices.

Concept of Duties in India

India is one of the few countries in the world with a glorious democratic tradition dating back to ancient times, and where people have a tradition of carrying out their responsibilities.

Since time immemorial, an individual's "kartavya" — the performance of one's duties towards society, one's country, and one's parents — has been emphasised.

In the Bhagwad Gita and the Ramayana, people are also asked to perform their duties. "One

should do one's duties without expecting any fruits," Lord Krishna says in the Gita.

According to Mahatma Gandhi, simply performing a duty secures our right. Duties cannot be separated from rights.

"Satyagraha was born because I was always striving to decide what my duty was." Said **Mahatma Gandhi**,

Swami Vivekananda also stated that "it is the duty of every individual to contribute to the development and progress of India."

The Indian Constitution emphasizes the importance of balancing citizens' rights and duties.

Fundamental Duties are extremely important to an Indian citizen. It instilled responsibility and moral obligation in all citizens, and these responsibilities must be upheld by all. People who carry out their responsibilities show a sense of national unity and patriotism.

Being ethically and morally elevated, true and dutiful, and doing it righteously and devotedly all contribute to one's value system and demonstrate one's virtuous nature. The Fundamental Duties of Indian Nationals were incorporated into the Indian Constitution in its 42nd Amendment in 1976, following the recommendations of the Swaran Singh Committee, which was appointed by the Government of India. The model was influenced by the USSR's Fundamental Duties. Six of the ten clauses in Article 51A (or the ten fundamental

duties) are positive, while the other five are negative. The Fundamental Duties of Indian Nationals were incorporated into the Indian Constitution in its 42nd Amendment in 1976, following the recommendations of the Swaran Singh Committee, which was appointed by the Government of India. The model was influenced by the USSR's Fundamental Duties. Article 51A contains Eleven clauses (or the 11 fundamental duties), six duties are positive duties and the other five are negative. The negative clauses are (b); (d), (f), (h), (j) and (k) require the citizens to perform these Fundamental Duties actively.

II Literature Review

Fundamental duties

Every citizen of India has the duty, according to article 51-A,

1. To uphold the constitution and to respect his principles and institutions, as well as the national flag and anthem.
2. To love and uphold the lofty principles that motivated the nation's fight for independence.
3. To maintain and safeguard India's sovereignty, unity, and integrity.
4. To defend the country and participate in national service when called upon.
5. To foster concord and a spirit of fraternal brotherhood among all Indians, regardless of religious, linguistic, regional, or sectional differences, and to condemn traditions that degrade women's dignity.
6. To value and maintain the country's diverse culture's rich legacy.

7. To care for and safeguard the natural environment, which includes forests, lakes, rivers, and wildlife, as well as to have compassion for all living things.

8. To foster a scientific mindset, humanism, and an inquiry and reforming spirit.

9. To protect public property and to abstain from violence.

10. To strive for excellence in all realms of individual and collective activity so that the nation continues to soar to new heights of success and endeavor.

11. To offer his kid or ward between the ages of six and fourteen with educational possibilities.

The 86th constitutional amendment act of 2002 added this duty.

III METHODOLOGY:

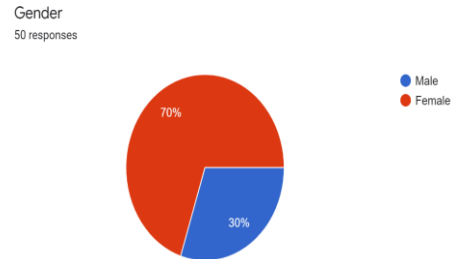
The present study is an attempt to find out the objectives of individual's awareness and sensitivity to or emotional attachment to national signs and symbols of Fundamental Duties in the present era.

The above objectives shall be accomplished through the online survey. The purposive random sampling (N=50) was done on 18 to 50 & above years old people from the Rajasthan state during 5th may 2022 to 15th May 2022. Data was being collected with the help of a self-developed questionnaire on Google Forms with close-ended questions and sent to respondents via WhatsApp and email aimed for this study only.

IV Results

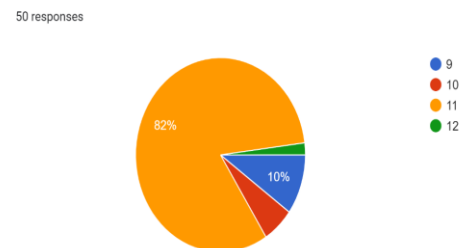
Data Analysis & Interpretation

The collected research data was analysed. The information gathered is quantitative.



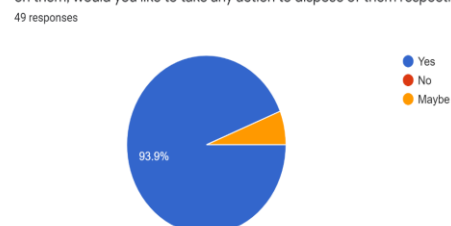
When the respondents were classified according to gender, 70 % were female, while 30% were male. There was an insignificant number of other genders was observed.

1. At present how many Fundamental Duties are in the Constitution of India?



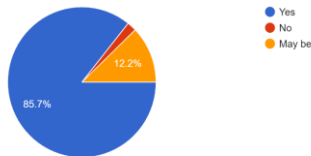
82 percent of respondents are aware of the correct number of fundamental duties owed to every citizen of our nation, and they are aware of the Fundamental Duties enshrined in the Indian Constitution. Whereas, 18 % respondents didn't know the exact number.

2. if you observe that tattered national flags are lying all around on the road and people are walking on them, would you like to take any action to dispose of them respectfully in the right protocol?



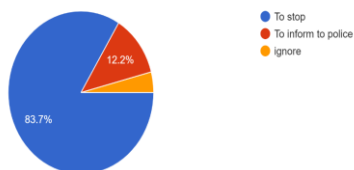
Respondents were asked if they noticed tattered national flags lying on the road and people walking on them, and if they would like to take any action to dispose of them respectfully and in the proper protocol. 93.9 % of citizens responded. Yes, they would do the necessary by adhering to the protocol and respecting.6.1 % responded are not sure that what they would do.

3. if you observe in the newspaper that a soldier badly needs blood and they are the carrier of that rare blood group, will you help him?
49 responses



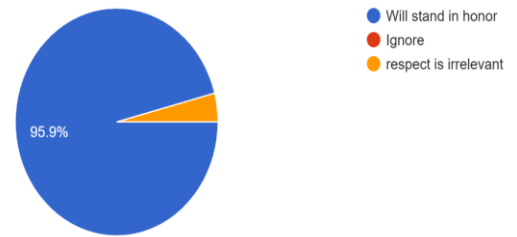
Respondents were asked about blood donation to soldiers if they saw in newspaper, 85.7% said Yes, 12.2% responded may be, only 2% replied No.

4. If you found an unknown person who is spitting on the monument of national importance, what would you do ?
49 responses



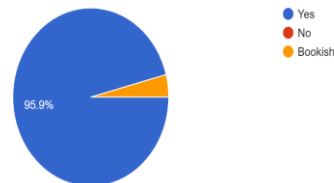
83.7 % of individual would only stop and inform an unknown person who is found spitting on a national monument. Approximately 12.2% of those polled thought about to inform topolice. Another 4.1 percent of people are unwilling to stop and inform.

5. What do you do when you hear the National Anthem?
49 responses



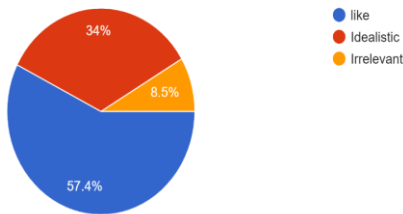
95.9% of people showed high regard towards National Flag and National Anthem. The remaining 4.1 % said either such respect is irrelevant for today 's time or they would not like to pay respect at all.

6. Would you like to protect and improve the natural environment including forests, lakes, rivers, and wildlife, and to have compassion for the living creatures of this country.
49 responses



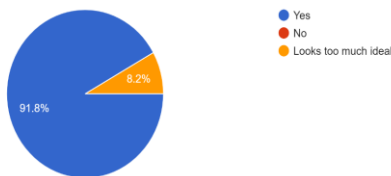
95.9 % individual want to protect and improve the natural environment, including forests, lakes, rivers, and wildlife, as well as have compassion for the country's living creatures. Approximately 4.1% of people believe that they will also be required to protect and improve the natural environment, but this sounds too idealistic and bookish to them.

7 Your opinion on safeguarding public property and to abjure violence.
47 responses



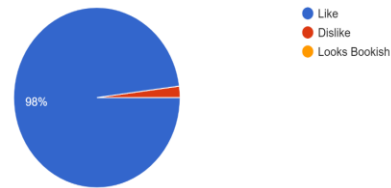
57.4% of people were found to favour the idea of protecting public property and abstaining from violence. Whereas approximately 34% of the population believes that they will be required to behave in the desired manner and protect public property, such acts and morals are too bookish and idealistic. The rest 8.5% of the sample believes that such behaviour is irrelevant.

8.Would you like to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.
49 responses



91.8% respondent want to strive for excellence in all spheres of individual and collective activity so that the nation is always striving for greater levels of effort and achievement. Whereas 8.2% believe that they, too, must strive for excellence in order for the nation to continue to rise to higher levels, this idea appears too bookish and idealistic to them.

9. Your views on providing opportunities for education by the parent/the guardian, to his child, or a ward between the ages of 6-14 years.
49 responses



The parent/guardian providing educational opportunities to his child or ward between the ages of 6 and 14, as the case may be, was preferred by 94 percent of respondents. Whereas 2% of the sample expressed displeasure with the act.

Findings

As this study shown, People today, particularly youth, have a decent sense and awareness of Fundamental Duties, as well as sensitivity or emotional bonding for national signs and symbols; this means they feel great love and sense of belonging for the nation and its signs and symbols when some trigger occurs and the stimulus is shown or displayed, as in the Air Surgical Strike on February 26, 2019, and previous Surgical Strike on September 27, 2016, or during pandemic.

V CONCLUSION

The study concludes that present era's people, particularly youth, have a decent sense and awareness of Fundamental Duties, as well as a sensitivity or emotional bonding for national signs and symbols. Fundamental Duties has a great significance like they serve as a reminder to

citizens that, while exercising their rights, they must also be mindful of the duties they owe to their country, society, and fellow citizens. They serve as a deterrent to anti-national and anti-social activities such as burning the national flag and destroying public property. They serve as a source of inspiration for citizens and instill in them a sense of discipline and commitment. They give the impression that citizens are not passive bystanders but active participants in the achievement of national goals. They are ideal in their nature and guide citizens in the right direction. They assist courts in examining and determining a law's constitutionality. For instance, in **1992, the Supreme Court** ruled that in determining the constitutionality of any law, if a court finds that the law in question seeks to give effect to a fundamental duty, it may consider such law to be 'reasonable' in relation to Article 14 (equality before law) or Article 19 (six freedoms) and thus save such law from unconstitutionality. The significance of fundamental duties is that they define the moral obligations of all citizens to contribute to the promotion of patriotism and the preservation of India's unity. Fundamental duties make citizens aware of their social and citizenship responsibilities, shaping a society in which all become solicitous and considerate of our fellow citizens' inalienable rights.

But some drawbacks are also observed like they are made non-justiciable in nature, some

Important duties such tax-paying, family planning etc are not covered, Vague and ambiguous provisions which are difficult to be understood by a common man. Superfluous provisions since they would generally be followed even if they were not included, Inclusion as an appendage to the constitution reduces the value and intent behind Fundamental duties. That's why there is a need for a uniform policy for the "proper sensitisation, full operationalization and enforceability" of fundamental duties which would "substantially help citizens to be responsible".

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K-Nearest Neighbor Method for Privacy Preserving in Data Mining

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Abstract

An interruption is characterized as any movement being acted in a framework which could bring about setting off such an occasion that compromises the security of the framework. Interruption Detection Systems (IDSs) utilize the factual examination strategies for identifying any peculiarities with the end goal that an action can be separated as one or the other typical or malevolent. AI is known as an Artificial Intelligence based innovation utilizing which the projects can be learned and the information examples can be recognized. AI is utilized to investigate the calculations that can perform learning and perform information forecast. The two classes among which the AI calculations are extensively arranged are directed learning and solo learning. To perform interruption recognition, SVM order strategy was applied already. To perform interruption identification KNN classifier is applied by the proposed research work. On KDD dataset, the proposed and it are carried out to exist strategies. As far as exactness, the aftereffects of both the strategies are tried. The results show that the interruption location framework gives the best results when KNN classifier is utilized.

KEYWORDS: IDS, KDD, KNN, SVM

I Introduction

Throughout the long term, the interest of interruption discovery framework has expanded similarly as with every day the data being put away and handled is

expanding. By checking the environmental factors of utilizations immense measure of information is created by

the systems administration frameworks [1]. The gadgets distinguish any sorts of thinking ways of behaving from the environmental factors. A gatecrasher can cause any sort of weakness in the PC network because of which the clients can be gone after. An interruption is known as a movement that outcomes in altering such an occasion because of which the security of framework can be compromised. A sort of caution is brought about by an interruption recognition framework and distinguishing the infringement of system is conceivable. The frameworks can be alarmed in the event of any bogus messages, recordings or sends. An

interruption recognition framework is a device that is utilized as a watchman for getting the frameworks against any sorts of interruptions [2]. Any malevolent exercises which can't be distinguished by a typical firewall can be identified through IDS. In any PC framework, the locales, PC applications and delicate administrations can be gone after by unapproved clients. The PC applications can confront the information driven assaults. The interruptions can confront network assaults in delicate administrations and furthermore the touchy records can be gotten to by unapproved logins [3]. In the as of late happening episodes and exercises, giving customary model isn't practical for distinguishing interruptions. To recognize any sort of assault, the organization is investigated physically or not many fixed strange examples are given while applying customary models. As of late, it is not difficult to get to the arrangement because of which the organization traffic can be improved with the assistance if web and dangers of going after are distinguished. These exercises can help in further developing the organization examiner and it additionally becomes hard to identify the interruptions. Exceptionally unique effective strategies are required for mechanizing the interruption recognition process. From these frameworks, learning can be changes and any sorts of interruptions existing in these

frameworks can be distinguished. Design matching is known as the interaction through which interruptions are recognized by performing examinations with the known assault marks [4]. This method helps in creating the marks from review records and contrasting against the ongoing exercises with the end goal that interruptions can be identified. The assault marks in which normal twofold examples are incorporated can be incorporated to recognize unusual action. Information mining strategies help in removing the fascinating elements concealed in the data set. To altogether frame the information few connections, classes and examples can be recognized. The information mining strategies can be applied to right away deal with the enormous measure of information. Not many of the procedures depend on human mediation with the end goal that the interruptions can be distinguished. Numerous days or long stretches of time can be consumed to distinguish the new marks of interruptions. Going through days or weeks in infeasible to distinguish an interruption since with every day, the organization traffic is expanding. AI is a sort of man-made reasoning that performs learning in projects and distinguishes the information designs [5]. AI investigates the calculations utilizing which learning can be performed and information can be anticipated. They are usually known as AI calculations. Learning is

significant for AI calculations prior to making any information expectations. Learning assists a calculation with showing the instances of information and right forecasts. It is vital to remember the measures of models for the scope of a few thousands [6]. When AI calculation performs learning, performing expectations on data is conceivable. For instance, AI helps in checking the heart related patients in clinics. AI calculation can be applied in the learning stage to show the pulse of a patient and the ongoing time. To decide whether the pulse of patient is typical or not, the anticipated pulse and genuine pulse are analyzed. The two ordinarily utilized AI calculations are administered and unaided learning [7]. A classifier utilizing which the least difficult orders can be performed is known as KNN which is likewise ordinarily known as a non-parametric directed learning calculation. There is no suspicion included inside the basic information appropriation. In view of the nearest preparing tests of element space, the examples are ordered. Credulous Bayes Algorithm is a calculation utilizing which a grouping strategy is applied based on Bayes Theorem in which the freedom among indicators is expected. In view of the classifier's suspicion, the presence of specific element in a class is irrelevant to the accessibility of another component.

II Literature Review

Altyeb Altaher, (2017) introduced a mixture way to deal with characterize sites as Legitimate, Suspicious, or Phishing. To foster this mixture strategy, the proposed calculation utilized two phases. The half breed approach utilized two characterization models called KNN and SVM [8]. In the main stage, KNN approach was carried out. This calculation was very productive and solid to the boisterous information. Another powerful grouping model called SVM was carried out in the subsequent stage. In the wake of coordinating the effortlessness of KNN approach, the proposed approach improved the productivity of SVM classifier. Different reproduction tests were performed to assess the proposed calculation. The got results portrayed that the proposed calculation showed the greatest exactness pace of 90.04% when contrasted with other existing calculations.

Jayshree Jha, et.al (2013) introduced an original examination work based on two critical parts. The initial segment audited the assault recognition with the assistance of SVM calculation alongside different methodologies introduced by various analysts [9]. Besides, in the subsequent section, another strategy was introduced for choosing ideal component for identifying assault. A half and half calculation was introduced to pick the connected highlights. This calculation melded the channel and

covering models. The size of the data set was diminished to work on the exhibition and revelation exactness of a disclosure model in view of SVM calculation. Likewise, the preparation and testing time could be decreased by diminishing the list of capabilities.

L.Dhanabal, et.al (2016) utilized KSL-KDD dataset for execution examination. The effectiveness of different order calculations was contemplated to recognize the anomalies present in the examples of organization traffic [10]. The relationship of conventions possible in every now and again used network convention stack was analyzed to create sporadic organization traffic. The organization convention stacks was contemplated with the interruptions sent off by aggressors. These assaults created the unusual organization traffic. The characterization calculation was utilized alongside WEKA programming for execution investigation. This work uncovered various realities tied in the midst of the conventions and organization interruptions.

Wathiq Laftah Al-Yaseen, et.al (2015) presented a staggered cross breed model called IDS. In this work, the help vector machine and outrageous learning machine were utilized to effectively distinguish known and obscure assaults [11]. A high level k-implies grouping calculation was additionally proposed in this work to work on the presentation of order

models. This bunching calculation built an ideal preparation dataset. This calculation coordinated the original little preparation datasets. These datasets characterized whole genuine preparation dataset. In this way, the proposed approach diminished the preparation season of characterization models. The proposed model performed better when contrasted with different procedures planned and applied on comparable dataset to identify interruption. What's more, the propose approach additionally showed great execution concerning precision than every single examined calculation.

Amol Borkar, et.al (2017) investigated Internal-IDS and IDS models. The information mining and criminological calculations in view of continuous were executed in these models [12]. Various information digging strategies were proposed for digital examination to help in assault acknowledgment. This work introduced various strategies to recognize assault based on a few investigations given by various specialists. The audit gave in this work demonstrated supportive to reach the determination. The utilization of proposed approach improved the exactness and revelation rate up to 95%. Then again, the current methods gave around 90% of precision and revelation rate. Consequently, these outcomes plainly demonstrated that the proposed approach performed better when contrasted with other

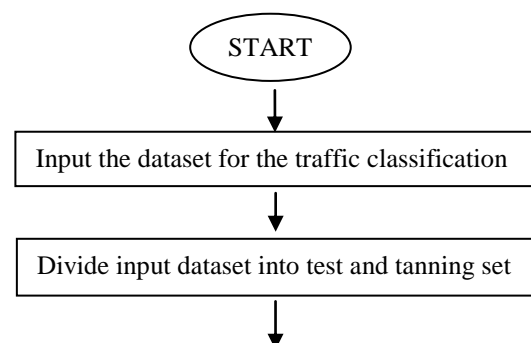
existing calculations regarding exactness and interruption identification.

Jianguo Yu, et.al (2018) examined that the acknowledgment of assault in the rail travel field was the principal point of information security model. A specialist assault acknowledgment framework called BAS was intended to distinguish assault and mis-activity of metro climate control subsystem. Besides, the information base and deduction motor plan were created in the master framework also [13]. The master frameworks were used to recognize mis-activity and mis-use assault. Moreover, the high contrast list rules were added to keep away from unpredictable assault. The principles offered help to safeguard the information security of metro climate control framework to enormous degree. This procedure likewise gave information security to various subsystems of metro. As of now, this framework is simply being used in analytical state due to certain defects. In any case, the IDSs can be carried out to the whole metro region by utilizing huge information hypothesis.

III Research Methodology

The organization traffic characterization approach is applied for classifying the information traffic as malevolent or non-noxious. The malignant exercises of dynamic clients are anticipated by this strategy. To

arrange the organization by applying proposed approach, three significant advances are applied. To group the information as comparable or different, k-implies bunching approach is applied. To refine the predetermined dataset as info, hardly any issues, for example, overt repetitiveness and it are eliminated to miss values. To work out the main issue of organization, the k-implies grouping procedure is executed. The math mean of generally dataset is determined in this step. From the essential issue Euclidian distance is determined for separating comparable and disparate focuses. Comparative information focuses are remembered for one group and others in discrete bunches. To classify the data of interest into two unique classes, the SVM grouping model is executed in the last stage. To work on the exactness and execution of characterization technique, the non-grouped information focuses are additionally bunched by applying KNN order model. The Euclidian distance is determined and comparable and disparate sort of information is separated by working out Euclidian distance.



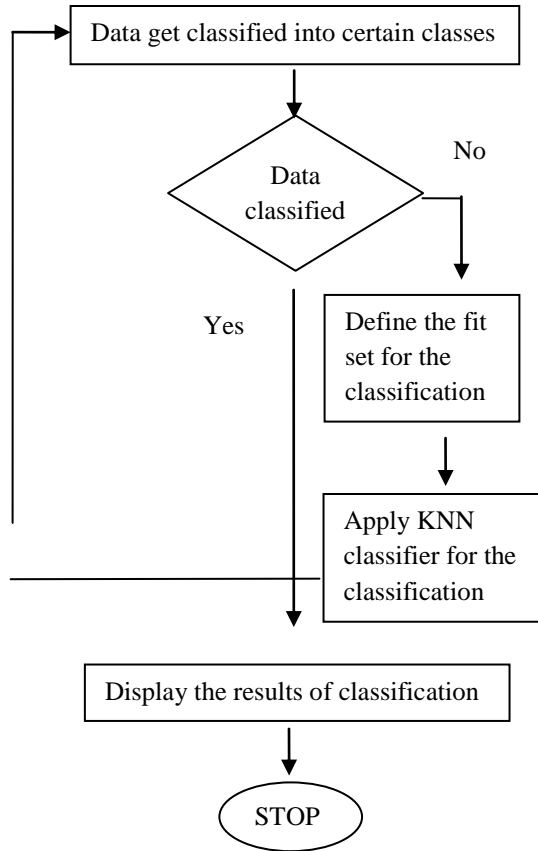


Figure 1: Proposed Flowchart

IV Experimental Results

The proposed research is implemented in Python and the results are evaluated by comparing proposed and existing methods in terms of different performance parameters.

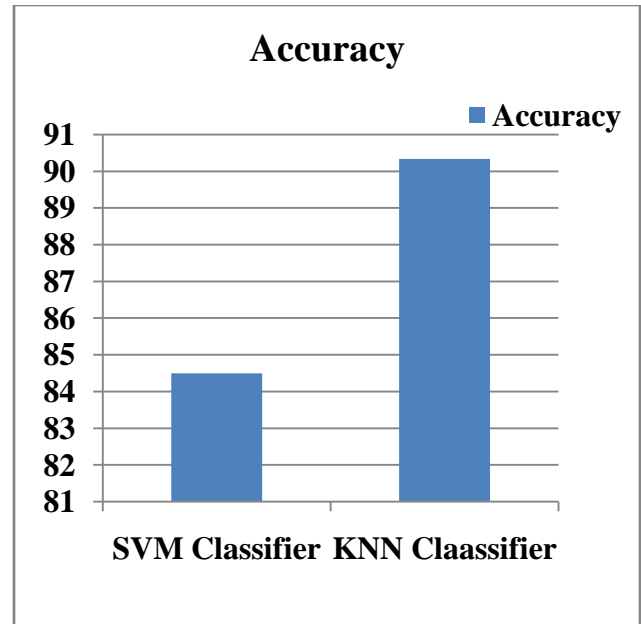


Fig 2: Accuracy Comparison

A comparative analysis of performances of SVM and KNN is shown in figure 2. The outcomes of comparison graph show that accuracy level of KNN classifier is better than SVM classifier.

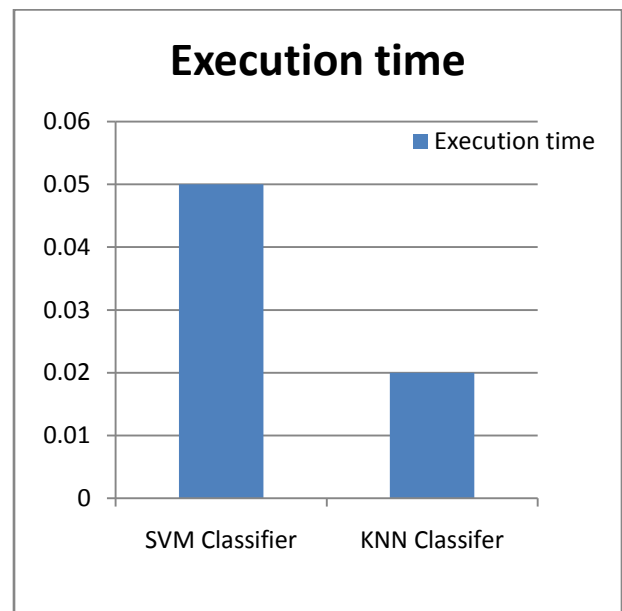


Fig 3: Execution Time

Based on execution time, the performances of proposed and existing algorithms are compared as show in figure 3. As shown in the comparison graph, in terms of execution time, the results of KNN approach are better as compared to SVM.

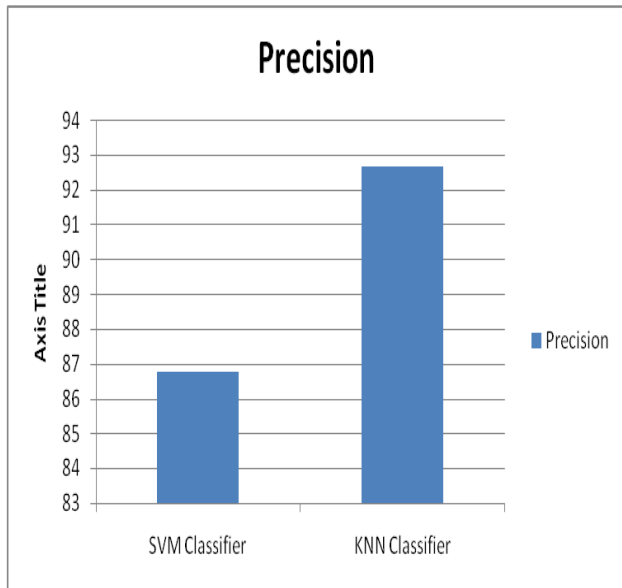


Fig 4: Precision Analysis

A comparative analysis of performances of SVM and KNN is shows in figure 4. The outcomes of comparison graph show that precision level of KNN classifier is better than SVM classifier.

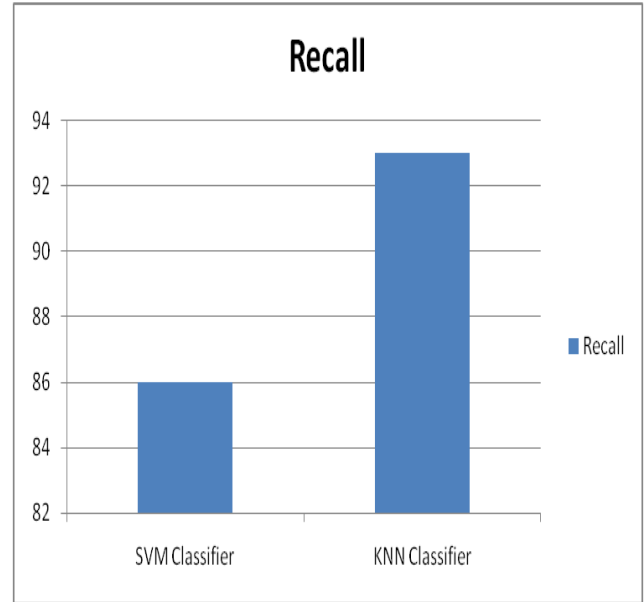


Fig 5: Recall Analysis

A comparative analysis of performances of SVM and KNN is shows in figure 5. The outcomes of comparison graph show that recall level of KNN classifier is better than SVM classifier.

V Conclusion

The host-based IDSs are the frameworks that screen the gadgets on which they are introduced. For executing the checking program the conditions of principal framework are observed from the review logs to the program execution. This examination plans to concentrate on the different interruption identification procedures that are versatile, exceptionally powerful and that can be applied in tremendous organization traffic. In light of the nearest preparing tests of element space, the examples are characterized. Alongside the names of preparing pictures, the element vectors are put away to such an extent that they can be utilized in preparing process. To perform naming of k-closest neighbors, the unlabelled inquiry point is precluded. Python test system is utilized to execute the proposed

strategy. Concerning exactness and execution time, the outcome assessments are performed. The results show that in contrast with SVM classifier, the KNN classifier gives improved yields. The exactness is improved from 5 to 8% by applying KNN classifier.

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Biological Management of Fusarium Wilt in lentil (*Lens culinaris medic*) Caused by *Fusarium oxysporum f. sp.*

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ABSTRACT

In the present study, the fresh leaves of 10 plants and fungal antagonists (*Trichoderma viride* and *T. harzianum*) were evaluated against Fusarium wilt of lentil under laboratory conditions. Leaf extracts of plants (*Azadirachta indica*, *Calotropis procera*, *Ricinus communis*, *Catharanthus roseus*, *Cassia fistula*, clove of *Allium sativum*, *Datura inoxia*, *Delbergia sisso*, *Garlic*, *Lantana camara*, *Nerium indicum*, *Parthenium sps.*) as well as biological control agents (*Trichoderma harzianum* and *T. viride*) were also tried. Although all the treatments were effective and caused reduced recovery of pathogen and increase in percent germination but the best results were obtained from culture of *T. viride* (biological), leaf extract of *Catharanthus roseus*, *Cassia fistula*.

Keywords: lentil, Germination, *Trichoderma harzianum* and *T. viride*, *Fusarium oxysporum*.

I. INTRODUCTION

Lentil is an increasingly important pulse crop in the prairie regions of North America where it is grown in rotation

with cereals and oilseeds. Canada, India, Australia, the USA and Turkey are the main producers of lentil and world production of lentil in 2013 was 4.95 Mt [2].

Lentil (*Lens culinaris* L.) is the second most important cool-season legume crop in India (8). It covers an area of 1.51 million ha with a production of 1.56 million tons and productivity of 1,032 kg ha⁻¹ (3). Lentils are a good source of protein, carbohydrates, dietary fiber components, minerals, vitamins, and secondary metabolites that include phenolic compounds [4].

Disease such as Ascochyta blight is caused by Ascochyta Lentis Bond G vassil and wilt is caused by *Fusarium oxysporum f. Sp.* Lentils play a major role in reducing lentil yield⁶. Wilt disease appears in the field in patches at both seedling and adult stages. Seedling wilt is characterized by sudden drooping followed by yellowing and drying of leaves and the whole seedling and apparently healthy roots with reduced proliferation. Various plant extracts have been evaluated for their

antifungal property against different pathogens (14).

II Literature Review

Bhat et al. (4) and (11) reported that biocontrol agent *T.viride* and *T.harzianum* caused reduction in chickpea wilt and tomato wilt caused by *F.oxysporum*.

Srivastava and Mishra (12) used antagonistic fungi in seed dressing for the management of chickpea and pigeon pea wilt respectively.

In present investigation all the two antagonists were quite effective but *Trichoderma* spp. gave best control of *R.solani* as also observed by Sharma (13) and Agrawal (1). The biological agents not only reduced the recovery of pathogen but also showed increase in potential of seed germination.

Pandey and Upadhyay (9) reported that *T.viride* causes loops and coiling of mycelium and rupture of cell wall of the pathogen.

Numerous modes of action have been postulated and demonstrated for antagonistic effects of PGPR in controlling soil borne diseases with organic amendments (7), which include synergistic effects observed with a combination of antifungal compounds and competition of nutrients against soil borne pathogens and botanicals (10).

III MATERIALS AND METHODS

For leaf extracts, Ten plants viz. *Azadirachta indica*, *Catharanthus roseus*, *Calotropis procera*, *Lantana camera*, *Nerium indicum*, *Ocimum sanctum*, *Ricinus communis*, bulb extract of onion (*Allium cepa*) and garlic (*Allium sativum*) were tried against *Fusarium oxysporum* and *Rhizoctonia solani* For biological control fungal antagonists, *Trichoderma viride* and *Trichoderma harzianum* were used. Four replicates of hundred seeds (25 seeds/replicate) for each treatment were sown on moistened blotters by Standard blotter method (SBM). Observation on percent seed germination, percent control of seedling infection and incidence of pathogens were recorded on 8th day of incubation and the data was analysed statically by Completely Randomized Design (CRD) Method. Percent reduction (control) was calculated by the following formula:

$$\text{Percent reduction} = \frac{\text{Incidence in control} - \text{Incidence in treatment}}{\text{Incidence in control}} \times 100$$

IV Result

Pure culture suspension of *T.viride* and *T.harzianum* and their four diluted

concentration viz. 20ml, 40ml, 80ml and 120ml were used for seed treatment. Both *T.viride* and *T.harzianum* were antagonistic and inhibited growth of *F.oxysporum* and *R.solani* However, the antagonistic effect of *T.viride* was better than *T.harzianum*.*T.viride* (Tables-1; Fig.:3- D, E)

The result shows that seed treatment with bio-agents reduced pathogen incidence significantly in all five concentration as compared to control. Maximum control of *F.oxysporum* incidence (71.15%) and infected seedling (85.0%) was obtained when *T.viride* was applied as 80ml concentration which was followed by 20ml concentration. Control of pathogen incidence (42.3%), infected seedlings (60%) and seed germination (76.25%) was low in 120ml concentration (Fig.-3 -D, E).

In *F.oxysporum* infected seeds, the maximum control for pathogen incidence 56% to 80% and infected seedling 47.61% to 92.86% was observed in 20ml-240ml dilutions of *T.harzianum*. Of these 80ml gave best control showing poor recovery of pathogen and good germination percentage Fig.-3(A- C).

TABLE 1: CONTROL OF SEED-BORNE INFECTION OF FUSARIUM

OXYSPORUM TRICHODERMA
 HARZIANUM AND T. VIRIDE

Concentration	Germination (%)				Seedling Infection Control (%)				Pathogen Incidence Control (%)			
20 ml	87.5	17.5	85	7	76	1.2	73.33	1.2	66.34	1.75	70.83	1.75
40 ml	90	18	81.2	1	65	1.75	77.77	1.5	61.53	2	83.33	1
80 ml	93.7	8	86.2	1	85	0.75	68.88	1.4	71.15	1.5	66.66	2
120 ml	76.2	15.2	81.2	1	60	2	55.55	2	42.3	3	58.33	2.5
240 ml	81.2	16.2		1	75	1.25	61.11	1.75	66.34	1.75	60	2.4

TABLE 2: CONTROL OF SEED-BORNE INFECTION OF FUSARIUM OXYSPORUM BY LEAF EXTRACTS

Plants Extracts	Germination (%)		Seedling Infection Control (%)		Pathogen Incidence Control (%)	
<i>Azadirachia Indica</i>	97.5	19.5	44.44	3	59.45	3
<i>Calotropis procera</i>	76.65	15.33	69	1.66	49.07	2.75
<i>Ricinus communis</i>	66.65	13.33	53.7	2.5	49.32	3.75
<i>Catharanthus roseus</i>	93.3	18.66	81.48	1	91.89	0.6
<i>Cassia fistula</i>	96.65	19.33	85.18	0.8	79.72	1.5
<i>Datura innoxia</i>	85	17	76.85	1.25	62.83	2.75
<i>Parthanium officinalis</i>	90	18	88.88	0.6	77.56	1.66
<i>Lantana camera</i>	91.25	18.25	72.22	1.5	86.48	1
<i>Nerium Indicum</i>	86.25	17.25	84.25	0.85	83.1	1.25
<i>Dalbergia sisso</i>	80	16	74.07	1.5	78.37	1.6
<i>Allium sativum</i>	71.25	14.25	53.7	2.5	55	3.33
<i>Allium cepa</i>	78	15.6	74.07	1.5	75	1.85
Control	60	12	-	5.4	-	7.4

Figures in parenthesis are mean of three replicates





Out of twelve plants studied the extracts of *Catharanthus roseus* (91.89%) showed maximum inhibition of *F.oxysporum* which was followed by *L. camara* (86.48%), *Nerium indicum* (83.10%) and *Delbergia sisso* (78.37%). Similarly maximum control of infected seedlings were recorded in *Catharanthus roseus* (88.88%) followed by *Cassia fistula* (85.18%) *Nerium indicum* (84.25) and *Parthenium sps.* (81.48%). The germination was significantly high in *Catharanthus roseus*(97.50%), *Cassia fistula* (96.65%), *Azadiracta indica* (93.30%) and *Lantana camara* (91.25%) than control (60%) (Fig.-1-2;Table 2).

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A Study on Women's participation and decision-making in Family

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Abstract Women make family, family makes home, home makes society and society makes country, but without education and empowerment, development of family, society and country cannot take place. For women's empowerment, it is necessary that women's participation in the decision-making process should be its beginning. The family should be involved in the decision of the family, then people will come out of the old prejudice. Women's participation in the decision-making process in society, workplace, every place will lead to the upliftment of women, which is necessary for the upliftment of the country. At present, there has been a change in the thinking of people, the condition of women is much better.

The principle of gender equality is enshrined in the Preamble of the Indian Constitution, Fundamental Rights, Fundamental Duties and Directive Principles of Policy. The constitution not only provides equal status to women but also empowers the state to take positive discrimination measures in favour of women. Today women are occupying high positions, men, youth have changed their thinking and they are fully cooperating in bringing women forward. Its effect is visible on the society that today women are taking decisions from Gram Panchayat to Finance Department.

For the study of this change, N = 50 units of Kota city were studied, which were selected on the basis of Random and convenience Sampling method. In the study, information was obtained from men and women whose age was 18 -50 above divided into four parts. The information was obtained by preparing the questionnaire through Google Form and sending it to the people. At the family level, an attempt has been made to measure the social, economic and

cultural level of women's participation in the decision-making process.

Keywords: *Women Empowerment, Decision-, Making, Development., Gender equality, Family*

I Introduction

It is an established fact that women play an important role in the progress and development of any nation. However, in many underdeveloped and developing countries, women's participation remains poor mainly because of the traditional stereotypes and notorious actions of their family in particular and society in general. Women are generally considered to be less capable than men, which significantly affects their activity in many areas of life and as a result, they are confined to domestic work only. It is well known that women have all the abilities required to take and implement any decision, but they do not have enough power to really play any decisive role in active decision making.

Apart from the role of women in making the family financially strong, they also perform important house-building duties and fulfil various important responsibilities according to their socio-economic status. As members of a family and as a part of society, women are involved in various professions with different nature, which are governed by various factors (Reddy and Narayan, 1987). The contribution of women in many important social commitments like marriage decision, dowry issue, male partner selection, children's education, expenses and upper management of marriage etc. The policies, plans and programs have been made aimed at the advancement of women in various fields. The Fifth Five Year Plan (1974-78) adopted the approach of development rather than welfare towards issues related to women. The National Commission for Women was established by an Act of Parliament in the year 1990 to

protect the rights and legal entitlements of women. The Constitution of India through the 73rd and 74th Amendments (1993) provides for reservation of seats for women in local bodies of Panchayats and Municipalities, which provides a strong basis for their participation in the decision-making process at the local levels. In recent years, women empowerment has been recognized as a major issue in determining the status of women.

2014-15) The status of women is being strengthened through many schemes like -Beti Bachao Beti Padhao Yojana, Sukanya Samridhi Yojana, Mahila Swarojgar Yojana (2022).

If seen, today women are occupying high positions in our country. Four Indian women are also included in the annual list of the world's 100 most powerful women, among which are SBI chief Arundhati Bhattacharya, ICICI Bank chief Chanda Kochhar, Biocon founder Kiran Mazumdar Shaw and HT Media chairperson Shobhana Bhartiya. But right now, the percentage of women's participation in the decision process as a whole is less, for this, women in every family in the society will have to share in the decision process. It is seen many times that women occupying high positions, who are financially independent too, but are dependent on husband for family decisions.

We cannot solve 'global challenges' unless women fully participate in the efforts to find solutions. Mother-in-law, mother-in-law of every family, mother-grandmother will have to take this responsibility, only then the pace of change will be fast. At present, there has been a change in the thinking of the society, but its pace is not going fast, some incident happens in the society, which forces one to think that when women will be safe. Sharma (2007) has noted that women's empowerment is usually associated with women's struggle for social justice and equality. Ignoring women has proved to be harmful and has also brought negative changes in the direction and nature of the society. Empowerment is considered to be a strong approach to acquire decision making abilities and carry them out with sufficient knowledge, self-respect as well as complete confidence. Maral suggested that the role of women is an essential component that develops

the human structure of the family and society. The inclusive development of the society and the nation depends on the participation of women in most of the socio-economic and political activities.

Women's participation in the private sector is an important economic driver for societies around the world. Economic security benefits every aspect of a woman's life, with a positive impact on health, education and the vitality of families. Our society is changing rapidly.

II Literature Review

The present survey of literature enables multifaceted, interpersonal and demonstrative understanding of women's authorization and decision-making. According to Kabeer (1999), empowerment is "the process by which those who have been denied the ability to make strategic life choices acquire such an ability." He provided a supportive notional explanation of empowerment, which states that the first order decision-making capacity with anticipated consequences includes three unified scopes namely resources, agency, and achievements.

(Joshi, 2014) revealed that the overall empowerment and the involvement in decision-making procedures will empower women, which will progressively govern economic growth significantly. This perception is very helpful to realize several crucial issues which induce and facilitate empowerment.

Employed women are more conscious in the matter of interaction with other people through participation in the social organization. Enhanced family income reduced the disparity between earning and purchasing power which improves the quality of life in terms of food and nutrition, their illness behaviour, living condition, education, recreation, health, the social aspect of well-being and economic autonomy in the form of equality among males and females as the decision-maker (Bergman, 1986).

Women's employment, which is an essential aspect of economic development is also believed to serve this purpose to great extent. Employment

makes women more conscious about their individual rights and they have been seen to be positively associated with the reading and enjoyment programs (Rathod, 2009). In addition, empowering women is very important since it automatically improves their status in many sectors such as politics, economics, finance, and health. Essentially, for the accomplishment of maintainable growth (Mishra, 2006), empowerment is very a crucial method since it combines an individual’s capability for identifying her potentials and opportunities and grow her skills to resolve them

It is important to mention that women and men both should perform equally in creative and reproducible life that includes mutual duties and responsibilities for caring and growing kids and also in maintaining a house (Jejeebhoy, 2002). According to Rao (1998), the social status of an individual in a particular position in relation with other individuals, by virtue of which she is the recipient of respect and prestige, and wields influence and which can be recognized by symbols of prestige accruing to her and her actions.

Varghese (2011), studied women empowerment in Oman, which is grounded upon five autonomous variables via considering women empowerment as the dependent variable. According to this report, the women in Oman are superior as the domestic decision-makers. They are also good at economic decision making than social empowering decisions. In a parallel study,

Das (2011) reported different limitations of women empowerment in Karbi tribes of Assam, which are related to societal, political, economic, technical and spiritual. He also mentioned that ‘lack of knowledge about new technology and information is one of the key reasons responsible for the deprived women empowerment in this community.

Pandey & Rai (2017), explained that women empowerment is essential for sustainable economic growth and reduction of poverty in developing countries. Although women’s empowerment is not a sufficient condition, it is still a necessary condition for the development

process. Economically empowered women play a more active role in household decision-making, with greater bargaining power and increased spending on education and development.

Objectives

- (a) To discover the participation of women in the decision-making process in the family.
- (b) To analyse the changes in the socio-economic status of women in the study area.

III Research Methodology

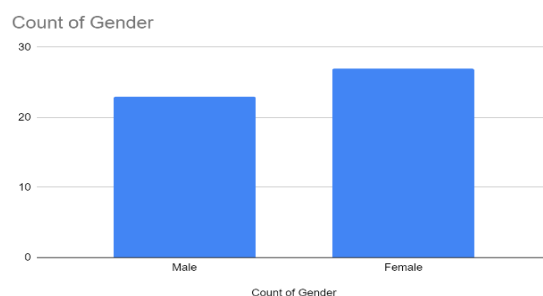
In this paper, an attempt has been made to study the women decision-making process at the family level. For the study, N=50 units of Kota city were selected on the basis of Random and convenience sampling method. The data was obtained through closed and restricted questionnaire, the questionnaire was sent in the form of Google form to 50 family members for study. Both primary data and secondary data have been used for the study.

The units were divided into two discrete variables.

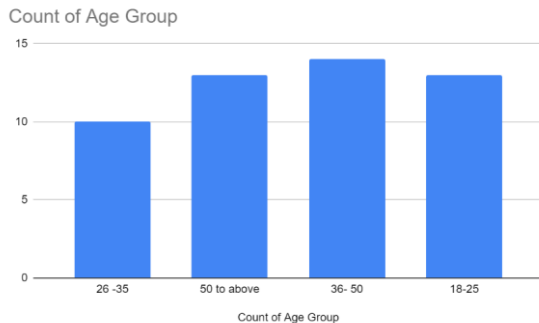
- 1)Gender Distinction- Female, Male
- 2) age difference-
 - 18-25
 - 26-35
 - 36-50
 - 50 -above

IV Results and Discussions

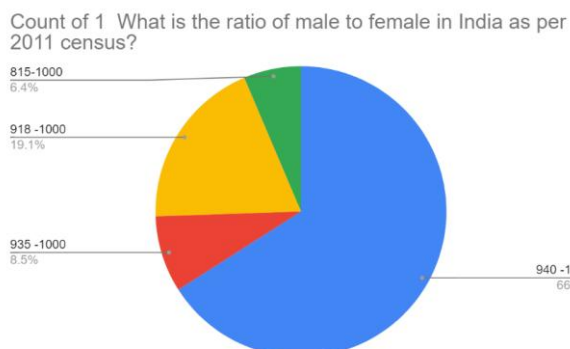
In this paper, an attempt has been made to study the women decision-making process at the family level. Result is...



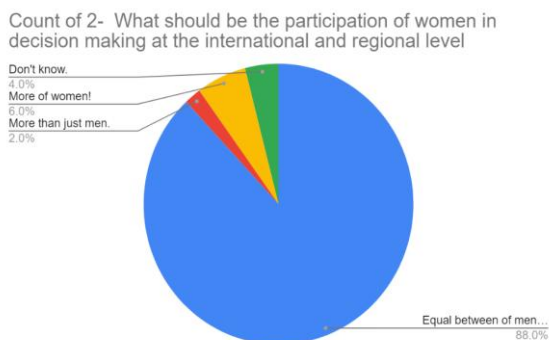
In the study, 46 percent men and 54 percent women participated in giving information. The details of which have been given above.



The informants who provided the information were divided into 4 age groups. People in the age group of 18 to 25 were 26 percent and those in the age group 26 to 35 were 20 percent. The respondents in the age group of 36 to 50 were 28 per cent. Whereas the respondents above 50 years of age were 26 percent

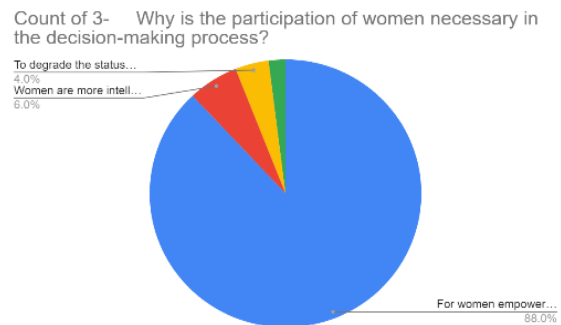


1. On the basis of the 2011 census, only 66% of the informers who tell the correct ratio of male and female.

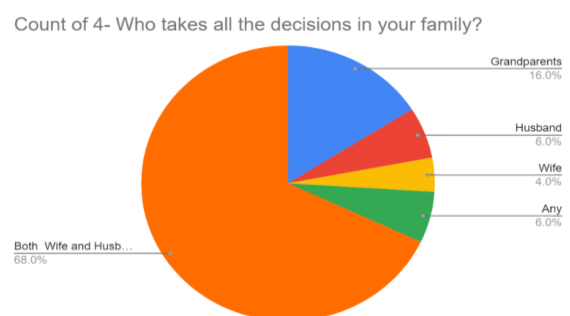


88% of the people believed that the participation of men and women should be equal. 6% of the respondents answered in favour of women should be more involved in decision making. 6% of the respondents reported higher participation of women.

2% of respondents answered in favour of greater participation of men. Whereas 4% of the respondents replied "Don't know".

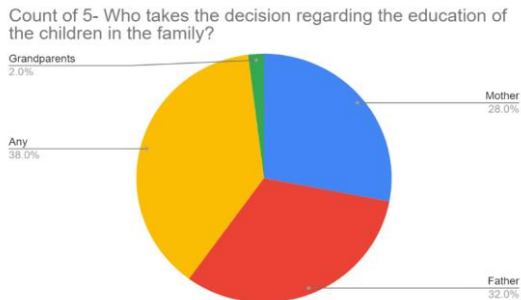


In the study, 88% of the respondents said that the participation of women was necessary for women's empowerment and 4% of the respondents also chose the option of degrading the status of men. 6% of the respondents chose the option of women being more intelligent. Whereas 2% of the respondents did not give satisfactory answer.

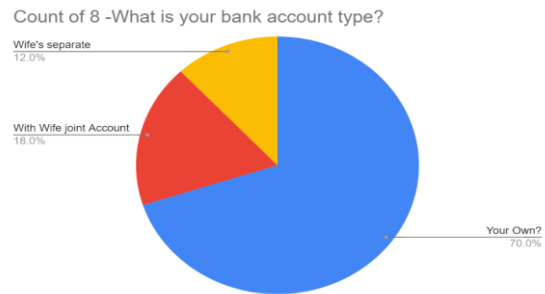


. In 68% of households, both husband and wife make decisions together. In 16% of families, grandparents take decisions. 6% of the families were such where the husband takes the decision. Whereas there were only 4% of the families where only the wife was found to be taking the decision. In 6% of families, someone takes the decision.

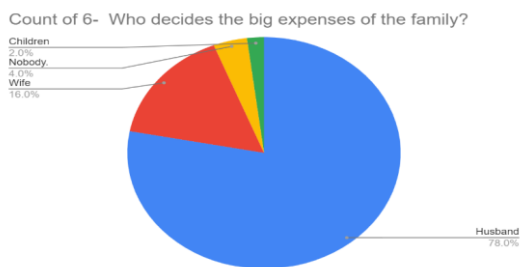
getting the children's homework done while 6.3% of the informants do nothing



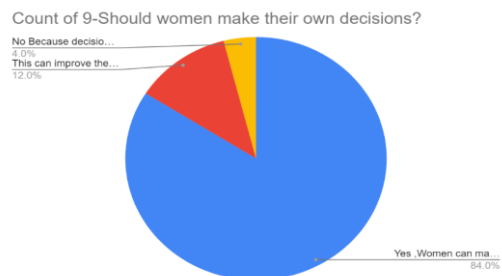
The father takes 32% of the decisions regarding the education of children, 28% is taken by the mother. 38% of the respondents replied that any member of the family can take this decision. There was a very small percentage where grandmothers make decisions.



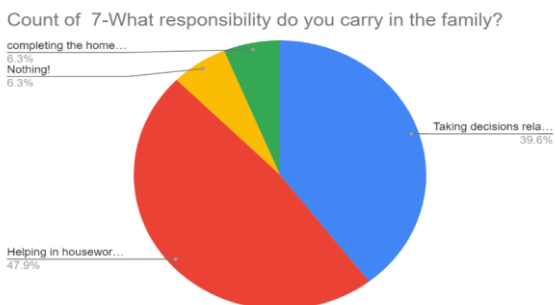
In the study, 70% of the husbands were found to have their own separate bank account. In 18% of the households the husband and wife had a common bank account. In 12% of the households the wife was found to have her own separate bank account.



The study found that only husbands decide 78% of major household expenses. Only 16% of decisions are taken by wives. No one takes decisions in 4% of families and children also take decisions in 2% of families.



84% of the respondents in the study believed that women can make the right decisions for themselves. 12% of informants believe that it is necessary for women empowerment. Whereas 4 percent of the respondents believe that decision making is the work of men only.



In the study, 47.9 percent of the husbands are in favour of helping with the household chores with the wife. In 39.6 percent of the households, men were in favor of taking the decision of major household expenditure. In 6.3 percent of the households, men do the work of

Findings

* The study shows that 88% of the people believe that the participation of women and men in the decision-making process should also be equal.

* 88% of the respondents believe that if the participation in the decision-making process increases, then there will definitely be an increase in the empowerment of women.

* 84% of informants believe that if women

are involved in the decision-making process, then the decisions will definitely be right for women. But 78% of men take the decision of big expenses in the family.

* Therefore, on the basis of the study, it is clear that there has been a change in the thinking of the society, but its pace is not yet normal, that is why men take the decision of big expenditure in the families thinking of increasing women empowerment.

. 88% people believe that women should be equal to men in decision participation and participation is necessary for women empowerment. 66% of people believe that both husband and wife take family decisions together. That is, there is a difference of 22% between the words and deeds of the people. This is the condition of our society.

VI Conclusion

According to the World Economic Forum data, India is ranked 140 out of 156 countries in the Global Gender Gap Index (CGI) 2021. While India ranks 155th out of 156 countries in the field of health and survival according to the Survival Gender Inequality Index (GII), there is a need to increase the representation of women. While political representation of women in India still has a long way to go, especially at higher levels of government, where there is a need for the presence of more women political leaders and more women to exercise their democratic rights. One can expect policy changes that can contribute to better performance of women in India on economic participation and opportunity, education attainment and other indicators of health and survival. There is a need to take positive steps to remove this discrimination against women. Work has to be done on many levels. At the political level, first of all, such a system has to be implemented which can connect women to power and decision-

making process. Such as reservation for political participation of women. At the Panchayat level, the implementation of quota for women has brought about positive changes. There has been a difference in the way many panchayats work. Women-led Panchayats are working successfully in providing home, school, health and other basic needs.

We all have to start this from the family itself. If we give full rights to take decisions to the woman/wife taking care of the family, then surely the same thing will be applicable in the society as well.

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Effects of Depression on Literature, Human Behaviour and Society

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Abstract— Our world is afflicted by a depression pandemic. Adults, children, and teenagers are all affected. This has been found in even the most well-known authors and artists. The figures are mind-boggling. We need to investigate this phenomenon more in order to have a better understanding of it. And how art and literature might help to offer an emotional escape from it. We lead lives that are frequently worthless and empty. Running from one objective to the next without taking time for ourselves causes us to lose touch with loved ones and sets the stage for self-isolation. Depression then establishes itself in a person's thoughts. And in order to mend ourselves, we turn to external and material successes for comfort. A sad individual is frequently treated harshly by society. We tend to dismiss the individual as an outsider and maintain a safe distance from them. Instead of depression, the sad individual is singled out as if he or she has a problem. For someone suffering from depression, art and literature play an important part in this process. For some, it can be a source of comfort. Reading a fictitious book helps readers to leave their everyday life and enter the world of someone else. If only for a minute, we forget about ourselves. Writing novels and painting on canvas give a release for some people, allowing them to express the sorrow of their lives, their anxieties, and their concerns. We need someone to listen to us most of the time, and when that option isn't accessible, we resort to papers and canvas. A blank sheet is a kind stranger who is eager to hear what we have to say. Every one of us requires assistance at some point in our lives. All we have to do is ask for it.

Keywords—depression, literature, art, emotional release, psychology

I. INTRODUCTION

WHAT IS DEPRESSION?

Let's take a quick look at what this term means before we get started. Depression is a mental condition that causes a continuous sensation of melancholy and a loss of interest or pleasure in daily activities, according to psychology. It has a detrimental impact on you as well as others around you. Adults, teenagers, and children can all be affected. It can last anywhere from a few weeks to several months and in some cases, even years. [1]

Depression has been a part of humanity's history from the dawn of time. We've been using logical analysis to attempt to make sense of it.

The word 'deprimere,' which means 'to push down,' is derived from the Latin language. Since the 14th century, the word "depress" has been used to indicate "to subdue" or "to knock down in spirits."

Symptoms: The symptoms of depression vary from person to person but most commonly, they can include:

- a. losing interest or happiness in activities or hobbies
- b. change in appetite
- c. sleeping too much or too little
- d. loss of energy, fatigue
- e. feeling of worthlessness
- f. In extreme cases, recurrent thoughts of death or suicide

II. LITERATURE REVIEW

It can be lonely to be suffering with any form of disability, whether physical or mental. It may be quite taxing on a person, particularly when there is a lack of emotional support and the ability to communicate one's thoughts with someone. This is where literature steps in.

Many people have utilised books as a sort of therapeutic comfort, whether consciously or unconsciously. Reading gives people the opportunity to be vulnerable, feel emotions, and confront difficult situations. We can find an anchor to keep us afloat through reading stories, listening to music, or just looking at a beautiful picture that represents our own challenges. It gives you the impression that what you're going through is something that others have gone through as well. For a short time, books give the greatest getaway from life's challenges. Isn't that the point of art and fiction?

The sense of community found in literature, as well as a feeling of belonging with the characters, may assist in providing a friend when needed and address one of the symptoms and probable causes of depression: loneliness.

2.1 Famous Authors and Artists who Battled Depression and how It Affected Their Work

There have been authors and other artists who have struggled with depression and other mental illnesses. Many of the world's most well-known literary and musical works had their origins in the author's battle with this condition. Here are a few well-known artists that battled this illness:

a. Emily Dickinson: Despite the fact that she was never officially diagnosed with depression. Emily Dickinson's loneliness may be seen in the way she wrote her poetry. Her melancholy literary topic has led readers and historians to speculate about her mental state. 'I Felt a Funeral in my Brain' is one of her most powerful poems. She was also known as 'The Lady in White' around town since she never left her family's house. Dickinson died without being recognised for her work, which is a tragedy. [2]

b. Sylvia Plath: She is regarded as one of the best poetesses of the twentieth century. Plath attempted suicide for the first time when she was just 19 years old. She battled depression during her brief literary career. Her only novel, *The Bell Jar*, is about a character who is suffering from suicidal depression and how he recovers. At the age of 30, she took her own life by inhaling gas from her cooking oven.

c. Anne Rice: Anne Rice is an American novelist who struggled to find popularity as a writer at first. She is claimed to have suffered from depression following the death of her 5-year-old daughter from leukaemia. Rice was inconsolably upset. Writing was her only way out of this misery. *Interview with a Vampire* was her debut novel, and it was followed by many more in the Vampire Chronicles series.

Many authors struggle with their work while also suffering from depression. Writing may be a kind of relief for some people. When you're surrounded by the characters you've created, it might offer you joy and tranquilly.

d. Stephen King: He is known all over the world as a contemporary maestro of suspense and horror. He is the author of numerous well-known horror novels, including *The Shining*, *Pet Sematary*, and *Salem's Lot*. The majority of people are unaware that King has struggled with substance addiction and alcoholism in order to cope with his despair. The majority of individuals use them as a way to self-medicate and escape from despair.

Apart from authors, there have been many other artists who battled through depression.

e. Vincent Van Gogh: He was a prominent Dutch painter and one of the most well-known artists of all time. He produced around 2,100 works of art, including 860 oil paintings. He was not economically successful, suffered from acute despair and poverty, and at the age of 37, he committed suicide. He even used to eat paint and other poisonous substances because he was suicidal. The majority of his well-known masterpieces were created in a hospital room. He did not make the renowned picture 'Starry Night' because he was depressed; rather, he used it to express his hope and love for the world. [3]

f. Michael Jackson: Who in today's world hasn't heard of him? Record producer, dancer, actor, composer, and singer known as the "King of Pop." Despite his popularity and money, his personal life was a mess. He was a victim of

child abuse and bullying as a youngster, and he suffered with the trauma throughout his life. Throughout his whole life, he was accused of making false accusations.

III. DEPRESSION IN INDIAN LITERATURE

From the past few decades, we have seen and felt a lot of change coming over the Indian society. Our literacy rate is increasing as more and more children pour into schools and get education. Topics that were considered taboo not long ago are being discussed and debated upon, which is a very welcome change. Now, we're breaking stereotypes and old notions of our society and moving towards a new, a better future.

Depression, being one of the taboo topics is now a familiar word among people. But it is essential to see how it is being represented in the common media. Earlier, the books on this subject used to be a very poor representation as most of them used to portray depressed people as psychopaths or as someone with violent tendencies. But now, there are some who are writing about mental health and how mental disabilities present themselves in different manner in different people. This is necessary for the Indian readers so that they can have clear sense of mental disabilities.

Numerous Indian books talk about depression in their own unique ways. Some of them are:

1. Em and the Big Hoom by Jerry Pinto: In this novel, Pinto writes about his mother who was suffering from depression. It shows how the family members understood a mental disability and tried to help her, by making little adjustments in their daily lives. It shows how compassion and sensitivity towards the affected person can bring a change in them. The book won Hindu Literary Prize, the Sahitya Akademi Award, and the Windham-Campbell Literature Prize.

2. Sepia Leaves by Amandeep Sandhu: Going through tough times, make a family realize how they need to cooperate with each other on this long and hard journey. *Sepia Leaves* talks about a young boy named Appu and how he deals with his maladjusted family. The arrival of a surrogate mother in the family sends Appu's mother into a schizophrenic madness. Appu slowly comes to terms with it, but in order to support his family, he lets go of his childhood and takes the role of a parent. [4]

3. The Reason is You by Nikita Singh: The novel tells a story of a young woman with crippling depression that causes her to almost kill her partner. These kinds of stories are often misunderstood since it shows that people with mental health are prone towards violence and hence are a threat to everyone around them. This in turn fuels the feeling of alienation towards those who have been diagnosed as depressed.

Proper representation in a positive light is necessary so that the stories that young minds read don't add up another layer of stereotype on this already existing stereotypical society. It is the main duty of the authors and publishers to look deeply into this multi-faceted spectrum of literature and mental health issues so that there is no window for misrepresentation.

IV. METHODOLOGY

HOW DEPRESSION AFFECTS SOMEONE'S LIFE

Depression and its symptoms can be overwhelming affecting a person's life and behaviour in a variety of ways. Like any untreated disease, sadness, gloom, and self-doubt colour the sufferer's entire world and change their perspective and outlook from optimism to pessimism. There are therapies and drugs accessible in today's environment, where we now have access to modern medicine.

However, in the past, art and expression were some of the only methods for persons suffering from depression to cope with and make sense of their distressing emotions. Even with all of our meds and therapy treatments, art may still provide a healthy outlet for people to release and express their feelings and grief.

We tend to turn to art and literature for further insight into depression, trying to make sense of the disorder through creative expressions and artistic pursuits.

Art can give an opportunity for the sufferer to convey sentiments and thoughts that are difficult to articulate verbally and can only be fulfilled via a more creative activity. While creativity cannot cure depression, it can provide some comfort to those who are depressed. [5]

In recent years, depression has received more attention, with more artists stepping forward to fight against the depression stigma and highlight the fact that mental illness can happen to anyone.

4.1 A NEW GLORIFIED DEPRESSION

Earlier often we used to avoid this topic, but now depression and suicide have gained attention as modern day media, pop culture and literature, features people suffering from depression and suicidal thoughts. Even though this recent exposure is certainly effective in dispelling some of the stain surrounding mental illness, some methods of exposure through literature and social media have led to an overly idealistic, even a romantic idea of this disability.

Instead of being a mental illness to be concerned about, depression is now taking the shape of a 'beautiful suffering', ultimately ending with a 'beautiful death' which really downplays the seriousness and the ugly nature of the mental illness. In pop culture, particularly in dramas, teenagers struggling with depression are portrayed as cold, mysterious and emotionless, but fascinating and 'aesthetic' at the same time. It is essential to understand that depression and suicide are neither beautiful nor mysterious. [6]

Works of literature that celebrate suicide and depression are not a modern-day phenomenon. For example, William Shakespeare's "Romeo and Juliet," one of the most well-known works of literature in the world, relates the narrative of two lovers who both kill themselves for their love. While Shakespeare's work used suicide to underscore the beauty and power of love, it has now been transformed into a means for gaining forbidden love through the ultimate act of defiance: death.

Another recent Netflix teen drama show, "13 Reasons Why" depicts the story of, Hannah Baker, a depressed teenage girl who commits suicide by slitting her wrists as she was bullied and raped. No doubt that the show was intended to raise awareness and to display how harsh circumstances can affect a person's mental health, but it also showcased a 'revenge fantasy'. How you can ruin the lives of others after you are gone. As per many critical reviews, the show ended up glorifying the act of suicide so much that Netflix had to remove the graphic suicide scene from its last episode. [7]

Portrayal like these often discourage people from getting help since it shows mental health problems as unsolvable health diseases and encourage discrimination.

4.2 IS THERE A RELATIONSHIP BETWEEN DEPRESSION AND CREATIVITY?

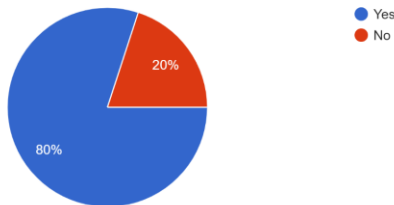
We come to the conclusion that there's a substantial link between creativity and mood disorders. All recent research that has looked at the relationship between depression and creativity have revealed consistent, favourable results. Many of the studies cited have insufficient definitions of both creativity and mood problems. To yet, the forms of creativity that have been examined have been limited. It has mostly concentrated on authors. There remains a vast territory between the study of the relationship between creativity and mental illness. [8]

4.3 SOCIETY - THE MANUFACTURER OF DEPRESSION?

A lot of us live lives that are dull and colourless. Charles Bukowski, a renowned author, has tactfully written this very famous quote "Some people never go crazy, what truly horrible lives they must lead."

The world we live in is fiercely competitive, and financial success and performance are rewarded in it. All we like to be is someone who is always striving for these outward indicators of success. Our emotional and psychological equilibrium is strained by this work culture. It leaves us with no time to engage in activities that offer us with the needed break to relax our brains. Instead, we feel estranged and alone from our loved ones. We don't have time for our families or even ourselves. We are slowly but steadily forgetting how to live healthily.

Q.1 Are you familiar with the term 'depression'?
75 responses



4.5 SOCIETY’S BEHAVIOR TOWARDS DEPRESSION

It is natural that life will be challenging at times. Our culture makes the mistake of expecting individuals to be happy all of the time, and if they aren't, then something is wrong with them. We want everyone to blend in and adhere to the 'normalcy' that we've established. People that are sad are labelled as "dysfunctional." Human beings are not machines that simply just 'dysfunctional' at any time. This labelling is completely inaccurate. Depression is frequently quite understandable.

Most often people are living lives in which they are struggling, living in loveless relationships, or suffering from loss. Instead of focusing on the depression, society, or rather the majority of it, treats them as outcasts. Rather than treat depression, we need to assist these people to come in terms with their life challenges. What we should understand is that it is essential to treat the person, not the depression. We need to get a better realization of how a depressed person struggles with contextuality in their lives and to appreciate their struggles and challenges.

V RESULT

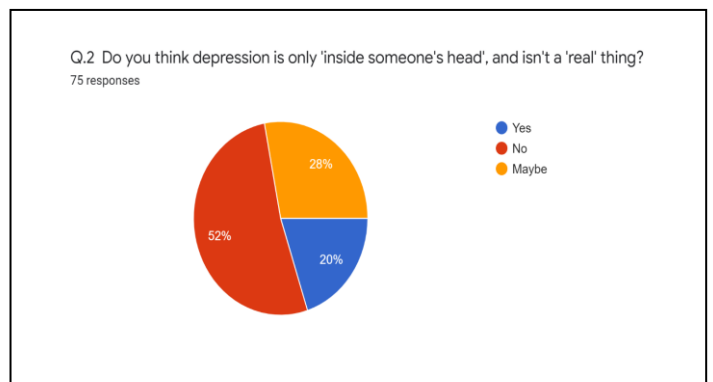
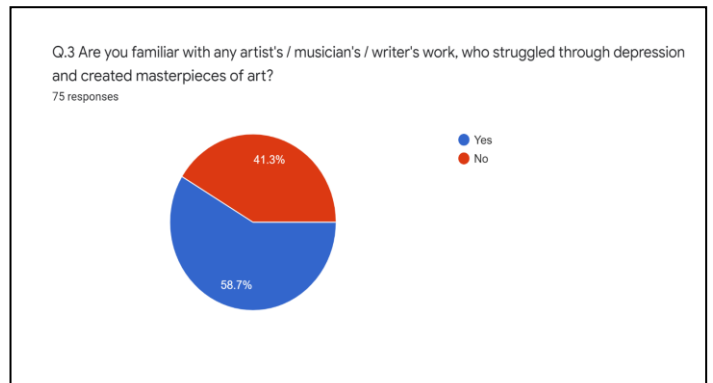
Contextuality An independent study was conducted from 15 May, 2022 to 21 May, 2022 to gain the opinion and general consensus of the people. Around 75 people participated in the survey. The age range of the candidates who participated in the survey was from 18 to 40 and above. Questions related to depression and literature were asked to ascertain their understanding on such matters. And also, what is the view of the people towards depression and those who might need help during their difficult period.

1) DATA ANALYSIS & STUDY

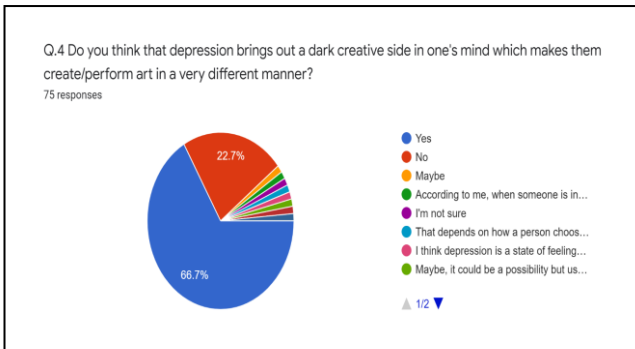
Below given is the data collected and represented in graphic charts. The data was further analysed and new findings were collected.

Firstly, the participants were asked about whether or not they were familiar with the term depression and what it stand for. About 80% of them opted for yes, while 20% of the participants said no.

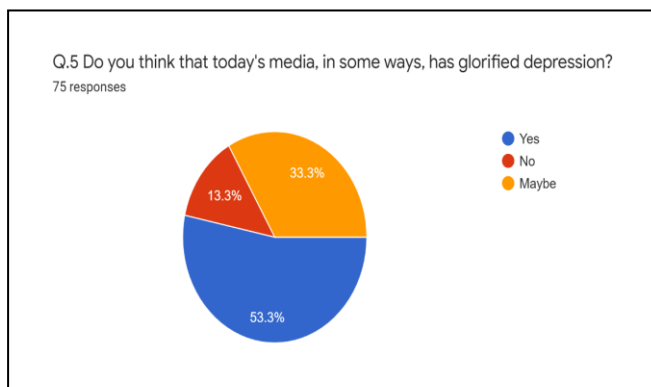
Next, the question was raised about how our participants view depression. Whether or not they are aware of its effects or whether they think that depression is just simply 'being sad'. While, 20% of the participants were unsure about it, about 28% agreed that it is simply inside someone’s head and is not real. Only a little more than half of the participant i.e., 52% disagreed and accepted that depression is a real phenomenon, which needs to be taken seriously.



Participants were asked if they have read any novel or heard any music which was written/composed by any artist who has been known to be suffering from depression. This question was asked to ascertain if they are aware of the effect depression can have on an artist’s mind and the art which they produce. About 58.7% said yes, while 41.3% said no. It shows how aware the society is about mental disabilities, in general.

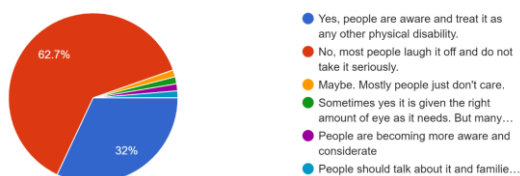


When asked if whether or not depression brings out a different side of art from the artists' minds, 66.7% agreed to it and said that depression does bring out a sort of creative side which makes them produce art differently. While about 22.7% participants disagreed with it, the rest of the participants had mixed answers. Some were of the opinion that depression instead devoid one of any feeling or creativity, and leads to numbness of emotions.



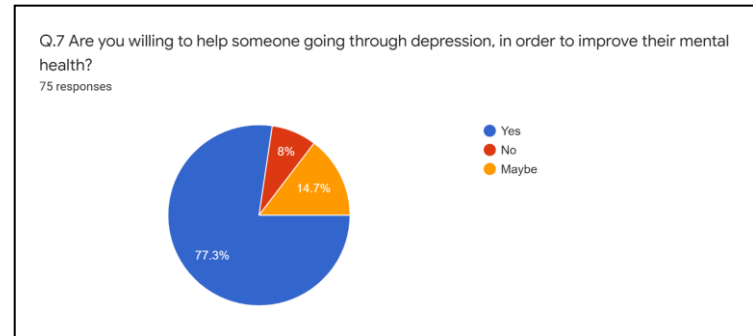
53.3% participants agreed with it and said that media today has glorified depression to a large extent. About 33.3% participants were not clear and said that maybe, it does. While the rest of the 13.3% participants disagreed.

Q.6 Do you think society accepts depression and treats it as it should be?
75 responses

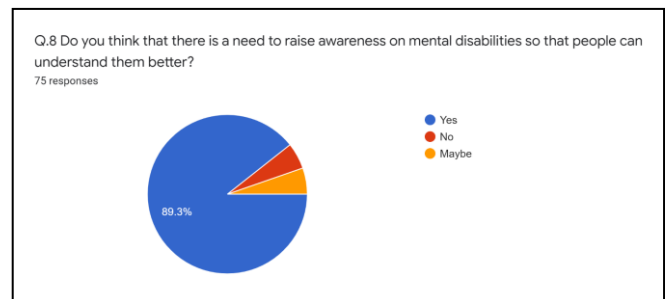


A jarring 62.7% said that most people just laugh it off, and pretend that it is not a real thing. Even though 32% said

disagreed and said that people are aware and take it as a serious disability. The rest of the participants had mixed ideas about it. Some said that there needs to be more awareness so that more and more people would talk and discuss it, thus normalizing it in a positive manner.



When asked with the possibility if the participants were eager to help someone who is struggling with depression, majority of them, about 77.3% readily said yes. The rest of the participants disagreed by saying that they ought to take care of their own mental health as well. Depression can be very difficult and we need to be there to support others, or just be someone to listen to them.



Lastly, we asked the participants whether or not they felt the need for more awareness in our society regarding depression. Almost 90% participants agreed that we need to focus on spreading awareness.

2) FINDINGS

By conducting the survey above, we reach upon the following deductions:

- Even though, majority of the people are aware about it, there remains a portion which is still unaware of depression.

- Many people still do not take depression seriously and laugh it off. We need to work on it and improve this.
- Those aware about depression know that it can affect anyone. They are aware how it affects someone's creativity and happiness level. They have read books or heard songs created by those who have been diagnosed as depressed.
- Depression can have serious effects on a person's mental health. For artists, the simple act of painting, writing, or even playing music can provide an emotional release from their tough ordeal.
- Often we see pictures on social media portraying scarred bodies, with a hue of cigarette smoke, making it look like an aesthetic representation of depression and its ill effects. It sends a wrong message where depression is glorified, desired and turned into something beautiful.
- One of the most crucial issues today is whether the society that we live in is aware or not about depression and other mental disabilities. But this scenario is changing steadily and more and more people are being aware of it.
- People are willing to help someone who is depressed.

VI CONCLUSION

Depression and other mental disabilities can severely turn around a person's life. Making them feel melancholic and secluded from the general public. While modern medicine and therapy can help a person overcome this hurdle. Literature and art play a huge role in a person's mental health as well. It is essential to focus on the proper representation of mental disabilities in books and art, so that the readers can understand it better. It will help in raising

awareness in society and normalizing the topic. We also should take care as to how it is portrayed in literature and art in a sensitive manner, as it can be misrepresented sometimes. Bad representation can affect the inclusion of people in our society in a severe manner. At the same time, we also have to make sure that people with depression can feel comfortable in stepping up and seeking out help from their loved ones.

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Studies On Weed Competition In Intercropping System Of Pearl Millet (*Pennisetum Glaucum L.*) with legumes as fodder

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ABSTRACT A field experiment was conducted at the farm of Lovely Professional University, phagwara (Punjab) to Study on Weed Competition in Intercropping System of Pearl millet (*Pennisetum glaucum L.*) With legumes as Fodder. The experiment was comprised of pearl millet sole and intercropping system with pre-emergence herbicide dose and in control with legumes fodder i.e. Cowpea and guar by Randomized block design (RBD) with replicated thrice. Yield, growth and quality parameters were recorded during the research work. In Pendimethalin@0.75kga.i/ha (Pearl millet + Guar) followed by Pendimethalin@0.75kga.i/ha (Pearl millet + Cowpea) resulted highest plant height, number of leaves, leaf stem ratio, leaf weight, stem weight, available of Nitrogen in soil, available Phosphorus in soil, available Potassium in soil, crude fiber and

dry matter production. The growth parameters like plant height, no. of leaves and leaf stem ratio were periodically recorded at 30, 45 and harvest and proximate compositions were recorded after harvest of the crop. Weeds were recorded lowest in Pendimethalin@0.75kga.i/ha (Pearl millet + Guar) followed by Pendimethalin@0.75kga.i/ha (Pearl millet + Cowpea) because of effectiveness of pre-emergence herbicide as compare to control in both sole and intercropping. From the analysis of research done, it has been concluded that Pendimethalin@0.75kga.i/ha showed growth and yield more effective in pearl millet intercrops with Guar and pearl millet intercrops with cowpea in comparison to other among treatments.

Keywords: *Intercropping system, Fodder, Legumes, Pearl millet, weeds.*

I INTRODUCTION

In the era 90's cultivation of two or more crops in the same piece of land was not aware of it, not in the many other countries of the worldwide. By changing of time this challenge comes to know in many countries and day by day increases of the population, increases require for food for live. Intercropping system capable to cover the time of two crops in the same time and provide food to the population with no efficient use of resources and more convenient to farmers and low land farmers in the country (X. Joseph et al. 2018). Intercropping system adopted in various cereals, millets, pulses and oilseeds crops at the same time on the same piece of land which leads to reduce the loss of crop failures, behave as protection against pests, helps to maintain soil fertility (M.G. Manjunath et al. 2017). Intercropping legumes-cereals is growing to increase the productivity in many parts of developing countries. Intercropping Practices, at the same time growing more than two crops together in a field which helps to increase the total yield as compared to growing individual crop, By the utilize of resources crop have the ability to increase productivity (Willey,1979).

Pearl millet (*Pennisetum typhoideum*) is the most durable crop of India as it is staple food, Forage for the most of the people of the country. Among the countries which are growing Pearl millet, India has the largest area under pearl millet (9-10 million ha) accounting 50% of the global production which produces 7-8 million tons of grains (Charu Lata et al. 2019). Rajasthan is the topmost in area and production of pearl

millet (ram and Singh, 2003) followed by rice and wheat and other cereals (Yadav and rai, 2013). Pearl millet variously classified as *Pglaucum*, *Pamericanum*, or *spicatum*, and known as Bajra in India (Taylor 2004). Pearl millet becomes rank third followed by wheat and rice (GOI, 2008). It is the most important grain cereals crop which has cultivated for both purposes (grain and fodder) for human and livestock. The suitable temperature for better germination of pearl millet is 23 to 32°C. Pearl millet can tolerant high range of temperature. The required optimum rainfall to pearl millet is near to 500-800 mm. it is a drought tolerant crop and grow where is water scarcity, high temperature and low moisture content. Pearl millet has the ability to grow in dried areas. Pearl millet is cultivated in arid and semi arid in different regions of India (Yadav and rai, 2013). Nutrition value of Pearl millet is contributing a huge role in human diet which is high level of zinc, lipids, carbohydrates and proteins. Pearl millet contains approx. 9 to 13% protein, which is more than rice (7.2%) barley (11.5%), maize (11.1%) and sorghum (10.4%). It also contains approx. 8% fat which is higher than rice wheat, barley and sorghum. Pearl millet is 40% rich in amino acid, methionine and lysine as compared to maize (Leder 2004). The nutritional benefits of pearl millet are its high content of fibre about 2.0%.

II Literature Review

Material and Methods

The present study entitled “Study on Weed Competition in Intercropping System

of Pearl millet (*Pennisetum glaucum* L.) with legumes as Fodder” was conducted at the agriculture research farm, Department of Agronomy, School of Agriculture, Lovely Professional University, Phagwara, Punjab, during Kharif season 2019-20. The soil of the research experiment site was low in available nitrogen (199.3 Kg/ha), high in available phosphorus (27.9 kg/ha) and potassium (311.3kg/ha). The experiment was carried out randomized block design (RBD) with three replications. Total ten treatments including T1 Control (sole Pearl millet), T2 Control (Pearl millet + Cowpea), T3 Control (Pearl millet + Guar), T4 Pendimethalin@0.75kga.i/ha (sole Pearl millet), T5 Pendimethalin@0.75kga.i/ha (Pearl millet + Cowpea), T6 Pendimethalin@0.75kga.i/ha (Pearl millet + Guar), T7 Control (sole Cowpea), T8 Control (sole Guar), T9 Pendimethalin@0.75kga.i/ha (sole Cowpea), T10 Pendimethalin@0.75kga.i/ha (sole Guar) was applied. The total area of the plot was 800 sq m. where plot size was 5×4 Square meter. Total plots for experiment were 30 including replications. Land preparation was done and irrigation was applied to field for betterment of soil. After those seeds were sowing with suitable spacing to plots according to treatments. Calculated Fertilizer doses were applied to plots by broadcasting method at the time of sowing. Sowing was done on 10th April 2018. The first irrigation was done at sowing time and next two to three irrigations were done according to scheduled time. The growth parameters were mainly plant height (cm), no. of leaves per plant, Leaf stem ratio, yield (q/ha). Plant height was

measured with the help of measuring tape from base of the plant in tagged plants in each plot. Number of leaves was counted by randomly tagged plants in each plot and average value was calculated. The fresh forage yield was taken after cutting under 30×30 cm quadrat in two spot in each plot and converted it into q/ha. The harvested crop was placed in direct sunlight for dry purpose and also carried into hot air oven under optimum temperature. For checking effect of weeds on crops, weed count and no. of weeds were recorded. The data was analyzed by using Duncan’s Uses Harmonic Mean Sample Size for partition of mean (Gomez and Gomez, 1984). Data was observed on periodically at 30 days after sowing, 45 days after sowing and at harvest time.

Growth parameters:

The data given in table 2 showed the value of plant height, no. of leaves, leaf weight, stem weight, leaf stem ratio and yield of pearl millet with intercropping system (cowpea, guar) under the influence of pre-emergence herbicide.

Plant height (cm): The treatment consists of Pendimethalin@0.75kga.i/ha (sole Cowpea) T9 resulted significant ($P < 0.05$) higher plant height and lowest was recorded in control at 30DAS. But at 45 DAS and harvest Pendimethalin@0.75kga.i/ha (Pearl millet + Guar) T6 followed by Pendimethalin@0.75kga.i/ha (Pearl millet + Cowpea) T5 was recorded higher plant height and lowest was observed in Control (sole Pearl millet) T1. In cowpea case, the

maximum height of plant was observed in Pendimethalin@0.75kg.a.i/ha (sole Cowpea) T9 and lowest was recorded in Control (sole Cowpea) T7. In guar, the maximum height was Pendimethalin@0.75kg.a.i/ha (sole Guar) T10. This may be due to influenced by intercropping system which was significantly increase the plant growth.

No. of leaves per plant: The highest number of leaves was recorded by Pendimethalin@0.75kg.a.i/ha (Pearl millet + Guar) T6 followed by Pendimethalin@0.75kg.a.i/ha (Pearl millet + Cowpea) T5 which was significant ($P<0.05$). The lowest number of leaves was recorded in Control (sole Pearl millet) T1 followed by Control (sole Cowpea) T7.

Leaf weight (kg/plant): On comparing basis, the average mean of individual intercrops, the highest leaf weight was observed for treatment T6 (0.22 kg/plant) followed by T5 (0.16 kg/plant) in pearl millet which was significant ($P<0.05$) and lowest was recorded in T2 (0.036 kg/plant) under control in intercropping. The maximum leaf weight was observed T9 (0.16 kg/plant) which was significant ($P<0.05$) and lowest was recorded in control in cowpea. The highest leaf weight in guar crop was observed in T10 (0.063 kg/plant) which was significant ($P<0.05$) and lowest in control treatment. This may be both intercrops were collaborated with each other nicely and intercropping influenced the weight of leaf. Leaf weight was maximum in treatments T6 (0.22), T9 (0.16) and T10 (0.06) with comparison of herbicidal effect on it and control.

Stem weight (kg/plant): The average mean of the stem weight was recorded highest for treatment T6 (0.86 kg/plant) followed by T5 (0.72 kg/plant) and T4 (0.44 kg/plant) which were significant ($P<0.05$) and lowest

average mean was observed in control treatments for pearl millet. The average mean of stem weight of cowpea was recorded maximum in treatment T9 (0.63) which was significant ($P<0.05$) and lowest in control. In guar, stem weight was observed in treatment T10 (0.48) but lowest was recorded in control treatment. Therefore, the average mean of stem weight at harvesting stage was recorded maximum in treatment T6 (0.86), T5 (0.72) for pearl millet this was because of increase of yield and plant growth attributes by effect of herbicide and intercropping system adopted.

Leaf stem ratio: The highest leaf stem ratio at the time of harvest was recorded in treatment T6 (0.25 kg plant⁻¹) followed by T5 (0.22 kg plant⁻¹) which was significant ($P<0.05$) and lowest was observed in control for pearl millet. For Cowpea, the maximum value of leaf stem ratio was obtained by treatment (0.22 kg plant⁻¹) and lowest in control. For guar, the maximum leaf stem ratio was recorded in T9 (0.16 kg plant⁻¹) which was significant ($P<0.05$) and lowest for control.

Yield: The maximum yield was recorded at harvest that significant ($P<0.05$) intercropping than sole cropping. The highest yield was recorded in treatment T6 (45.5 q/ha) followed by T5 (40.3 q/ha) which was significant ($P<0.05$) and the lowest was recorded in treatment T3 (24.0) in control for intercropping system. The highest yield of sole cowpea was recorded in treatment T9 (38.8 q/ha) under herbicide which was highly significant ($P<0.05$) and lowest was recorded in treatment T7 (31.7 q/ha) in control for sole cowpea. The maximum yield of sole guar was observed from treatment T10 (33.6 q/ha) and lowest in T8 (26.9 q/ha) in control. This was because of all the growth parameter was obtained highest in intercropping system

under herbicide dose effect and in sole crop under herbicide spray than control. Which indicates that growth attributes were highest due to effectiveness of herbicide in plants. This result was also similar with M.S Reddy and R.W. Willey 1981.

III Methodology

Quality parameter:

The data given in table 2 showed the value of crude fiber of pearl millet with intercropping system (cowpea, guar) under the influence of pre-emergence herbicide.

Crude fibre: By the comparing of sole crop to intercropping, the highest crude fibre content was recorded in T2 (5.1%) followed by T6 (5.0%) in pearl millet for intercropping system which was significant ($P < 0.05$) and lowest was recorded T1 (4.0%) for sole pearl millet. In sole cowpea, the highest crude fibre was obtained in treatment T9 (5.0%) which was significant ($P < 0.05$). The average mean of crude fibre was recorded in treatment T2 & T6 because of pearl millet intercrops with cowpea that showed maximum crude fibre due to intercropping effects on it. The lowest was obtained in treatment T1 in sole pearl millet for control. Under control, the yield was obtained very less as compare to herbicidal dose effect, and the growth was also obtained lowest in control under sole crop with compare to herbicide dose effect in sole crop.

Result

Result and Discussion

The result was based on Growth parameters, yield of fodder, quality parameters and other various parameters were discussed below:

Weed Parameters:

Weed count: The maximum weed count (8.43 no. m^{-2}) followed by (8.06 no. m^{-2}) was obtained in treatment T7 and T8 in sole cowpea and sole guar for control that was significant ($P < 0.05$). The minimum weed population was recorded in treatment T6 (3.66 no. m^{-2}) followed by T5 (5.03 no. m^{-2}) in intercrops with pearl millet for herbicide dose spray. This was because of herbicide spray as pre-emergence herbicide to the soil, improvement of yield and growth of the plant due to effective weed management. By weed management, weeds were reduced by effective herbicide (pendimethalin) dose. This result was similar to kumara P (2021)

Weed dry weight: The maximum weed dry weight at harvest was recorded in treatment T8 (9.70 gm) followed by T7 (9.13 gm) for control. Which was moderately significant ($P < 0.05$). The lowest dry weight of weeds was observed in treatment T6 (4.26 gm) followed by T5 (4.70 gm) in herbicide applied plots. Which was significant ($P < 0.05$). This was may be because of suppression of weeds under pendimethalin spray in pre-emergence time. It showed that weeds occur less in intercropping system under pendimethalin spray. This result was similar to Singh et al. (2017).

Table 1 Effect of pre-emergence herbicides on plant height, no. of leaves, leaf weight, stem weight, leaf stem ratio and yield in pear millet with intercropping crops (cowpea, guar)

	Treatments	
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Parameters	Treatments										S.E.D	Level of Sig.
	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10		
Plant height												
30DAS				0.36 ^{abc}				0.31 ^a	0.31 ^a	0.34 ^{ab}		
	0.32 ^a		0.33 ^{ab}		0.37 ^a			0.33 ^{bc}		0.39 ^{ab}		
	0.34 ^c	0.00S										
45DAS				0.85 ^a				0.91 ^{ab}		0.90 ^{ab}		
	0.88 ^{ab}		1.05 ^{cd}		1.10 ^d			0.98 ^{bc}		0.82 ^a		
	1.04 ^{cd}	0.85 ^a		0.01S								
Harvest				1.56 ^{cd}				1.67 ^{cde}		1.70 ^{de}		
	1.64 ^{cd}		1.73 ^{de}		1.98 ^e			1.13 ^{ab}		1.00 ^a		
	1.18 ^{bc}	1.49 ^{ab}	0.06					S				
No. of leaves												
30DAS				4.3 ^a	4.6 ^a			5.0 ^a		5.3 ^a		
	5.6 ^a		6.0 ^a		20.9 ^a			32.3 ^c		34.6 ^c		
	33.0 ^c	2.49S										
45DAS				9.3 ^a				10.3 ^a		8.3 ^a		
	11.0 ^a		11.6 ^a		12.0 ^a			40.3 ^b		63.3 ^c		
	43.6 ^b	65.6 ^c		4.15S								
Harvest				13.0 ^a				13.3 ^a		12.6 ^a		
	14.6 ^a		15.0 ^a		15.3 ^a			44.3 ^b		72.6 ^d		
	50.3 ^d	73.0 ^d	4.47S									
Leaf weight												
				0.043 ^a				0.036 ^a		0.050 ^a		
	0.046 ^a		0.166 ^c		0.220 ^d			0.053 ^a		0.050 ^a		
	0.106 ^b	0.063 ^a		0.01S								
Stem weight												
				0.37 ^a				0.42 ^a		0.39 ^a		
	0.44 ^a		0.72 ^b		0.86 ^d			0.44 ^a		0.37 ^a		
	0.63 ^b	0.48 ^a		0.03S								
Leaf stem ratio												
				0.11 ^a	0.09 ^a			0.12 ^a		0.10 ^a		
	0.22 ^{bc}		0.25 ^c		0.11 ^a			0.13 ^a		0.16 ^{ab}		
	0.13 ^a	0.01S										
Yield (q/ha)												
				27.7 ^{ab}				28.4 ^{ab}		24.0 ^a		
	33.6 ^{bcd}		40.3 ^{de}		45.5 ^e			31.7 ^{bc}		26.9 ^{ab}		
	38.8 ^{cde}	33.6 ^{bcd}	1.33S									

SED= Standard error deviation, DAS= day after sowing, T1, T2, T3..... T10= treatments, S= ($p \geq 0.05$),

a,b,c,d mean values with different superscripts differ significantly.

Table 2 Effect of pre-emergence herbicides on crude fiber on pearl millet with intercropping crops (Cowpea, Guar)

Parameters	Treatments										S.E.D	Level of Sig.
	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10		
Crude Fiber %												
				4.0 ^a				4.2 ^d	4.6 ^{cd}			4.3 ^{ab}
	4.7 ^{bcd}		5.0 ^{cd}		4.5 ^{bc}			4.7 ^{bcd}				4.8 ^{cd}
	4.7 ^{bcd}	0.07S										

SED= Standard error deviation, DAS= day after sowing, T1, T2, T3..... T10= treatments, NS= ($p \geq 0.05$),

a,b,c,d mean values with different superscripts differ significantly.

Table 3. Effect of pre-emergence herbicides on weed growth in pearl millet with intercropping crops (Cowpea, Guar)

Parameters	Treatments										S.E.D	Level of Sig.
	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10		
Weed count												
30DAS					7.03 ^e			6.86 ^e		7.03 ^e		
	6.10 ^d		4.33 ^b				3.63 ^a	6.90 ^e		6.16 ^d		
	4.43 ^b	5.20 ^c			0.23S							
45DAS					7.76 ^e			6.93 ^{de}		7.63 ^e		
	7.63 ^e	5.46 ^b		4.16 ^a		7.86 ^e		7.83 ^e		5.80 ^{bc}		
	6.36 ^{bcd}	0.23S										
Harvest					7.36 ^e		6.46 ^d		7.90 ^{ef}		5.26 ^{bc}	
	5.03 ^b		3.66 ^a				8.43 ^f		8.06 ^{ef}		5.26 ^{bc}	
	5.96 ^{cd}	0.28S										
Weed dry Weight												
30DAS					5.63 ^{bc}			5.16 ^b		5.73 ^{bc}		
	2.96 ^a		2.73 ^a				2.56 ^a		6.36 ^c		6.56 ^c	
	3.23 ^a	3.13 ^a			0.29S							
45DAS					7.50 ^{bc}			6.63 ^b		7.06 ^b		

4.00 ^a	3.93 ^a	3.46a	8.20 ^{e d}	9.00 ^d
3.83 ^a	4.46 ^a	0.37S		
Harvest		9.36 ^d	7.73 ^{b c}	6.83 ^b
4.90 ^a	4.70 ^a	4.26 ^a	9.13 ^{cd}	9.70 ^d
5.06 ^a	0.40S			4.56 ^a

SED= Standard error deviation, DAS= day after sowing, T1, T2, T3..... T10= treatments, NS= ($p \geq 0.05$),

^{a,b,c,d} mean values with different superscripts differ significantly.

Graph 1 Effect of pre emergence herbicides on yield of pearl millet with intercropping crops (Cowpea, Guar)

Conclusion:

The research was short, if repeated the research more accuracy and better results can be obtained. So, the farmers follow the practices done in T6 and T5 followed by T9 and T10. The best results recorded concludes that in Pendimethalin@0.75kga.i/ha (Pearl millet + Guar) followed by [Pendimethalin@0.75kga.i/ha](#) (Pearl millet + Cowpea) followed by Pendimethalin@0.75kga.i/ha (sole Cowpea) T9 and Pendimethalin@0.75kga.i/ha (sole Guar) T10. Weeds were recorded highly where Pendimethalin@0.75kga.i/ha is not applied and they do not show high growth and yield. Pearl millet intercrops with guar under pendimethalin dose is recommendable to farmers because its performance throughout the season in growth and quality attributes were highly significant ($P < 0.05$). If farmers will apply Pendimethalin@0.75kga.i/ha (Pearl millet + Guar) and [Pendimethalin@0.75kga.i/ha](#) (Pearl millet + Cowpea), then the quality and yield of fodder can be improved with high scale profit.

Reference

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A Study on Impact of Online Gaming and Its Addiction among Youth with Reference to Kota City

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ABSTRACT Nowadays people are dependent on technology which became an essential part in every aspect of human life. In an evolved model, people rely on social media and online gaming for entertainment purpose. An online game is a online game that is played over the internet or through another computer network. As people can communicate in online games they get addicted to it rapidly and it affects their daily routine and social interaction. As a result, the purpose of our research is to see if there is any impact of online gaming on youth in Kota city.

I INTRODUCTION

Today, playing video games online is a huge global craze. If one has internet connectivity, they can play games. There are games that allow us to compete against strangers and that also make it quite likely to discover new talents. Additionally, we may stay in touch with our buddies through online gaming. Online games are wonderful since there are those that allow us to make money.

Even though playing video games online is often a very enjoyable experience, there may also be benefits and drawbacks. Online gaming is beneficial because it helps keep people, particularly young people, from engaging in risky behaviour like using drugs or joining gangs. People get excited playing video games online and become more competitive. Additionally, it improves a player's cerebral agility and sharpness. According to a study, playing

action games teaches the brain to make decisions more quickly without sacrificing precision.

Online gaming may also have more negative side effects than positive ones. The lack of physical activity among younger generations may lead to a variety of health problems. Online gaming has the potential to lead to addiction and take away time from other pursuits. Online harassment may result from playing games. The amount of time spent playing online games overall may have a negative impact on academic performance. Online gaming addicts dispute frequently with their teachers, fight frequently with their friends, and have lower grades than those who play online games less frequently, according to psychology.

Keywords : *Online Gaming, video Gaming ,Behaviour, Interpretation*

OBJECTIVES

- (1) To study the impact of online gaming among youth in Kota.
- (2) To know the addiction level of online games among youth in Kota.
- (3) To know the different types of online gaming disorder among youth.

RESEARCH METHODOLOGY

Our primary goal is to investigate the extent of teen addiction to online gaming in Kota. By resolving this issue, we can

win back our younger generation and help them integrate more fully into society. Teenagers are now more dependent on the system, which includes online games, and they merely go into their own fantasy world, which makes them less social. This is due to the new invention. Descriptive study has been used for this study. Data for this study was collected by means of respondents from Kota.

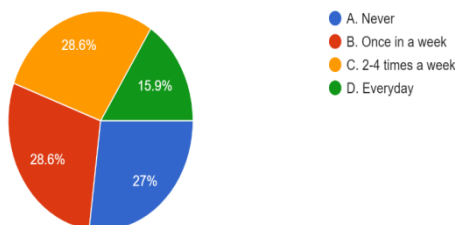
Sampling Plan:

- (a) Sampling unit: Choosing the right participants was an important part of my research. The target population for this study was youngsters of Kota city.
- (b) Sampling technique: Convenience sampling
- (c) Sampling area: The research was conducted in colleges of Kota, Rajasthan.

Analysis and Interpretation

We are using pie chart system for the analysis to get better results for the research.

1. How often do you play online games?

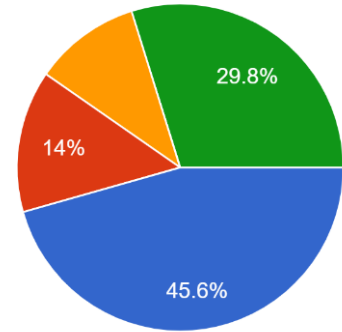


Interpretation-

The result shows the details about the number of respondents who play or who have played online games. It is inferred that in a week, 27 % respondents never plays, 28.6% plays once, 28.6% plays 2 to

4 times and 15.9% plays every day online games.

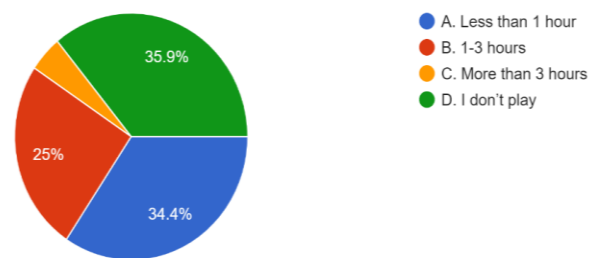
2. For how long have you been playing games for.



Interpretation-

The pie chart shows us the data as whole and in 100%. It is inferred that for how long they playing online games. In this 45.6% playing form 1 year, 14% playing 2-3 year, 11.6% playing 4-5 years and 29.8% playing online games from more than 5 years.

3. How much time a day do you spend playing online games?

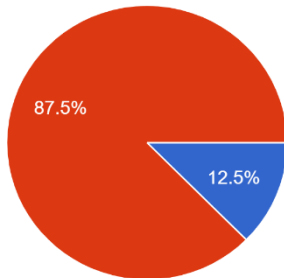


Interpretation-

pie chart shows us the data as whole and in 100%. It shows the time spent by the respondents every day playing online games. A total of 34.4% students spends up to 1 hour a day playing, 25% students play online games one to three hours a day

playing, 4.7% students play online games and 35.9% do not play online games.

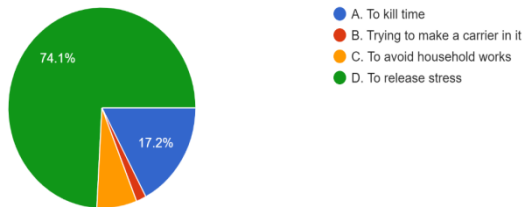
4. Do you spend money in online games?



Interpretation-

The pie chart shows us the data as whole and in 100%. It shows the money spent by the respondents in online games. A total of 87.5% do not spend money while 12.5% spend money in online games.

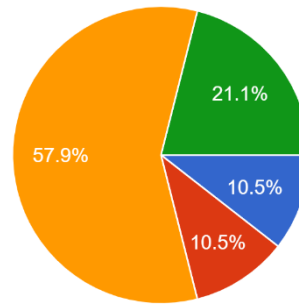
5. Why do you play online games?



Interpretation-

The pie chart shows us the data as whole and in 100%. It shows that why respondents play online games. A total of 74.1% play online games to release stress, 17.2% plays to kill time, 6.9% plays to avoid household works and 1.7% plays to make a career in online gaming.

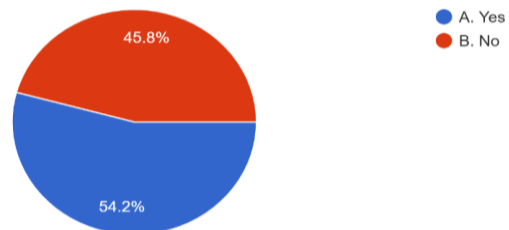
6. Do you feel that your behaviour becoming aggressive because of online games?



Interpretation-

The pie chart shows us the data as whole and in 100%. It is inferred that 10.5% of respondents strongly agree that their behaviour becoming aggressive because online gaming, 10.5% of respondents agree, 21.1% of respondents strongly disagree that their behaviour becoming aggressive because of online gaming and remaining 57.9% of respondents disagree.

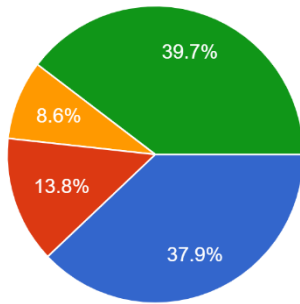
7. Do you interact with other players in the game?



Interpretation-

The pie chart shows us the data as whole and in 100%. It shows that 54.2% respondents interact in online games and 45.8% respondents do not interact.

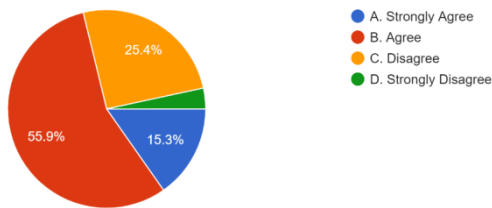
8. What type of online games do you play?



Interpretation-

The pie chart shows us the data as whole and in 100%. It shows that 37.9% respondents play action games, 13.8% respondents play puzzle games, 8.6% play adventure games and 39.7% plays other type of online games.

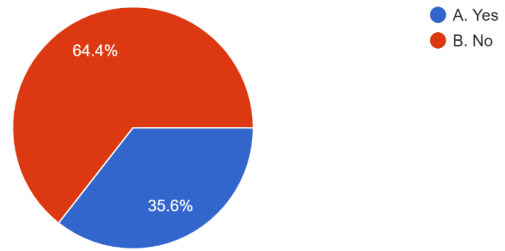
9. Do you like to compete in online games?



Interpretation-

The pie chart shows us the data as whole and in 100%. It is inferred that 15.3% of respondents strongly agree that they like to compete in online gaming, while 55.9% of respondents agree, 25.4% of respondents disagree that they like to compete in online games and remaining 3.4% of respondents strongly disagree.

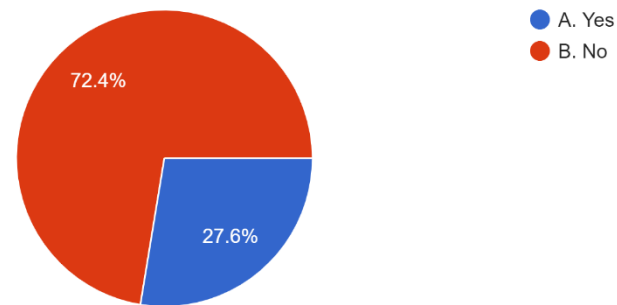
10. Does playing online games affect your sleeping hours?



Interpretation-

The pie chart shows us the data as whole and in 100%. It shows that 35.6% respondents sleeping hours are affected by playing online games while 64.4% do not feel that.

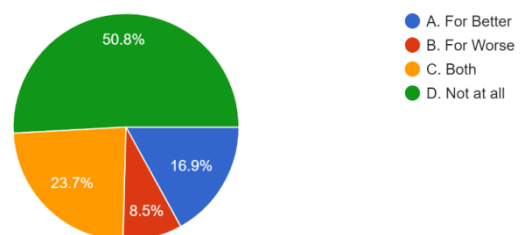
11. Do you play online games while you are not at your home?



Interpretation-

The pie chart shows us the data as whole and in 100%. It shows that 27.6% respondents also like to play online games when they are not at their home while 72.4% do not play.

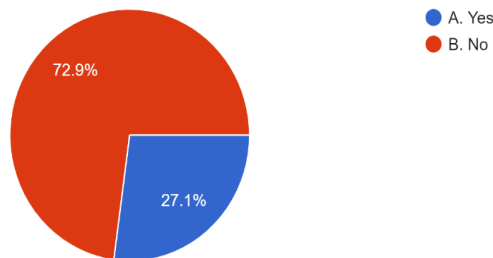
12. How has playing games affected you so far.



Interpretation-

The pie chart shows us the data as whole and in 100%. It shows that how playing online games has affected them. 50.8% respondents not affected by playing online games while 16.9% respondents say it affected them for better, 8.5% respondents say for worse and 23.7% respondents say they had affected for both.

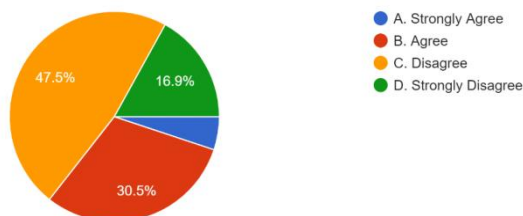
13. Does playing games affects your interpersonal relationships



Interpretation-

The pie chart shows us the data as whole and in 100%. It shows that 27.1% respondents say playing online games affected their interpersonal relationships while 72.9% does not think that way.

14. Playing online games affects your own health

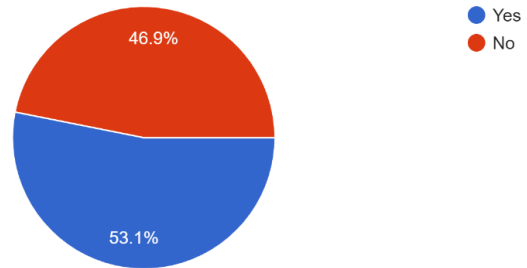


Interpretation-

The pie chart shows us the data as whole and in 100%. It is inferred that 5.1% of respondents strongly agree that their health

is affected by playing online gaming, while 30.5% of respondents agree, 47.5% of respondents disagree that their health is get affected by playing online games and remaining 16.9% of respondents strongly disagree.

15. Do your family allow you to play online games?



Interpretation-

The pie chart shows us the data as whole and in 100%. It shows that 53.1% respondents say their families allows them to play online games while 46.9% respondents families do not allow them.

FINDINGS

- Gaming hours of respondents (24.6%) were recorded in between 1 to 3 hours in a day and 15.4% respondents play every day.
- We noticed that, 36.7% were responded neutrally on the interruption of sleeping due to online games and 63.3% were not disrupted their sleeping hours.
- 74.1% of respondents may agree that they use online gaming as a way of releasing stress.
- 10.3% agree and 10.3% respondents strongly agree that their behaviour is becoming aggressive by playing online games.

- 55% agree and 15% respondents strongly agree that they like to compete with other players.
- 16.7% respondents say that gaming affects them in positive while 8.3% say it affect them negatively and 23.3% say it affected them in both positively and negatively.
- 26.7% respondents find that their social life is affected by playing online games while the rest do not think that way.

This shows that due to online gaming –

The students are becoming more aggressive in nature and it is also having impact on the social life of the youth that by playing more games they are staying away with family and friends. It is also having an impact on the mental health, as there are sleeping disorders by playing online games. Usually they are started playing online games to release stress but after a time they become addicted of this.

SUGGESTION

1. For those gamers who have had a negative impact on their eyesight, they should reduce the number of hours they play online games.
2. Since their sleeping pattern is affected negatively, the parents must be strict with them on their gaming hours and should possibly try avoiding playing online games in the night.
3. Although there is no direct correlation between long gaming hours and aggressive behaviour, it is advisable that violent online games must only be played under parental guidance.
4. Since most of the male respondents feel socially isolated after playing online games for long hours, it can be suggested to them to reduce their virtual gaming

hours and spend more time with their friends playing online games.

5. Even though there are other factors involved in aggressive behaviour, it can be advised that violent online games can be played as less as possible because it can impact the mind of the gamer sometimes.

6. Try maintaining a balance between your studies or work and playing online games. This can help improve your grades or help you in doing in your work better.

7. Since games like Fruit Ninja and Temple run help in quick thinking and making fast analysis, the youth can be encouraged to play these types of games more often than the other games.

8. Pattern recognition and problem-solving skills should also be encouraged to be played more often.

9. Games which can help the youth in increasing their anticipation and situational awareness skills should also be encouraged to be played.

CONCLUSION

Online games can be a boon or a curse to the gamer and the people around the gamer depending upon the game he plays and the number of hours the gamer spends on playing online games. Online gaming has emerged as a popular and successful source of entertainment and played by people of all ages, especially by youth. Its main aim is to entertaining people and also indirectly to make them addictive to improve gaming industry. From this study, we got the information that there is a neutral online gaming effect in Kota. Through this study we also analysed that continuous playing will causes its addiction and addiction to online games affects various dimensions of health,

increases sleeplessness, and reduces direct social interactions. online games can help the youth in their real-life skills if they can learn to play it wisely and if not, it can cause social and health problems for the gamer in the future. On the positive side online games helps in enhancing mental development, critical thinking and stress relief also. As an outcome of the study, it can be concluded that the online gaming has its positive and negative impacts in the real world.

In shorts, we can conclude that people are not affected that much we think and if we take preventive measures then we can also reduce the addiction among the youth for online gaming.

QUESTIONNAIRE

The questionnaire for the survey was as follows:

Name
Age
Qualification

1. How often do you play online games?
2. For how long have you been playing games for...
3. How much time a day do you spend playing online games?
4. Do you spend money in online games?
5. Why do you play online games?
6. Do you feel that your behaviour becoming aggressive because of online games?
7. Do you interact with other players in the game?
8. What type of online games do you play?

9. Do you like to compete in online games?
10. Does playing online games affect your sleeping hours?
11. Do you play online games while you are not at your home?
12. How has playing games affected you so far.
13. Does playing games affects your interpersonal relationships ?
14. Playing online games affects your own health
15. Do your family allow you to play online games?

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Geographical Indication in India and Provision Under Intellectual Property Right: An Overview

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Abstract Geographical Indications maintains ancient knowledge and expertise and assists future generations in learning and protecting it. It contributes to human growth. Geographical Indications is a powerful instrument for increasing rural income and export earnings. The regulatory framework should place a greater emphasis on product testing criteria for brand creation in foreign markets. Everyone aware of the need of connecting to the roots of traditional knowledge, particularly in the health sector, and of preserving and protecting all sorts of intellectual property in this digital age. Intellectual property law protection will assist to reap advantage in terms of economic growth, employment, and revenue production. Geographical indication (GI) protection is provided to a set of producers who are associated with a

certain area where the item was initially created. GIs identify things depending on their origin, and various aspects such as climate, terrain, and human labour assist in determining the character of the Geographical Indications. The study seeks to comprehend and examine the function of protection of intellectual property rights, as well as public knowledge of them, in achieving social upliftment and rural development in India.

Keywords: Geographical Indications, Intellectual property, Economic growth, Development, Public knowledge

Introduction

The term 'Geographical Indications' (GIs) entered international intellectual property (IP) law through its adoption in the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) (WTO). GI refers to any indicator that distinguishes a product as being from a specific location,

when a given value, reputation, or other aspect of the good is mostly related to its geographical origin. India possesses a variety of GIs, both current and potential. Some of them, such as 'Darjeeling' (tea)¹, 'Basmati' (rice), 'Alphonso' (mango), and so on, are already well-known over the globe.

These are exciting times for the modern economy and the preservation of traditional expertise. Plagiarism, piracy, and the abuse of information are perennial challenges in market economies as imitators seek ever-increasing profits. Protection of intellectual property rights becomes vital. Through IPR regulations, India has created a robust IPR system and has introduced numerous programmes such as 'Make in India' and 'Atmanirbhar Bharat.' It has become more important to safeguard copyrighted material as well as historical knowledge and skills from distinct geographical locations.

Geographical indications

Geographical Indication differs from the other IPRs such as patents, trademarks, and designs. Location-Based Information. A few of producers from another region are completely protected. commodity originated. There are several variables of GI products, including site of origin, climate, geography, and human activities

in a specific geographical region. According to A geographical indication is defined as "an indication capable of identifying goods, including natural goods, agricultural goods, or manufactured goods, as manufactured or originating in a country's territory, or a locality or region within that territory, where a specific quality, reputation, or any other attribute of such good is particularly a personality" (Geographic Indications of Goods (Registration and Protection) Act of 1999, Section 2(1)(e)). The region should host yet another activity related to the preparation, production, or processing of goods, area, or location in the case of consumer products." The Indian Geographical Indications Act went into effect on September 15, 2003. In that case customer can be assure about the quality of goods by its originating and manufacturing in particular region²

In the Paris convention the word indications of source or appellations of origin has been given under article 1(2). Geographical Indication is the new term in Intellectual property rights in the term of protection.

Procedure for registration

The method for making an application is outlined in The Geographical Indication of Goods (Registration and Protection) Act of

1999, Section 11. Any organization of individuals or producers, or any association or powerfully by that under any existing legislation to serve the interests of the manufacturers of the relevant products, shall make a written application to the Registrar in order to register a geographical indication in regard to such goods. The applicant must state in such a geographical indication application that the geographical indication serves to designate goods, in terms of specifying performance, reputation, or other character traits that are solely or primarily due to the natural location, with its inherent natural and cultural characteristics of human factors, and the production, handling, or packaging of the goods. The geographical map of the region, the place in which the items are originating or made, particulars surrounding the emergence of the geographical indicator, and particulars of the producers of the concerned goods should all be given in the application for registration³.

A few other geographical indications shall not be registered as geographical indications if their use is likely to cause confusion or deception, if they are found if they are found to be contrary to any constitution, if they contain outrageous or shocking matter, if they comprise or contain any matter likely to damage

religious delicate sensibilities, or if they are deemed to be generic names or signs that infer the existence of products, and as a result, no longer enjoy protection in the nation of origin, if they are found to be contrary to any law, if they contain obscene or scandalous matter, if they encompass or consist any issue likely to damage religious sensitive The rights of two or more authorised users of a geographical indicator that has been registered must be the same⁴.

Duration of registration

The certification of a geographical indicator is valid for ten years and can be extended at any time⁸.

Infringement

If an unauthorised user utilizes it to deceive someone about the geographical origin of something, shall infringe such registered geographical indication. Remedies for the infringement are given in section 67 of Geographical Indications of Goods (Registration and Protection) Act of 1999. Other than infringement there are provision of penalties in the said act If any person who falsifies any geographical indication, falsifies applies to goods, tampers or alters an indication of origin shall be punished with a fine and a sentence of imprisonment of at least six

months that may be increased to three years.

Challenges Ahead

An effective execution and awareness of Geographical Indications among the public are the future difficulties in India. A strong legal structure that can prevent local and foreign rivals from replicating India's GI badges is essential. There have been several cases of global and local traders imitating GI brands like as Darjeeling tea and Banarasi textiles.

Product imitation

Impoverished cheap knock offs are also made within India, mainly in the Surat district of the Indian state of Gujarat. Semi-pashmina/Silk-pashmina are near alternatives for genuine pashmina/Kashmiri shawls⁷.

Geographical Indications Enforcement

Effective GI Act enforcement is a significant problem. The reason for this is that such things are sold in a variety of locations. Supervision and vetting of such outlets are a difficult issue in both local and overseas markets.

Commercialization through brand building and image creation in the eyes of customers is also a difficulty across the

world. Promotional marketing tactics that focus on the psychology of customers both within and beyond the country are required for this⁵.

In India, Geographical Indications is a powerful source of rural development. Let me illustrate this with the example of handloom weaving, which has historically been a source of income. Handlooms are an example of a traditional and ancestral skill and knowledge that suffered with the arrival of power.

In India, the handloom sector has its own particular identity throughout various areas. Now, Geographical Indications tags have the potential to resurrect the handloom sector and turn it into a source of rural employment and growth.

Conclusion

It is a powerful instrument for increasing rural employment and export earnings. The regulatory framework should place a greater emphasis on quality control criteria for brand creation in foreign markets. In India, Geographical Indications is not widely used. As a result, there is a need to raise public awareness.

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Application of Kamal Transformation to Certain Pharmacokinetic Equations

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Abstract— In the present paper we consider mathematical model in term of a differential equation in field of pharmacy. Pharmacokinetic model is the one in which drugs in the body are in a dynamic state. Calculus is a significant mathematics tool for investigating drug movement quantitatively. Our Differential equation with in two compartments is used to relate the absorptions of drugs in various body organs over time. Integrated equations are regularly used to model the cumulative therapeutic or toxic reactions of medicine within the body. Differential calculus involves finding the rate at which a variable measure is changing. Solve this mathematical model with the help of Kamal transformation.

Keywords— Derivatives, Differential Equation, Kamal Transform, Inverse Kamal Transform.

Introduction

Drug concentration analysis in various biological compartments is performed using the pharmacokinetic models [9–11]. (plasma compartment, tissue compartment, deep-tissue compartment, and mammillary compartment). For the analysis of drug distribution in the biological body [12–14] one among them, the mammillary compartment model is usually used. According to the distribution of the drug in the body, this compartment model can be divided into one, two, three, four, etc. compartment models [15]. Pharmacokinetic parameters are required in the compartment model to predict drug disposition and biological half-life in order to study and comprehend distinct compartment models. The distribution and elimination processes are predicted by the pharmacokinetic parameters and biological half-life. To generate a pharmacological reaction, the drug must be present in the body at an effective concentration. There is no pharmacological response to treat the disease if the drug's plasma concentration declines below the effective concentration [16]. Moreover, a higher plasma drug concentration results in toxic effects. Therefore, while administering a drug to patients, the dose and dose interval are significant parameters. The pharmacokinetic factors are related to the dosage regimen (dose and dose interval) (absorption rate constant, elimination rate constant and biological half-life). The mammillary compartment model [17–18] states that when a drug is administered intravenously as a bolus dosage, all of the drugs are initially

present in the plasma compartment (central compartment). However, as time passes and drugs are transported to the peripheral compartment, the concentration of drugs in the central compartment steadily decreases.

Complex rate expressions can be solved with easily using standard algebraic procedures according to the Laplace transform. Considering a one-compartment body model, it is accurate. If the two-compartment body model is involved, as we can see in [3], the anti-Laplace of the resulting convoluted transformations may only be obtained in a comprehensive table of Laplace transforms. Using a two-compartment pharmacokinetic model as well as the Kamal Transformation, this method for solving linear differential equations of the first order is illustrated.

We can take set A the function is defined Kamal Transform

$$A = \left\{ f: |f(t)| < Q e^{\frac{|t|}{\eta}} \text{ if } t \in (-1)^j \cdot [0, \infty], j = 1, 2; (Q, \eta_1, \eta_2 > 0) \right\}$$

Where Q is constant and η_1, η_2 can be finite or infinite [7]. The integral equation

$$G(p) = Kf(t) = \int_0^{\infty} e^{-\frac{t}{p}} f(t) dt, \quad p \in (\eta_1, \eta_2)$$

Kamal transform of the derivatives of the function

$$\text{If } K\{F(t)\} = G(p)$$

$$K\{F'(t)\} = \frac{1}{p} G(p) - F(0)$$

Pharmacokinetics describes the rate and extent of a drug's distribution to various tissues and, consequently, the rate of the drug's elimination. Pharmacokinetics can be reduced to mathematical equations that describe how a drug is distributed all through the body, maintaining a net steady state as it moves from absorption and distribution through metabolism and excretion.

I. TWO-COMPARTMENTAL MODEL EQUATION

See [3] for information on a medication that enters the body by a unique first order absorption process (normally via the oral or intramuscular routes) and distributes throughout the body using a two compartment model. The body was divided into central and peripheral compartments using the pharmacokinetic 2-compartment model. The plasma and tissues make up the central compartment (compartment 1), where the drug is distributed almost instantly. Wherever the drug supply is slower, as seen in [2], a tissue is present in the peripheral compartment (compartment 2).

Two Compartment Model

The differential equations below are used in a two-compartment model equation to determine how a drug is distributed and eliminated from the body

$$\frac{dy_1}{dt} = K_{21}y_2 - K_{12}y_1 - K_{10}y_1 \dots \quad (1)$$

$$\frac{dy_2}{dt} = K_{12}y_1 - K_{21}y_2 \dots \quad (2)$$

Taking kamal transform of (1) and (2) both the sides, can be transformed into linear equation

$$K\{y'_1\} = K_{21}K(y_2) - K_{12}K(y_1) - K_{10}K(y_1)$$

$$\frac{1}{p}y_1 - y_1(0) = K_{21}K(y_2) - K_{12}K(y_1) - K_{10}K(y_1)$$

$$\left(\frac{1}{p} + K_{12} + K_{10}\right)y_1 - K_{21}y_2 = y_1(0) \dots \quad (3)$$

$$K\{y'_2\} = K_{12}y_1 - K_{21}y_2$$

$$\frac{1}{p}y_2 - y_2(0) = K_{12}y_1 - K_{21}y_2$$

$$\left(\frac{1}{p} + K_{21}\right)y_2 - K_{12}y_1 = y_2(0) \dots \quad (4)$$

Applying Cramer's Rule to solve equation (3) and (4)

$$\Delta = \begin{vmatrix} \frac{1}{p} + K_{12} + K_{10} & -K_{21} \\ -K_{12} & \frac{1}{p} + K_{21} \end{vmatrix} = \left(\frac{1}{p} + K_{12} + K_{10}\right)\left(\frac{1}{p} + K_{21}\right) - K_{12}K_{21}$$

$$\Delta_1 = \begin{vmatrix} y_1(0) & -K_{21} \\ 0 & \frac{1}{p} + K_{21} \end{vmatrix} = \left(\frac{1}{p} + K_{21}\right)y_1(0)$$

$$\Delta_2 = \begin{vmatrix} \frac{1}{p} + K_{12} + K_{10} & y_1(0) \\ -K_{12} & 0 \end{vmatrix} = -K_{12}y_1(0)$$

$$y_1 = \frac{\Delta_1}{\Delta} = \frac{\left(\frac{1}{p} + K_{21}\right)y_1(0)}{\left(\frac{1}{p} + K_{12} + K_{10}\right)\left(\frac{1}{p} + K_{21}\right) - K_{12}K_{21}}$$

put $K_{21} + K_{12} + K_{10} = a + b$ and $K_{12}K_{10} = ab$

$$y_1 = \frac{\Delta_1}{\Delta} = \frac{p(1 + pK_{21})y_1(0)}{(1 + ap)(1 + bp)}$$

By using partial fraction method, we can write,

$$y_1 = \frac{(K_{21} - a)y_1(0)}{b(a - b)(1 + ap)} + \frac{(b - K_{21})y_1(0)}{b(a - b)(1 + ap)}$$

Now by applying inverse Kamal transform, we have

$$y_1(t) = Ae^{-at} + Be^{-bt} \dots \quad (5)$$

where $A = \frac{(K_{21} - a)y_1(0)}{b(a - b)}$, $B = \frac{(b - K_{21})y_1(0)}{b(a - b)}$

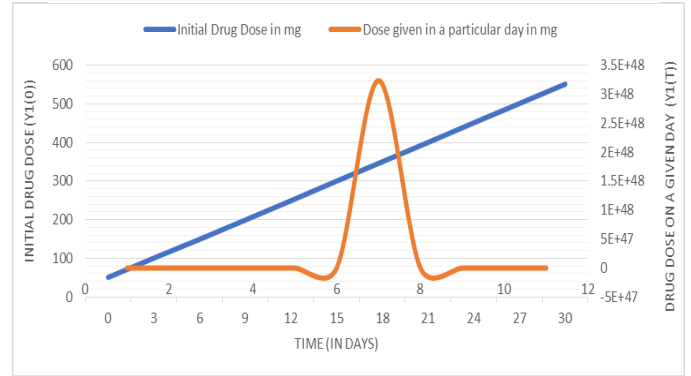
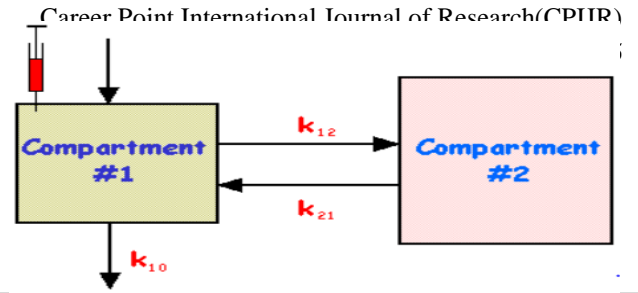
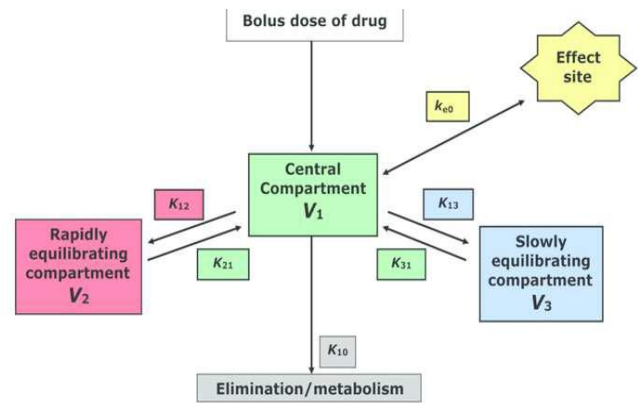


Fig 3.1

Fig 3.1 $Y_1(t)$ is the drug dose on a particular day is in mg. This figure depicts the dose over time graph.

II. COMPARTMENT MODEL EQUATION

The body was separated into a central compartment and two peripheral compartments using the pharmacokinetic three-compartment model. The plasma and tissues constitute up the central compartment (compartment 1), where the drug is essentially distributed instantly. Wherever the drug supply is slower than in compartment 1, tissues are located in the peripheral compartments (numbers 2 and 3).



In a 3- compartment model equations distribution and elimination of drug in the body is given by the differential equations as shown below

$$\frac{dy_1}{dt} = K_{21}y_2 - K_{31}y_3 - K_{12}y_1 - K_{10}y_1 \dots \quad (6)$$

$$\frac{dy_2}{dt} = K_{12}y_1 - K_{21}y_2 \dots \quad (7)$$

$$\frac{dy_3}{dt} = K_{13}y_1 - K_{31}y_3 \dots \quad (8)$$

Taking Kamal transform of (1) and (2) both the sides, can be transformed into linear equation

$$K\{y'_1\} = K_{21}K(y_2) - K_{31}K(y_3) - K_{12}K(y_1) - K_{10}K(y_1)$$

$$\frac{1}{p}y_1 - y_1(0) = K_{21}y_2 - K_{31}y_3 - K_{12}y_1 - K_{10}y_1$$

$$\left(\frac{1}{p} + K_{12} + K_{10}\right)y_1 - K_{21}y_2 + K_{31}y_3 = y_1(0) \dots \quad (9)$$

$$K\{y'_2\} = K_{12}y_1 - K_{21}y_2$$

$$\frac{1}{p}y_2 - y_2(0) = K_{12}y_1 - K_{21}y_2$$

$$\left(\frac{1}{p} + K_{21}\right)y_2 - K_{12}y_1 = y_2(0) \dots \quad (10)$$

$$K\{y'_3\} = K_{13}y_1 - K_{31}y_3$$

$$\frac{1}{p}y_3 - y_3(0) = K_{13}y_1 - K_{31}y_3$$

$$\left(\frac{1}{p} + K_{31}\right)y_3 - K_{13}y_1 = y_3(0) \dots \quad (11)$$

Applying Cramer's Rule to solve equation (9), (10) and (11) to find the value of y_1

$$\Delta = \begin{vmatrix} \frac{1}{p} + K_{12} + K_{10} & -K_{21} & K_{31} \\ -K_{12} & \frac{1}{p} + K_{21} & 0 \\ -K_{13} & 0 & \frac{1}{p} + K_{31} \end{vmatrix}$$

$$\Delta = \left(\frac{1}{p} + K_{12} + K_{10}\right)\left(\frac{1}{p} + K_{21}\right)\left(\frac{1}{p} + K_{31}\right) + K_{21}\left(\frac{-K_{12}}{p} - K_{12}K_{31}\right) + K_{31}\left(\frac{K_{13}}{p} + K_{21}K_{13}\right)$$

$$\Delta = \frac{1}{p^3} + \frac{1}{p^2}(K_{12} + K_{10} + K_{21} + K_{31}) + \frac{1}{p}(K_{10}K_{21} + K_{12}K_{31} + K_{10}K_{31} + K_{21}K_{31} + K_{13}K_{31}) + K_{10}K_{21}K_{31} + K_{13}K_{21}K_{31}$$

Put $K_{12} + K_{10} + K_{21} + K_{31} = a + b + c$,

$$K_{10}K_{21} + K_{12}K_{31} + K_{10}K_{31} + K_{21}K_{31} + K_{13}K_{31} = ab + bc + ca$$

$$K_{10}K_{21}K_{31} + K_{13}K_{21}K_{31} = abc$$

$$\Delta = \frac{1}{p^3} + \frac{1}{p^2}(a + b + c) + \frac{1}{p}(ab + bc + ca) + abc$$

$$\Delta = \frac{1 + p(a + b + c) + p^2(ab + bc + ca) + p^3}{p^3}$$

$$\Delta = \frac{(1 + ap)(1 + bp)(1 + cp)}{p^3}$$

$$\Delta_1 = \begin{vmatrix} y_1(0) & -K_{21} & K_{31} \\ 0 & \frac{1}{p} + K_{21} & 0 \\ 0 & 0 & \frac{1}{p} + K_{31} \end{vmatrix} = \left(\frac{1}{p} + K_{21}\right)\left(\frac{1}{p} + K_{31}\right)y_1(0)$$

$$y_1 = \frac{\Delta_1}{\Delta} = \frac{\left(\frac{1}{p} + K_{21}\right)\left(\frac{1}{p} + K_{31}\right)y_1(0)}{\frac{1}{p^3} + \frac{1}{p^2}(a + b + c) + \frac{1}{p}(ab + bc + ca) + abc}$$

$$y_1 = \frac{\Delta_1}{\Delta} = \frac{p(1 + pK_{21})(1 + pK_{31})y_1(0)}{1 + p(a + b + c) + p^2(ab + bc + ca) + p^3}$$

$$y_1 = \frac{\Delta_1}{\Delta} = \frac{p(1 + pK_{21})(1 + pK_{31})y_1(0)}{(1 + ap)(1 + bp)(1 + cp)}$$

By using partial fraction method, we can write,
 $y_1 = \frac{(K_{21} - a)(a - K_{31})y_1(0)}{a(a - b)(a - c)(1 + ap)} + \frac{(K_{21} - b)(b - K_{31})y_1(0)}{b(b - a)(b - c)(1 + bp)} + \frac{(K_{21} - c)(c - K_{31})y_1(0)}{c(c - a)(c - b)(1 + cp)}$

Now by applying inverse Kamal transform, we have

$$y_1(t) = \alpha e^{-at} + \beta e^{-bt} + \gamma e^{-ct} \dots \quad (12)$$

where

$$\alpha = \frac{(K_{21} - a)(a - K_{31})y_1(0)}{a(a - b)(a - c)}, \beta = \frac{(K_{21} - b)(b - K_{31})y_1(0)}{b(b - a)(b - c)}, \gamma = \frac{(K_{21} - c)(c - K_{31})y_1(0)}{c(c - a)(c - b)}$$

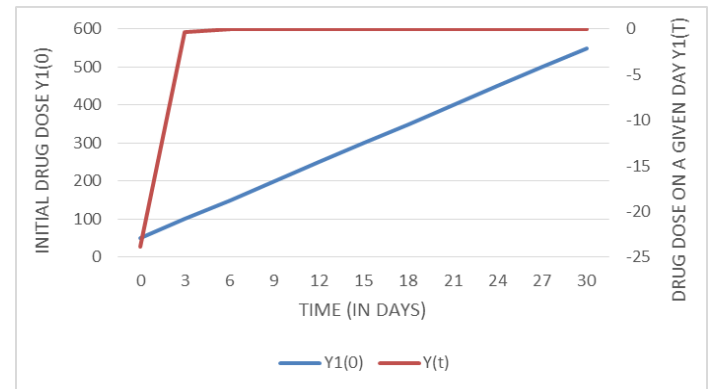


Fig 3.1

Fig 3.1 $Y_1(0)$ and $Y_1(t)$ are the drug dose initially and on a particular day respectively and are in mg. This figure depicts the dose over time graph.

Application to derive pharmacokinetic equations

After the intravenous injection of a drug to a patient, it distributing in the body and also eliminates in the body as first order kinetics is set into the differential.

$$\frac{dY}{dt} = Y' = -kY,$$

Where Y is the total amount of drug in the body of a patient in time t

Taking Kamal transform of both sides

$$\frac{1}{p}Y - Y(0) = -kY$$

$$\frac{1}{p}Y + kY = Y(0)$$

$$\frac{(1 + pk)Y}{P} = Y(0)$$

$$Y = \frac{p Y(0)}{(1 + pk)'} ,$$

p -Kamal transform operator

Then taking inverse Kamal transform of both sides

$$K^{-1}(Y) = K^{-1}\left\{\frac{p Y(0)}{(1 + pk)}\right\}$$

$$Y = Y(0) e^{-kt}$$

Where $Y(0)$ amount of drug given to the patient when time is zero.

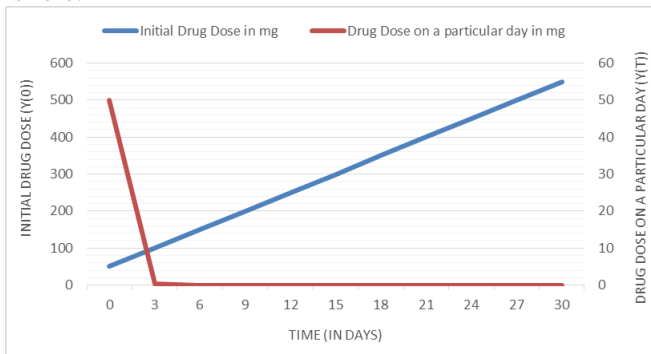


Fig 3.2

Fig 3.2 $Y(0)$ and $Y(t)$ are the drug dose initially and on a particular day respectively and are in mg. This figure depicts the dose over time graph.

CONCLUSION

In this work, we have discussed two systems of two compartments and three compartments pharmacokinetic models of these models solve with the help of Kamal transform. Both models are represented in term of first order differential equation. Kamal transform is powerful tool to solve the differential equations. These models can be extensively used for any type of drug diffusion problems which are arising in pharmacokinetic studies. This study has a good number of applications in drug control drug dosage and other related problems.

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Screening of Polycystic Ovary Syndrome in Collegiate Females

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ABSTRACT Polycystic Ovarian Syndrome (PCOS) is the most common cause of menstrual dysfunction and hyperandrogenism. PCOS is recognized as a heterogeneous disorder that results in overproduction of androgens, primarily from the ovaries and leads to anovulation, hirsutism, and insulin resistance. The prevalence rise to 18–20% when used the Rotterdam criteria PCOS diagnosis is challenging for providers because of the varying diagnostic criteria and inconsistency of the patient's complaints.

Aim: The aim of this study is to create increased awareness among the students for early and accurate diagnosis, which is the primary step in managing PCOS.

Objective: To determine the prevalence of polycystic ovarian syndrome in collegiate females, indicating females at high risk of having PCOS.

Study Design: A Questionnaire based Cross-sectional study.

Material and methodology: A Google form was conducted on 70 subject, collegiate females between 17-25 years of age are included in the study. Receiving Google form from the subject in which they were given a questionnaire Clinical tool for diagnosis of Polycystic ovary syndrome by Sue. D. Pederson. They were

asked to choose the symptoms and the responses are documented.

Keywords: PCOS, Anovulation, Hirsutism, Insulinresistance.

I INTRODUCTION

Polycystic Ovarian Syndrome (PCOS) is the most common cause of menstrual dysfunction and hyperandrogenism. PCOS is recognized as a heterogeneous disorder that results in overproduction of androgens, primarily from the ovaries and leads to anovulation, hirsutism, and insulin resistance. It is estimated that approximately every 1 in 10 women face PCOS before menopause and struggle with its complications.

Also, the controversy concerning a PCOS diagnosis and treatment contributes to the overall current complexities of the syndrome. I.F. Stein and M.L. Leventhal were the first researchers to distinguish the reproductive phenomena of what was to become known as PCOS (1935). A co-relational effect of the presence of irregular menses and polycystic ovaries was the core of Stein and Leventhal's original study (1935). A polycystic ovary is defined as having 12 or more follicles (or cysts) within the 2-9 mm range under ultrasound (Balen et al. 2009).

Polycystic ovary syndrome presents a diagnostic challenge⁴ to family physicians because of the controversy that has surrounded the diagnostic criteria and because the presenting complaints in PCOS are variable. Most often, patients present with menstrual dysfunction, oligomenorrhea, or infertility; they can also present with a pregnancy-related complication, such as gestational diabetes, or spontaneous abortion. Hirsutism or acne could be the patient's primary concern, which can result in profound psychological distress. Polycystic ovary syndrome is associated with several comorbid conditions, including type 2 diabetes, dyslipidaemia, hypertension, hepatic steatosis, obstructive sleep apnoea, endometrial carcinoma, and potentially breast and ovarian cancer. It is important to diagnose

II Literature Review

PCOS as early as possible in the course of disease so that screening, education, and appropriate preventive action and treatment of these patients can be initiated.^[5]

This population of women may have a plethora of symptoms and findings related to their condition.^[8] Metrorrhagia or amenorrhea, acne, irregular menses, hirsutism, alopecia. Additional symptoms included metabolic syndrome, obesity, insulin resistance, acanthosis nigricans, Type 2 diabetes, dyslipidemias, hypertension, non-alcoholic liver disease, and obstructive sleep apnoea.^[6] It has been estimated that around 6–10% of women in the reproductive period are affected by this endocrinological disease considering the classical definition of the syndrome and the prevalence rise to 18–20% when used the Rotterdam criteria PCOS diagnosis is challenging for providers because of the varying

diagnostic criteria and inconsistency of the patients' complaints^{2,3}, whereas the prevalence of PCOS in India 2021 is about 22.5%. The exact cause of PCOS remains unknown.^[4] Abnormalities of the hypothalamic-pituitary axis and the ovarian or adrenal steroidogenic pathway, perhaps caused by genetic changes, have been suggested as possible explanations.^[9] Pituitary and hypothalamus. At the level of the hypothalamic-pituitary axis, increases in the frequency and amplitude of LH pulses have been recorded.^[2] A ratio of serum LH: FSH >2 is observed in PCOS patients.

AIM/OBJECTIVE OF THE STUDY

The aim of this study is to create increased awareness among the students for early and accurate diagnosis, which is the primary step in managing PCOS.

III METHODOLOGY

Study Design: A Questionnaire based Cross-sectional study

A Google form was prepared and shared to 70 subjects, collegiate females between 17–25 years of age are included in the study. Receiving Google form from the subject in which they were given a questionnaire Clinical tool for diagnosis of Polycystic ovary syndrome by Sue. D. Pederson. They were asked to choose the symptoms and the responses are documented.

Clinical tool for diagnosis of Polycystic ovary syndrome by Sue. D. Pederson Sensitivity of 85%, specificity of 85%.

Screening Questionnaire for diagnosis of Polycystic Ovary Syndrome (PCOS)

QUESTION	CRITERIA TO ATTAIN SCORE	SCORE VALUE

	VALUE	
<p>Please answer this question, NOT INCLUDING any time spent pregnant, receiving birth control pills or injections, after menopause, or after having both ovaries or the uterus surgically removed: Between the ages of 16 and 40, about how long was your average menstrual cycle (time from first day of one period to the first day of the next period)? (Select ONE only)</p> <ul style="list-style-type: none"> • <25 d • 25-34 d • 35-60 d • More than 60 d • Totally variable 	<p>Patients indicates anyone of:</p> <ul style="list-style-type: none"> •35-60 d •More than 60 d • Totally variable 	1

<p>During your menstruating years (not including during pregnancy), did you have a tendency to grow dark, coarse hair on your (circle ALL that apply)</p> <ul style="list-style-type: none"> • upper lip? • chin? • breasts? • chest between the breasts? • back? • belly? • upper arms? • upper thighs? 	<p>Patient indicates 3 or more sites</p>	1
<p>Were you ever obese or overweight between the ages of 16 and 40? (Circle ONE)</p> <ul style="list-style-type: none"> • Yes • No 	<p>Patient indicates Yes</p> <p>Patient indicates No</p>	1 0
<p>Between the ages of 16 and 40, have you ever noticed a milky discharge from your nipples (not including during pregnancy or recent childbirth)? (Circle ONE)</p>	<p>Patient indicates Yes</p> <p>Patient indicates No</p>	1 -1 0

• Yes • No		
TOTAL		<p>If ≥ 2, consistent with diagnosis of PCOS</p> <p>If < 2, not consistent with diagnosis of PCOS</p>

The PCOS screening questionnaire was helpful to health care professionals' in identifying and diagnosing PCOS patients. In the original study by Pederson, the 4-item questionnaire was validated as being useful in screening. The questionnaire had not been validated in a family practice setting, it was concluded that the questionnaire could be easily incorporated into a busy family practice office. This tool was found to be effective in the identification of women with PCOS.

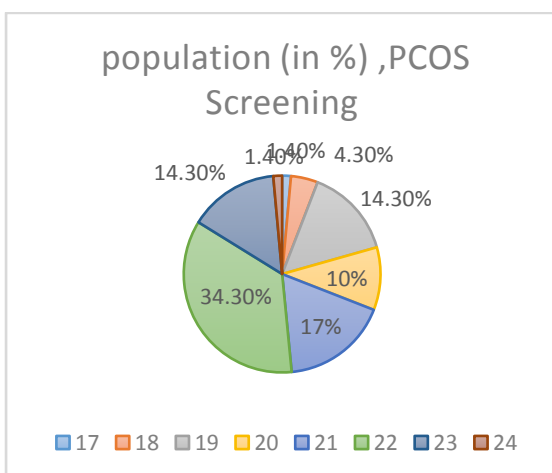
We have constructed and validated a simple casefinding tool that can help physicians diagnose PCOS and can guide them in treating menstrual irregularity, infertility, and cosmetic concerns. This tool can also alert clinicians to screen for associated and potentially devastating comorbid conditions. A positive result must prompt a careful clinical assessment for metabolic and neoplastic complications of PCOS. A negative result does not rule out PCOS with certainty; in situations of doubt, referral to a reproductive endocrinologist is prudent.

This tool has been developed among women whose primary complaint is infertility. Many clinical symptoms among these patients have substantial overlap. For example, women with hyperprolactinemia often present with secondary amenorrhea, as do women with PCOS. This selection bias in the referral patient population is likely also reflected in similarity of fertility rates between women with PCOS and women without PCOS.

We included a history of nipple discharge in our clinical prediction tool, as a history of nipple discharge was strongly predictive of a diagnosis other than PCOS. This could reflect selection bias in our population; that is, patients with elevated

DATA ANALYSIS

S.No.	Age (in years)	% of population	Total no. (N)
1	17	1.4%	70
2	18	4.3%	70
3	19	14.3%	70
4	20	10%	70
5	21	17%	70
6	22	34.3%	70
7	23	14.3%	70
8	24	1.4%	70



DISCUSSION

prolactin levels and amenorrhea are frequently referred to reproductive endocrinology clinics for further assessment. Yet previous research shows that, when pregnancy and PCOS are excluded, one third of patients presenting to family physicians with amenorrhea will have pituitary disease or dysfunction.¹⁹ Consequently, it is prudent to include nipple discharge as an important negative predictor of PCOS among women with menstrual irregularity.

LIMITATIONS

Construction of this questionnaire is subject to some limitations. The sample size of 70 on which the tool was based and the limited number of categories our simplified tool uses to predict outcome restrict our ability to estimate the sensitivity for this measure and will provide a more accurate assessment of its validity. We believe that the simplicity of this clinical tool outweighs these limitations, and we hope that future research with this tool will provide a more accurate assessment of its validity.

IV Result

Result: According to the data collected, it was seen that prevalence of PCOS by using the validated questionnaire by Sue. D Pederson in the study was found to be 14.28%.

In this study, on Screening of Polycystic ovary syndrome in collegiate females of the age from 17-25 old, 70 subjects were taken, among which 10 responses were found to be positive. The questionnaire was validated by issuing the modified 4-item questionnaire to a second sample of 70 patients at the reproductive endocrinology

clinic, 10 of whom had been diagnosed with PCOS by criterion standard.

A large number participants were of age 22 (34.3%), 17.1% were of 21 years, 14.3% were of 23 years, 14.3% were of 19 years, 10% were of 20 years, 4.3% were of 18, 2.9% were of 25, 1.4% were of 17, 1.4% were of 24 years.

The prevalence of PCOS by using the 4-item validated questionnaire by Sue. D Pederson in the study was found to be 14.28% indicating the number of females at high risk of having PCOS.

V CONCLUSION

Conclusion: The study shows the population of high-risk collegiate females who need early medical attention for PCOS in order to lead a healthy life and managing the symptoms of PCOS.

The questionnaire was validated by issuing the modified 4-item questionnaire, sample of 70 collegiate females, 10 of whom had been diagnosed with PCOS by criterion standard. All the health care providers found the PCOS screening questionnaire to be helpful and effective in diagnosing PCOS patients and would continue to use in their practice. Also it would be helpful to detect the high risk groups (age groups) of PCOS. In addition, the providers would recommend the questionnaire to their colleagues.

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Does The Government Have The Right to Make Laws On Women's Abortion Rights?

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Abstract “Human rights are not a privilege conferred by government. They are every human being's entitlement by virtue of his humanity.” (**Mother Teresa**) We all have the right to live in every part of the world and we can make choices without any kind of fear and discrimination. Yet all over the world, people are getting bullied they are discriminated against for their body, gender etc. and also getting arrested because of choosing their lives over anything else. Almost 40% of women of childbearing age are living in countries where abortion is banned or strictly restricted and women also can't use contraception even if they want to stop not having children. We all should break the silence and talk openly in our society; these norms are mainly controlled by the government, our communities and our families too. There should be no third-party control over the decision like when having children or when to abort or not, these are our rights to decide whether we want it or not and why it is becoming a matter for the government to control it. The American Supreme Court has drafted a devastated opinion on **Thomas E Dobbs V. Jackson Women Health Organization** in which the court prohibited the abortion of a foetus above the age of 15 weeks except in the case of emergency. With this many, American women have lost their fundamental protection and yes, it is important to discuss the government's rights and control over women's bodies.

Can other countries also adapt this judgment later?

I Introduction

It is productive that the government passes the law that affects fundamental equality in a good way but does it is applicable or the women are getting their fundamental rights in an affirmed way? If someone controls one's body, it is the same as controlling one's life.

According to the World Health Organization abortion is a fair practice and there are around 73 million abortions are made annually across the globe out of that 45% are unsafe if the government think that making abortion illegal will stop the abortion, no, otherwise it will make them unsafe to the health of the female.

China and Iran also made the major headline which can be a vast effect on returning the ages of controlling women's wombs, of the fear of people getting old the China government replace the One Child Policy with the Two-Child Policy, 2016 and recently the government might

be dropping all the restrictions of the children number.

In another phase, the Iran government recently blocked all the hospitals and clinics from providing contraception and aborting the child because for boost the birth rate in the country and it is because the population is getting aged and the economy is on down the way. Forcing women to give birth is not prohibited or restricted in developing countries it should be understood that women have the right to their bodily autonomy and they are not for moving your economy forward.

In the case of gender, women have few legal protections but what about the lives and control of their own bodies, Yes, we may say that the condition is far better than years, but the current state of the law is not enough for this system. As the U.S. Supreme Court has overruled the case of **Roe v. Wade** 410 US 113 (1973) which was the landmark judgment that established that abortion is a constitutional right. The court backed up the Mississippi Gestational Age Act which the law bans abortion after 15 weeks in the controversial case of **Dobbs v. Jackson Women's Health Organization** 597 U.S. (2022).

Abortion has a great influence and also affects numerous things and it has a ray of

hope for rape victims, and also if a person does not want to get pregnant, they have the right to their body, and the decision of the Dobbs straightly threatens the fundamental rights and also for the bodily autonomy.

“An individual person should have their rights to make decisions about their bodies these are the absolute rights and cannot be entertained by judges.”

II Literature Review

Analysis of the case and Decisions

The major turn take place when the U.S. Supreme Court drafted an opinion in *Dobbs v. Jackson Women's Health Organization* overturning *Roe v. Wade*, this affected the whole person who is with the stamp of being a female whether a married woman or unmarried.[10]

In 1970, An American woman namely Jane Roe wanted to end her pregnancy safely but she was prohibited because of the law of Texas that says about no pregnancy could be terminated unless the other's life is in danger.[5] After that, she sues Attorney Henry Wade, and she argues that the Texas laws violate her rights under the first, fourth, fifth, ninth and fourteen amendments of the U.S. Constitution.[6]

After that, the U.S. Supreme Court held in the favour of Roe and down the Texas law,

and there was a recognition of a right to privacy and was vested in Fourteenth Amendment, the court held that the women had their absolute right to abortion by consulting her doctor without the interference of the State, the State can only prohibit unless there is a threat to the life of a mother.[4] Also, in the case of **Planned Parenthood of Southeastern Pennsylvania v. Casey** 505 U.S. 833 (1992), the court held that the undue burden on a woman seeking an abortion before the foetus is viable.[3]

The case in *Dobbs v. Jackson Women's Health Organization*, in which the State of Mississippi asked to remove the constitutional validity of the right to abortion was settled by the case of *Roe v. Wade*. Mississippi said that the state can protect the health of the mother so, the laws of pre-viability abortion should be valid.

The majority says that there is no right to abortion as this is not "deeply rooted" and "implicit in the concept of ordered liberty". Also, they said that the decision of *Roe* is wrong since starting.

In the draft opinion, there are many criticisms of the right to privacy including same-sex marriage, interracial marriage etc. of which the judgment of *Roe* was the foundation. In the opinion of *Dobbs*, abortion rights are in danger for females

all over the world and it is a big blow to all women's reproductive rights.

Simply by looking back as they stated about the ages of 13th and 14th century and 17th century at that time the discrimination of black people and white people was there and it was never protected by the law but it is protected then why not the abortions rights so the unreasonable logic for talking about the ancient ages doesn't make any sense to say on the rights of women. The right to abortion is for the women and their livelihood and no one should take control of that as there are choices for them to decide on their body and also for their social and economical equality.[1]

"By overruling *Roe* and *Casey*, the court not only held that there is no constitutional right to abortion but they also determined the abortion will not be subject to the viability."

The impact of these bans will be mostly hard on the people who already facing discrimination in the community on their colour for their healthcare facilities also the transgenders and the people in the rural area who cannot afford good healthcare and other drugs for their needs. The reasons for having an abortion or not should be left in the hands of an individual and not be regulated by the government and their policies.[2]

Somehow it also affects parenting the students, who face discrimination, loss of earnings and all educational opportunities almost the State fail to support pregnant women and their families with proper facilities and treatment and Mississippi had the worst infant mortality rate in the country and the court almost ignores all these facts. The majority does not understand the harm of taking the rights away which is fundamental for liberty and equality.

III METHODOLOGY

How can Indian laws be affected by the Dobbs?

The U.S. Supreme Court in the case of *Dobbs v. Jackson Women's Health Organization* concluded that the right to abortion is not found in the first eight amendments and also it is not a fundamental right.

As the issue begins if the Mississippi Gestational Age Act is challenged in the Indian Supreme Court what could be the outcome as somehow Indian Courts borrow the American constitution philosophy for the content of the Indian constitutional rights.

As the Indian courts have the right to female autonomy as a fundamental right to life and liberty under Article 21 and the

Medical Termination of Pregnancy Act, 1976 (MTP Act) which is amended in 2021, in which the termination of pregnancy can be up to 24 weeks, however in Mississippi Gestational Age Act the is prohibited after 15 weeks of pregnancy which somehow inappropriate according to the rights of the females and their body autonomy.

In the recent order of the Indian Supreme Court on **X v. The Principal Secretary, Health and Family Welfare Department** where the court according to the case of **Suchita Srivastava v. Chandigarh Administration (2009) 14 SCR 989** held that the women's rights for the reproductive choice is her part of the personal liberty whole Article 21 and it allows the termination of 24 weeks of termination in pregnancy and also the Indian High Courts are accepting the fundamental right in the subject to female autonomy that it should be read into right to life and liberty.

Implications Process After overruling *Roe*, almost 11 states banned abortion and also clinics are stopping in providing abortion facilities due to the legal uncertainty, almost many millions of women could no longer get healthcare and their rights in a particular state.

However, it will also force the people to move to multiple states which cost their

money and many barriers to affordable care, and also the people have to worry about their actions as if they are criminalized or not, also there is a fear of security and privacy which can be monitored by the government and the politicians.

People are worried about their privacy rights, the increased surveillance growing the access to birth control is being affected the people may be denied for accessing other treatments for their life saving and the counselling for the emergency abortions or any other would be there or not is the big questions for the Doctors too and the patient who should get the proper knowledge.

Also, there would be trouble ahead for other important rights like the right to contraception and same-sex marriages. The Roe case make a far great influence to establish the right to abortion which also expanded the right to privacy and liberty and somehow it contains the basis for the rights related to contraception, marriages, intimacy etc.

IV SUGGESTION

For me, this decision is a death knell to the reproductive rights for women, the majority of the judges did not like Roe they did not want Roe according to them the decision was wrong from the start and

unfortunately, they took the opportunity to send the Americans to the dark ages in which the reproductive autonomy was totally void.

Many women in the U.S. who particularly have low income and those who belong to the racist community in minorities, will be more affected by the damages to their own fundamental rights.

This is about how the precedent of 50 years of the existence of a woman's rights now have been cut back so unceremoniously with no defensive wall at all, it is a huge blow to the woman's human rights and equality, in the International Human Rights Law there is about the access to safe and legal abortion which is mentioned and the abortion rights are also human rights and the U.S. Supreme Court cannot overrule the Roe without contradictory obligations under the International Human Rights Law.

The future seems dreary, but one can hope that the draft opinion remains a draft and the government protects the rights of the women for their body autonomy, right to life, right to abortion and gender justice.

V CONCLUSION

As I conclude, with that over five decades of a precedent being overruled and the

decision is devastating in itself mainly for the rights and powers which one should hold and have the right to use according to ourselves are been taken away from the woman.

The Dobbs v. Jackson Women's Health Organization, is a direct attack on access to abortion independently and it has created a vast crisis on legal, public health and most importantly the constitutional validity of the state and somehow it can affect the whole world.

Achieving gender equality and freedom is not possible without having out all the reproductive rights violation which also includes nationalistic, economic and racist too, and every woman should take charge of her body and should have the right to choose her family size.

Abortion is a fundamental human right that should be recognised and must be accessed accordingly to the rights and non-discriminatory framework and all woman has the power to get back.

Irrespective of what this lawless Court says, the ability to decide whether or when to become a parent is a fundamental right of the woman that is in control of gender justice and personal bodily autonomy of the woman.

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IMPACT OF SOCIAL MEDIA AND YOUTH'S PRIVACY

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Abstract: Social media has become an integral part of modern life. Beginning with the sharing of information like messages, pictures, and messages, many people have moved on to sharing the most recent news and news-related images in the Media space, homework assignments, projects, and studios in the Education space, online portfolios, client spotlights, and jokes in the Business domain, as well as music, recordings, and other forms of entertainment.

Social media is significantly altering how individuals interact, communicate, and consume information. It provides businesses with an additional platform to interact with their customers. Research efforts to comprehend its consequences have increased in academics.

However, the risk of data breaches has increased over time as social media has developed. Social networking is important, but it also has consequences for those who abuse the technology.

I Introduction

Social media websites like Facebook, Twitter, Instagram, Snapchat, and Whatsapp are common examples. Social media is significantly altering how individuals interact, communicate, and consume information. People can interact through social media in ways we could never have imagined possible before, unlike before. A quick message on a computer, mobile device, or even email makes it

simple to keep up with someone's life. Social media makes it possible to communicate in both one's personal and professional lives. Tutors and students can connect with one another and utilise these platforms effectively for the purposes of studying and teaching. While using social media for information exchange, a lot of security and privacy is required. The users' information should be kept private if it is to be kept secret.

Social media has the capacity to alter not just the message but also the dynamics of political corruption, values, and conflict dynamics. The internet has established avenues of communication that are crucial for disseminating news.

II Literature Review

As social media has grown through the years, so has the hazard of statistics breaches. As increasingly statistics gets placed online, there's an elevated danger of hackers, businesses and malicious interlopers mining your facts in approaches that undermine private privacy and in few instances your facts is outright stolen.

There are some main objectives like:

Possible Threats and Privacy risk in Social Network Sites

➤ *Breach of Information Disclosure*

The main drawback of privacy concerns is that user credentials resemble a social contract in which users

exchange their own data for monetary or non-monetary benefits. It goes without saying that wise consumers will continue to be interested in such a social contract as long as the benefits outweigh the exposure risks in the present and the future. The hypothesis, which states that people choose choices that allow them to experience the greatest benefits and incur the fewest costs, is supported by evidence. It has been configured to take advantage of users' wishes to expose information provided on social networking sites. Given that the suggested purpose is to observe the effects of intrinsic benefits, the divulgence objective is divided into two constructs: one assesses a user's pre-reward readiness to reveal, while the other assesses their prize-driven ability to disclose. Because intrinsic-extrinsic qualification was absent from earlier works, it was claimed that revelation goal could be precisely measured from significant free developments.

III METHODOLOGY

Proposed Methodology for Privacy issues in Social Media Sites

➤ *Predicting the behavior of social media users*

This study goes for discovering the privacy and privacy in social network sites locales recognition among Social Media clients. A specimen of 250 understudies was chosen haphazardly from distinctive piece of the world. A net of 185 polls were filled effectively and returned. Almost 78% of the respondents were males, while about 22% of them were females .On the other hand, roughly 72 of respondents were in the age bunch 20-35 years of age. Bethat as it may, the quantity of respondents in the age gatherings "between 28-41 practically got 19% where different gatherings 50 or more is right

around zero. Instructive level played a high effect subsequent to 58% are four year certification and graduate degrees are 21%. The years of utilizing Internet think about the commonality of interpersonal organization on the grounds that from those are utilizing the web for over 10 years are 56% and in the event that we connect the use with nature of SN it indicates 51 % for decently

recognizable and 49% for extremelywell known . Then again 90% of this study populace is utilizing Facebook and 36 % utilizing IslamTag and

62%twitter so this is leeway for us to think about Facebook protection model.

➤ *Privacy Glitches and Concerns*

As it was illustrated in Table 1 that when getting some information about privacy and how well they are mindful of protection and terms of conditions, 52% are modestly acquainted with the elements and redesigns in Social Mediaprotection which was demonstrated that they are acquainted with the protection when 87% confine get to some for certain part in their profile. Be that as it may, in the matter of changing protection 43% change their privacy setting every so often which implies just if anything happened and 47% once in a while change their protection setting and the same goes for privacy and record setting.

➤ *Various Possible Threats in Social Networking Sites*

The security issues and privacy concerns are the major requirements of the social networking sites. But there were many deadliest attacks persists in all these social networking sites and safeguarding the potential users from these heinous attack have been the challenging task of many social analyst and developers. The basic security attacks are classified into three categories.

- Privacy Breach - Find link between nodes and edges and possibly identify the relation between them.

- Passive Attacks - This is totally anonymous and undetectable.

- Active Attacks - Form the new nodes intrinsically and trying to connect to the linked nodes and gain the access to the other nodes.

➤ *Privacy Setup on Social Networking Sites*

Social network sites destinations work to reinforce privacy settings. Facebook and other long range social communication destinations limit protection as a major aspect of their default settings. It's essential for clients to go into their client settings to alter their protection choices. These locales like Facebook give clients the alternative to not show

individual data, for example, conception date, email, telephone number, and business status. For the individuals who decide to incorporate this material, Facebook permit clients to limit access to their profile to just permit the individuals who they acknowledge as "companions" to see their profile. Be that as it may, even this level of privacy can't keep one of those companions from sparing a photograph to their own PC and posting it somewhere

else. Be that as it may, at present less social media site clients have constrained their profiles.

For example, let us take how the users to restrict the profile visibility to others in different social media sites:

□ Facebook: Facebook's privacy setting for new users is set to Friends Only. To set this, visit Settings > Privacy >

Who can see your future posts?

- Twitter: Settings > Security and privacy > Privacy > Tweet Privacy > Protect my Tweets.
- LinkedIn: To change this: Settings > Account > Helpful Links > Edit your public profile.
- Google+: To change this setting, type the name of a Circle in the "To" field below your post before you publish it.

Trust Management and Issues

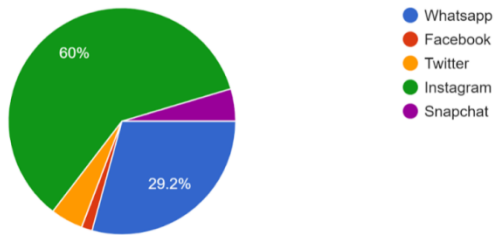
protection limitations, speaks to a genuine mental danger. On Facebook, the setting is liquid and flimsy, which has imperative ramifications in regards to the administration of privacy on Facebook. Clients' impression of their gathering of people are frequently thought little of as far as both size and scope, and the protection administration settings are regularly entangled, futile, and demand particular assessments. Privacy dangers are regularly thought little of, while the social advantages emerging from the revelation of individual data are frequently overestimated. Besides, online ruptures of privacy are as often as possible thought to be a working's piece of Facebook, and solicitations for individual data don't stress clients. These attributes of privacy administration impact web unveiling conduct and clients view they could call their own self-revelation.

Benefits of social media

- Helps to reach large audience- Around the world, there are millions of people using social media platforms. It's a great opportunity for anyone who wanted to reach a large pool of people that are interested in your work you are offering them. The some of the main platforms that helps to increase your reach such as Facebook, Instagram, WhatsApp, Twitter, Snapchat etc.

IV RESULT

On Which social media channel you are mostly active on?
 65 responses



During the survey, we observed that it is easy to reach large audience through social media platforms. According to survey most of the social media users uses Instagram.

• Education-

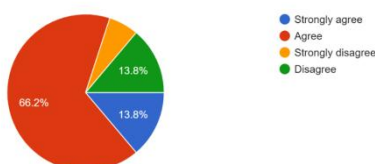
Social media has also proved beneficial in education mainly at a time of covid-19 it makes easier for students to learn from home, also makes learning easier by connecting educators and experts all over the world with the learners. It also helps in improving skills by enhancing knowledge and creativity. It creates flexibility in the learning process where learners and educators can connect at their own pace of time.

According to survey we have donned, majority of the users agreed that social media helps in education sector also.

• Increase awareness-

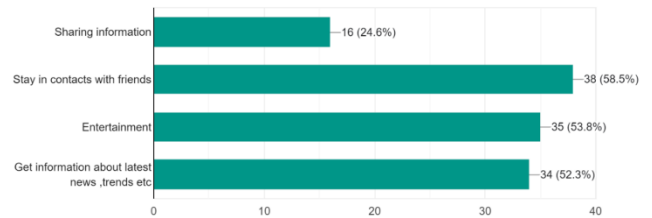
Social media creates awareness in the minds of

Do you think social media helps in education?
 65 responses



helps people to do innovations and achieve success through the enhancement of skills and knowledge. Social media has made all people aware of happenings around the world.

Why do you use social networking sites?
 65 responses

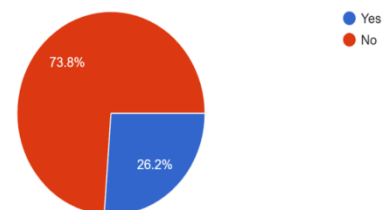


Most of the social media users uses social media to get information regarding latest trends etc. During survey we are able to know that social media also increases awareness by connecting the huge no. of users across the world.

• Promotion -

Social media is the best platform to promote your products if you are involved in some kind of business. As it is easier to connect many people in a minimum time which also saves time and give effective results.

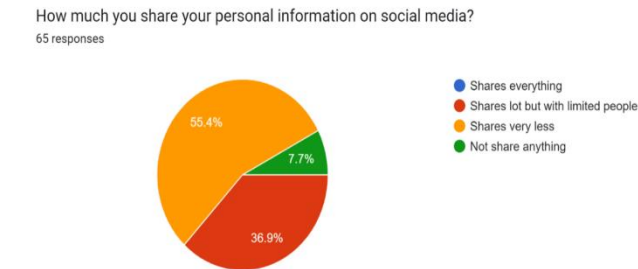
Have you ever used social media to promote your products or for any promotion purpose?
 65 responses



We have observed that according to our survey users are not much interesting in promoting their products on social media platform but there are some users who uses it for promoting their products.

• Easy sharing of information –

It becomes easier to share anything on social media as it is a best platform to show yourself or to present yourself. It enhances and showcases the creativity of a person and helps in reaching it out to millions of users. You never know by sharing your artistic creations can pave the way for your success.



We have discussed that social media makes information sharing easier, during survey we get to know that our users shares very less about their personal information or many of them shares a lot but with limited people or only with their friends.

Drawbacks of social media

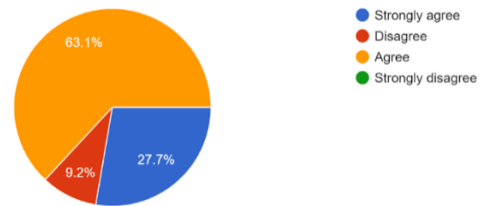
Career Point International Journal of Research (CPIJR)
©2022 CPIJR | Volume 2 | Issue 1 | ISSN : 2583-1895
• Reduces face to face communication-
Nowadays, social media is the most common form of communication as majority of people are

engaged on social media. But one of the worst aspects of social media is that it reduces the ability to communicate face to face. Everyone used social media to interact with others, and as a result, they gradually lost their ability to communicate face to face. Only keyboard or voice communications are used to communicate on social media.

• Fake news-

Social media spreads everything rapidly. Sometimes it also promotes fake news which misleads the community. Social media plays a significant role in the dissemination of fake news. Anyone can manufacture fake news on a hot topic and post it on social media networks without any verification.

Do you think social media misleads the society by promoting fake news?
65 responses



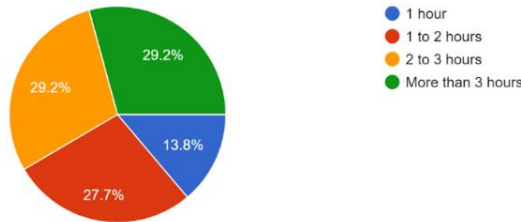
According to the survey, we observed that majority of the users are in favor that social media misleads the society by spreading fake news.

• Addiction-

Another worst aspect of social media is addiction. People who use social media excessively develop a significant addition to it. Addiction to social media has affected the majority of teens. Most individuals use social media so much that they become addicted

to it. They are constantly browsing through their newsfeeds and contributing to them.

How much time do you spend on social media
65 responses

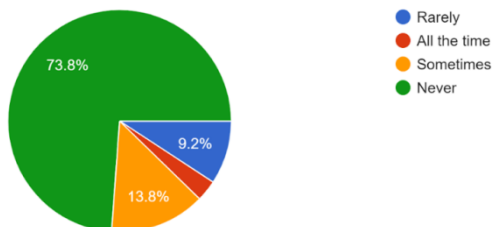


During survey we have observed that most of the users uses social media more than 2 hours per day which means most of the users are somehow addicted to the social media.

• Cyberbullying-

Bullying that takes place on social media platforms is known as cyberbullying. The majority of people use false social media accounts to tease others. They are untraceable and can do anything they want. They bully others by sending them derogatory photographs and videos, as well as mock them. Bullying is made much easier by the use of social media as everyone is easily reachable. They make other individuals feel uncomfortable by making unpleasant remarks by teasing, harassing or abusing people.

Have you ever been bullied / harrassed on social media ?
65 responses



• Health issues-

Excessive usage of social media platforms caused sleep problems for the majority of social media users. Excessive usage of social media causes sleeping problems, primarily in students and teenagers. People who spend too much time on social media get depressed and lonely. Our lives have become increasingly reliant on social media, and people nowadays use social media as their primary mode of communication.

During survey we observed that social media has affected the user's health but not much. But health of some users is affected extremly by social media.

Some of the privacy related questions asked from users

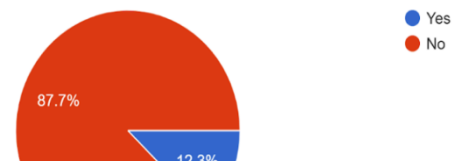
- In survey we have asked users that what they feel about the privacy policies of social media, most of them agreed that privacy policies of social media is quiet effective.

Do you think privacy policies of social media are effective?
65 responses

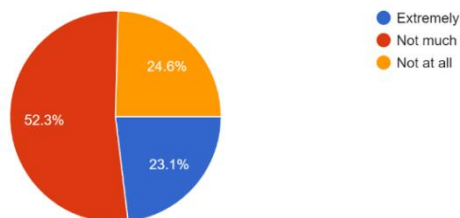


- In survey we have asked users is their any private information get leaked or not, information of most of the users does not get leaked which shows that the privacy policies of social media is effective.

Did any private information of yours got leaked?
65 responses

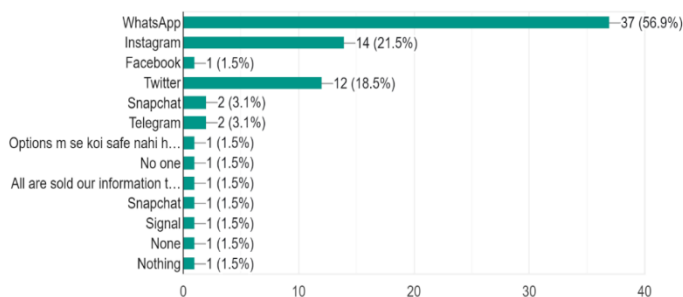


Has social media affected your health?
65 responses



- In survey we have asked users that according to them which is the most safest social networking site, majority of them replied that WhatsApp is the most safest channel of social media.

According to you which is the most safest social networking site?
65 responses



life is upgrading or obstructing our relational relationship, however generally how it is affecting our young age today. As web-based social networking advances and keeps on developing, there is a region encompassing so much inspiration, where society endures and we are neglecting to address that. By the existence of social media in the 21st century, student life becomes more convenient. However, to be reasonable and legit we have to say that online life has its positive results and has its disadvantages too. The long term effects of the social media revolution are not known yet neither on the society as a whole nor on the individuals. In this manner, an intensive reflection is vital. Since the effect of social media is subtle and develops

over time, Wilcox (2012) suggests “Eventually, the way you check this is by raising your mindfulness. It’s not about not investing time and energy on social media, but rather just know about what it may do to you”. As it have been remembered in this

article toward the end it is your social and scholarly life, or fall as casualty of internet based life’s negative effects.

Conclusion

Social media has fastened the pace at which people communicate, socialize, learn, and conduct business. People have started to share on social

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Service Law: Compassionate Appointment

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Abstract: Compassionate Appointment is an advantage scheme that allows the Indian Government to give enrolment in employment to the legal successor of the government servants on a compassionate basis by fulfilling certain conditions such as eligibility, the financial situation of the family, availability of vacancy, and other criteria set down by the state or its agencies. It is a social security scheme by the Government of India to grant employment or appointments to a dependent family member on compassionate grounds when any government servant dies while in service or retires on medical grounds. Its objective is to provide immediate financial assistance to the family who is left in poorness and without any means to continue their livelihood as there is no proper solution for this area or it is not defined in any codified law, confusion arises and the claimants seek the decision of the Court when the appointments are denied. This paper examines the scope of the Court's and tribunal's involvement to give effect to compassionate appointments.

Key Words: Compassionate appointment, Service Law, Court, Immediate, dependent, social security scheme.

I INTRODUCTION

According to the “Office Memorandum” issued by the Government of India through the Ministry of Personnel, Public Grievances and Pensions (Department of Personnel and Training) on 16th January 2013, where the subject relating to the compassionate appointment was discussed:

“For the purpose of compassionate appointment, ‘Government Servant’ is defined as government servant appointed regularly and not as a daily wage worker on a contractual basis and dependent family member means spouse, son (also included adopted son) and daughter (also includes adopted daughter). In the case of the Government servant being unmarried (brother or sister), they will qualify as dependent family members who are completely relying on the Government servant at the time of his retirement on medical grounds or his death in harness.

Competent authority to make a compassionate appointment is:

- 1. Joint Secretary in charge of administration in the concerned Department/Ministry.*

2. *In the case of attached and subordinate offices, the head of the Department is the competent authority.*
3. *In the special type of case, the competent authority is the Secretary of the concerned Ministry /Department.”*

II Literature Review

The scheme of compassionate appointment is a social security scheme that exists in almost all states, under which appointments can be made on compassionate grounds to the legal heirs or successors of the deceased government servants who died in service or retirement on medical grounds. In *Basavaraj Fakirappa Manvi v. Managing Director, Ksrct*¹ the Court said that “*Rules providing for compassionate appointment is welfare legislation intended to benefit a class of person, namely the dependents of the deceased employee. This concession is also extended to the legal heirs of medically invalidated persons.*” Till now the appointments are regulated by policy guidelines framed by the Department of Personnel and Training Instructions. The appointment under the scheme is only observed with relevant provisions and guidelines given under the scheme by the government. There is no uniform practice so far that is followed in providing such appointments since it does not have a statutory basis.

¹ ILR 1994 KAR 2020, 1994 (3) KarLJ 60

STRUCTURAL BASIS

In the case of *N.C. Santhosh v. State of Karnataka & Ors*² Dr. Justice D.Y. Chandrachud, Supreme Court Judge emphasized that “*appointment to ant public post is to be made as per under Article 14 (Right to Equality) and Article 16 (Right to Equal Opportunity to all citizens in the matter of Employment) of the Constitution of India and the exception to this general rule is compassionate appointment.*”

III METHODOLOGY

- A. Article 14 and 16 of the Indian Constitution:

Article 16 of the Indian Constitution ensures equality of opportunity in matters of public employment and the appointments in public services must be strictly made on the ground of or through the open invitation of applications and comparative merit, with regards to Articles 14 and 16 of the Indian Constitution. The issue of compassionate appointment obtains its origin from Article 16(2) of the Constitution. It was reconsidered in the case of the State of Haryana and Ors. v. Rani Devi and Anr.³ And it was stated by the Court that it is not necessary to point out that the claim of a person for appointment on compassionate ground is based on that he was dependent on the deceased employee and this claim

² 2019 (3) SCC 653

³ JT 1996 (6),646 1996 SCALE (5) 338

strictly cannot be upheld on the criterion of Article 14 and 16 of the Indian Constitution. However, such a claim is considered reasonable and permissible based on the sudden crisis that occurs in the family of such an employee who serves the state and dies while in service or retires due to medical reasons and due to this, the authorities must frame rules and regulations or issue such administrative orders which can stand the test of Article 14 and 16.

Thus if an employee or government servant dies while in service then in accordance with the rules framed by the Central or State Government to appoint the dependent of the employee at his/her position, shall not be violated of Articles 14 and 16 of the Constitution because it is to relieve the hardships due to the death of the bread earner of the family and the immediate misery faced by the members the family of such employee. While rechecking the purpose of making an appointment on the compassionate ground the Court in the case of National Institute of Technology v. Niraj Kumar Singh⁴ highlighted that all public appointments must be in agreement with Article 16 of the Indian Constitution. Exceptions developed, therefore are the cases where appointments are to be provided to the dependent children or widow of the employee who died in

harness. Such exception is carved out with a mindset that the family of the deceased employee who died in harness does not become needy, deprived, or poor.

B. Services under Union and states:

Article 309 of the Indian Constitution allows the recruitment and conditions of services of the person serving the Union or the States. Article 309 states “*Subject to the provisions of the Constitutional Acts the appropriate legislation may regulate the recruitment and condition of services of persons appointed to public services and posts in connection with the affairs of the Union or any state*”. However, the provision is not specific concerning the rules of recruitment and the conditions of service of the union or the states. The legislature is allowed to frame rules regarding the services and such rules or conditions shall be void if it infringes any of the provisions of the constitution. The legislature can assign the authority of making the rules and conditions to the executive. Article 309 is intermediate or temporary which allows the executive to make rules until the appropriate legislature makes laws on the matter. The rules made by the executive have force in law and are binding in nature. Hence, the term compassionate appointment is not used anywhere in the Indian Constitution. The exception is carved

⁴ (2007) 2 SCC 481

out of Articles 14 and 16 for providing appointments on compassionate grounds.

IV RESULT

Judicial Approach There are too many judicial declarations on compassionate appointments dealing with the important queries as to whether delay can be ground for denial of compassionate appointments? Whether an illegitimate son can apply for an appointment on compassionate grounds? Whether or not a married daughter is allowed to receive the benefit of a compassionate appointment? Whether the appointment on a compassionate basis can be granted by the Courts? Hence, the scheme of compassionate appointment is not transparent on these issues and these are verified by the Courts and Tribunals in various cases. In regards to married daughters, the scheme expresses that they are considered for appointment on a compassionate basis only if she is dependent on the Government Servant at the time of their death or if they are retired on medical grounds and she must support other dependent members of the family. The Court has stated in many cases that denying compassionate appointments on the ground of marriage is opposed to the principle of equality set down in the Constitution.

A. Married daughter:

In *Mamta Devi v. State of Himachal Pradesh and Others*⁵ the father dies

and left behind two daughters and a widow. The petitioner was a married daughter and she needed to take care of her mother and sister and asked for a compassionate appointment with the “*non-objection certificate*” from her mother and sister. She was denied for compassionate appointment only on the ground that she was married. The Court advanced that “*the object of compassionate appointment is to support the family of the deceased government servant who died in harness and not by including married daughters in the sweep of the family, the object of the scheme cannot be achieved and further stated that a daughter remains to be a daughter even after marriage and thus, if a married son has a right to compassionate appointment, then the married daughter also stands on the same footing.*”

B. Delay:

In *Rajeshkumar Vishnuprasad Joshi v. the State of Gujarat*,⁶ the petitioner applied for a compassionate appointment after 5 years of the death of his father who was a government servant and in those 5 years the family of the petitioner survived and the Court held that the principle is that the policy of compassionate appointment is to provide immediate relief to the

⁵ CWP NO. 3100 OF 2020

⁶ C/LPA/568/2022

deceased family upon deceased's death. The compassionate benefit is not a matter of right. It will offend the principle of compassionate benefit, and the delay would invalidate the petitioner's claim for a compassionate appointment as it is an immediate consideration. It must be a matter of immediate relief when the deceased's family requires it and stated that the element of immediacy has to be "*sine qua non*" for such an appointment.

C. Role of Courts:

In Life Insurance Corporation of India v. Mrs. Asha Ramchandra Ambedkar,⁷ the Hon'ble Supreme Court of India held that Administrative Tribunals and High Courts are permitted to give directions to the Competent Authority or the Concerned Departments for consideration of claim but are not allowed to give directions for appointment on compassionate grounds.

D. Divorced Daughter:

In State of Uttar Pradesh v. Noopur Srivastava,⁸ the Court held that the "divorced daughter" is assumed in the expression of "unmarried daughter" and the divorced daughter is permitted a compassionate

appointment if she was supported by the government servant or employee at the time of death and the marriage was lawfully dissolved either before or after the death of the bread-earner of the family and if she remains unmarried at the time of appointment.

E. Child from Second Marriage:

In Ramesh Chand v. Executive Engineer and Others,⁹ it was argued that can a child born from the second marriage of a person during the subsistence of the first marriage, claim the right of compassionate appointment. Despite the fact, that a second marriage is invalid, during the lifetime of the first spouse, Section 16 of the Hindu Marriage Act, grants legitimacy to the children born from such marriage and they have equal rights as the children born from the valid marriage until there is any specific exception. The Court held that the petitioner is the legitimate child of the deceased employee under Sec. 16(1) of the Hindu Marriage Act.

F. Banking Sector:

In Punjab National Bank and Ors. V. Ashwini Kumar Taneja¹⁰ the father of the respondent dies while he was working as a Class IV employee at

⁷ 1994 AIR 2148, 1994 SCC (2) 718

⁸ SPECIAL APPEAL DEFECTIVE NO. 673 OF 2018

⁹ SPECIAL APPEAL NO. 1205 OF 2003

¹⁰ CIVIL APPEAL NO. 5256 OF 2004

appellant's Bank and left behind the mother, widow and two sons, and one daughter. The compassionate appointment claimed by the respondent was denied by the bank on the ground that there was no financial crisis and the family was doing good as they received substantial amounts after the death of the job-holder. The Court gave directions to the bank to re-consider the case of the respondent for a compassionate appointment by stating that the benefits received by the family of the deceased employee cannot justify the rejection of a compassionate appointment. It was later held by the Supreme Court that *"appointment on compassionate grounds is not a source of recruitment but merely an exception to the requirement regarding appointments being made on the open invitation of application on merits and that basic intention is that on the death of the employee concerned his family is not deprived of the means of livelihood and that the object is to enable the family to get over the sudden financial crisis."*

V CONCLUSION

The execution of the scheme of compassionate appointment is explained so full of complexity or confusion that the Courts and tribunals have to be requested to resolve the inconsistency in appointments and this is the only reason for several contradictory judgments by the Courts. The

State must take into consideration and take all the steps that are essential to prepare a consistent scheme to grant compassionate appointments so that repeated judgments by the Courts can be avoided if a uniform and transparent policy is expected in all the departments and organizations. Hence, providing this policy statutory backing will amend the inconsistency which exists in present times regarding this matter.

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Sustainable Agriculture: Solution for the future of farming

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Abstract Sustainable agriculture is the successful management of resources for agriculture to satisfy changing human needs, while maintaining or enhancing the standard of the environment and conserving natural resources. It was practised for nearly 6000 years of the preindustrial era, from 8000 to 2000 BC, without much disruption of nature. Sustainability is a perpetual issue in time scale with associated dynamism in resource base and outputs in terms of variety and quantity. Sacrificing agriculture sustainability will pose grave threat to the basic food security in agriculturally dependent countries. The ecological aspect of the negative effects is immeasurable. Agriculture is no longer location specific in terms of production as well as product outreach due to the technological advancements in production, transport, communication, supply chain and networking to cater to the demands of global citizens. The rate of changes expected and demanded from agriculture is acute and this precisely puts pressure on the long-term perspective of sustainability, that is directly related to the maintenance of support systems i.e., natural resource base. Assessment of sustainability should be done by including many indicators of physical, economical, demographic, ecological that have interrelationships in short term, and modifier effects in long term of various magnitude. The dynamics of resource changes in their per se availability, quality and utilization changes

with time and newer scenarios emerge that should be valued in its entirety of inter-relationships.

Key words: *Sustainability, Sustainable agriculture, Natural resources,*

I Introduction:

Sustainable agriculture was practised for nearly 6000 years of the preindustrial era, from 8000 to 2000 BC, without much disruption of nature. [1-5]. Sustainable agriculture is defined as a system that, “over the future, enhances environmental quality and therefore the resource base on which agriculture depends; provides for basic human food and fibre needs; is economically viable; and enhances the standard of life for farmers and society as a whole”[1, 6, 7]. In addition, sustainable agriculture is defined as a commitment to satisfy human food and fibre needs and to reinforce the standard of life for farmers and society as an entire, now and into the future. Consequently, there is that no brief, universally acceptable definition of sustainable agriculture has yet emerged. This is because sustainable agriculture is viewed more often as a management philosophy instead of a way of operation [8], and intrinsically acceptance or rejection of any definition is linked to one's value system [9]. Sustainable agriculture should be taken as an eco-system approach, where soil-water-plants-environment-living beings sleep in

harmony with a well-balanced equilibrium of food chains and their related energy balances. The goal is to deal with environmental problems with natural resources management to sustain significant increases in farm productivity through the efficient use of land and other resources, supply better economic returns to individuals, and contribute to the standard of life and economic development. It is essential that innovative technologies are wont to ensure sustainable agriculture and productivity using, modern irrigation systems, improved varieties, improved soil quality and conserving the environment using resource conservation technologies [2]. Although these changes have had many positive effects and reduced many risks in farming, there have also been significant costs.

Sustainable Agriculture: Sustainable agriculture is that the successful management of resources for agriculture to satisfy changing human needs, while maintaining or enhancing the standard of the environment and conserving natural resources CGIAR/TAC, 1988. The definition by G.K. Douglas (1984) formulated little earlier captures the essence of sustainable agriculture in its totality. “Sustainability must be considered long-term food sufficiency which needs that agricultural systems be more ecologically based and don't destroy their natural base.

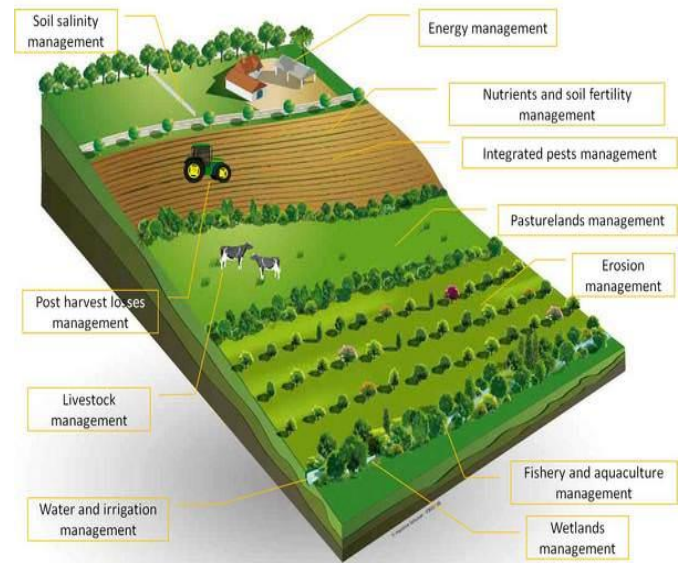


Fig. 1. Sustainable Agriculture

Effect on productivity and ecological viability:

Productivity: Vertical improvement in crop yield is inevitable under the ever-declining per capita arable land. This is compounded by the competing demands for land and water from profitable ventures of industry and urbanization through special economic zones, further complexed due to practicing agriculture in sub optimal agro ecological conditions.

II Literature Review

The needs are compelling and resources are limiting. The twin challenges of decreasing per capita arable land and limits to intensification through the current practice of increasing external inputs have necessitated a search for newer, alternative paradigms for increasing both production and productivity with acceptable levels of adverse ecological and socio-economic impacts. This is the current concern in terms of the productivity component of sustainable agriculture. Owing to the combined efforts at

individual farmer, regional, and national levels, global food production has thus far been sufficient to feed everyone if the food were distributed consistent with needs (Pinstrup, 2002), thus bringing in the equity issue of sustainability. This has been achieved mainly through productivity increases since the 1950s, through the intensification of agriculture by the land saving technologies of high yielding varieties/breeds of crops and animals fertilizers, pest control chemicals, irrigation and time-and labour-saving machinery. Unbridled use of these external inputs in the last six decades has given rise to an unprecedented scale of environmental pollution; degradation of agricultural lands through erosion, salinization, waterlogging, and so on; and economic challenges because of the increasing cost of purchased inputs. It is very clear now that there are ecological, environmental, economic, and even social limits to intensification in many of these over-exploited areas, where lower rate of growth, lowering of factor productivity, and even yield declines are surfacing. In addition, the high cost of production and low 10 profitability are threatening the sustainability of the levels of productivity of these intensive cultivation systems (Cassman et al., 1997; Ladha et al., 2003; Pingali et al., 1995). Economic Viability: with growing needs of human development and comfort, the practice of agriculture has grown from “subsistence” to profit, from “local to global” in domain, directly affected, and adjusted by the dynamics of market demand, modified by socio-economic-political compulsions.

III METHODOLOGY

Ecological Viability:The modern methods of agriculture production of plants and animals with reliance on monocultures, improved plant types with high productivity potential that demand higher qualities of nutrients and water, powerful pesticides that aims to eradicate the pests (weeds, insects and weeds), modified production environment through poly houses for overcoming weather dependency of agriculture, mechanization etc., undoubtedly increased the yields and profits but caused lasting negative impact on soil and environment and biota. Increased greenhouse gas emissions, loss of diversity of crops, fauna and flora, development of pesticide resistance and resurgence, nutritional imbalance in produce due to specialty produce, displacement of cattle population, modified micro-climate affecting larger macro-climate in the region, associated infrastructure development of warehouse, cold storages, roads, transport, etc. is seriously impacting the regional/local ecological balance. Conservation and enhancement of the quality of the natural resources of land, water, air, and biodiversity to sustain biological productivity and ecosystem services is basic to sustainable agriculture. Maintaining the ecological viability of agricultural production systems is more complex than the sustainability of natural ecosystems, because an agro-ecosystem is a system of human intervention with mandatory goals. Conserving the production resource base and maintaining environmental safety and quality are the basic criteria for the ecological sustainability of agricultural production. Short-term biological productivity alone is not an indicator for ecological health or the integrity of the

system. Ecological processes, to use a metaphor of the ‘agriculture factory’ (Vandermeer, 1992), need to be overhauled and serviced to remain fit for use through proper management techniques involving efficient use of inputs. Apart from guarding the resource base, this will also reduce environmental pollution and degradation and keep them within the absorptive capacity of the environment. Attributes such as soil quality, fertility balance, and other indicators of sustainability are manifestations of healthy ecological processes and of natural resources that have not had their physical, chemical or biological integrity compromised. 11 Agricultural systems operating on agro-ecological principles with reduced use of external inputs and non-renewable resources are more ecologically sound than those that depend predominantly on external inputs, which have the potential to wreck resources, the environment, livestock, wild life, soil microorganisms, useful insects like pollinators and predators. Increasing biologically favourable inputs such as crop residues, manures, green manures, legumes, crop rotations, biological pest control, and minimum tillage facilitates better use of ecosystem services and enhances ecological soundness. A wide variety of farming practices developed at different times in different regions, such as organic farming, alternate farming, ecological farming, and biodynamics, represent a greater degree of ecological prudence and soundness in terms of resource conservation and environmental safety than modern systems. The human element in agriculture makes it somewhat subjective and value oriented. Agricultural systems have the

imperative to sustain biological productivity as their primary goal. In addition, they have to fulfil other aspects of human welfare such as sustaining life-support services, adequate profitability, and social responsibility toward rural farming communities.

IV RESULT

Social Acceptability: Social justice and equity, the fourth component of sustainability, is even more complex. It is more a phenomenon external to the farm and natural resources but of human values, that affects the farming practices and level of adoption of technologies acceptable to the social norms in the farming community. It is also linked to the macroeconomic policies of the governments and countries to encourage or restrict adoption of particular technology or resource through curbs and promotions. It also encompasses a plethora of definable as well as vague parameters such as poverty, cultural factors, education, social capital, justice and equity, value systems, food security at the household, regional and national levels, livelihood opportunities, and government policies.

Table 1. Properties of natural ecosystems compared with modern and sustainable agroecosystems.

Property	Natural ecosystem	Modern agroecosystem	Sustainable agroecosystem
Productivity	Medium	High	Medium (possibly high)
Species	High	Low	Medium

diversity			
Functional diversity	High	Low	Medium-high
Output stability	Medium	Low-medium	High
Biomass accumulation	High	Low	Medium-high
Nutrient recycling	Closed	Open	Semi-closed
Trophic relationships	Complex	Simple	Intermediate
Natural population regulation	High	Low	Medium-high
Resilience	High	Low	Medium
Dependence on external inputs	Low	High	Medium
Human displacement of ecological processes	Low	High	Low-medium
Sustainability	High	Low	High

Gliessman (2005).

Indicators of Sustainability: Measuring sustainability is most challenging and complex and there can be no universal measure possible as per the wide expectations seen from varied definitions and varied dimensions. 18 RIEDC (1997) indicated a general broad measurable component under each hierarchical level of components of sustainability. Hoang (2013) had analysed productive performance of crop production systems in an integrated analytical framework considering economic, institutional, physical, social and technological factors and indicated that in a dynamic analysis to make efficiency framework to be forward looking, climate change innovations in crop science to be incorporated.

Table 2. Sustainability indicators
 (Adopted from RIEDC, 1997)

Hierarchical level	Sustainability indicators (Economic, social and environmental)
Cropping system/ Farming system	Non-negative trends in: 1. Farm productivity 2. Net farm income 3. Total factor productivity 4. Nutrient balance 5. Soil quality 6. Residues in soil, plant, products 7. Farm water use efficiency 8. Farmer skills and education

	<p>9. Debt service ratio</p> <p>10. Health</p> <p>11. Time spent on other social cultural activities</p>
<p>Agro-ecosystem (Watershed, Agroecozone, etc.</p>	<p>Non-negative trends in:</p> <ol style="list-style-type: none"> 1. Regional production 2. Regional income 3. Regional total factor productivity 4. Regional nutrient balance 5. Income distribution 6. Species diversity 7. Soil loss 8. Surface water quality 9. Ground water quality 10. Regional social and economic development indicators
<p>Global, National, Regional Systems</p>	<p>Indefinitely meet the demands at acceptable social, economic and environmental costs.</p>

ecological region with applicable potentials and limitations to realize productivity of crops and animals. When the assembly of food and fibre degrades the natural resources base, the power of future generations to supply and flourish decreases. The decline of ancient civilization in Mesopotamia, the Mediterranean region, Pre-Columbian south west U.S. and Central 22 America is believed to possess been strongly influenced by natural resources degradation from no sustainable farming and forestry practices.

Daly (1990) provided the overall guidelines for conserving natural resources and ecological sustainability as:

1. The speed of harvest, consumption, and use of renewable resources should not exceed their rate of regeneration.
2. The speed of waste generation should not exceed the assimilative capacity of the environment.
3. The depletion of non-renewable resources should be compensated for by the event of the same amount of a renewable substitute. These are the three commandments underpinning the sustainable management of all kinds of natural resources.

Soil: Soil is that the foremost natural resources for agriculture. It is a critically important component of the biosphere from which all living organisms, including citizenry, derive shelter, food, growth and every one other activities. Soil acts as an integrator of the environment, namely, the lithosphere (land), hydrosphere (water), atmosphere (air), and biosphere (living

Farming and Natural Resources Management:

The basic natural resources of soil and water are the prime resources under the purview of management during a given

organisms) and plays the foremost important role in sustaining biosphere.

Karlen et al. (1997) classified the essential functions of soil more explicitly and completely as follows:

1. Sustaining biological activity, diversity, and productivity
2. Regulating and partitioning water and solute flow
3. Filtering, buffering, degrading, immobilizing and detoxifying organic and inorganic materials, including industrial and municipal by-products and atmospheric deposition.
4. Storing and cycling nutrients and other elements within the earth's biosphere.
5. Providing support for socio-economic structures and protection for archaeological treasures related to human habitation. Soil is additionally a serious source, sink for global gases, and plays a crucial role within the regulation of radioactively active gases (greenhouse gases) within the atmosphere. Soils constitute the most important terrestrial pool of carbon, estimated at approximately 1550 Pg, which is central to the worldwide carbon cycle. The world's soils also contain approximately 95 Tg nitrogen (Lal et al., 1995). Both of those pools contribute actively to atmospheric greenhouse gases through decomposition and oxidation because of deforestation and faulty land management practices. Within the past decade, 1.6 billion tonnes of carbon is estimated to possess been emitted annually as a results of land clearance, compared to six .4 billion tonnes released into the atmosphere by the combustion of fossil fuels. Erosion caused by water and wind is

one among the important reasons for soil degradation. Water erosion is that the most widespread sort of erosion, affecting 56% of worldwide acreage. Deforestation, removal of vegetative cover through overgrazing, and mismanagement of agricultural land are the most causes of water erosion. Wind erosion occurs widely in arid and semi-arid regions and in coarse textured soils without vegetative cover and affects 26% of the worldwide area. The worldwide Agro-ecological 23 Zones (GAEZ) programme of the FAO (1978-1991) has estimated that some 16% of worldwide acreage in danger of erosion. Erosion continues to be a significant threat to our continued ability to supply adequate food. Numerous practices are developed to stay soil in situ, which include reducing or eliminating tillage, managing irrigation to scale back runoff, and keeping the soil covered with plants or mulch. Adoption of no tillage may benefit conservation in soils especially under initial high fertility conditions (Fabrizzi et al., 2005) with none adverse impact on productivity.

Water: Freshwater is the most critical and limiting natural resource for sustainable agriculture. Water is that the principal resource that has helped agriculture and society to prosper, and it has been a serious limiting factor when mismanaged. Agriculture uses as much as 60 to 80% of freshwater supplies globally. The number of people living in water-stressed countries will increase six fold in the next 20 years, and this will prove a big challenge to global and regional food security (IFPRI, 1997a; 1997b). Huge investments in water storage and transfer systems have been established in many parts of the world, which allowed crop production to expand

to very arid regions. In drought years, limited surface water supplies have prompted overdraft of groundwater and consequent intrusion of salt water or permanent collapse of aquifers in many regions leading to degradation of potential lands and a serious threat to food security and the environment. Erratic patterns of precipitation, drought, and floods because of global warming exacerbate the existing constraints. Curtailing the share of water that goes to agriculture and ensuring its conservation and sustainable use are essential for future food security, economic and human development and social harmony. Projection indicate that the productivity of water in agriculture needs to be doubled within the next decade and a half to spare enough water for civic, and industrial use and to make agricultural water use sustainable. Areas of improving water management include improving water conservation and storage measures (in situ) and safe run off collections, growing drought-tolerant crop species and adopting efficient irrigation methods/systems (Raman, 2006). The challenge programme for water and food launched by the CGIAR envisages integrated action combining science and technology, management, and environmental factors, and provides hope for ushering in a “Blue water Revolution”. Energy: Energy has been identified as the second most critical factor next only to water, for sustainable development. The economic progress is coterminous with energy consumption (Brown, 2001). Global agricultural systems are flawed because of energy profligacy or energy poverty. Energy over-use leaves dirty ecological footprints, whereas, energy poverty creates serious impediments to food security, livelihoods,

and human development. Energy-poor systems require energy infusion, preferably of the renewable kind, such as solar, wind and biomass energy. Modern agriculture is heavily dependent on non-renewable energy sources; especially petroleum that cannot be sustained indefinitely as clear projections of the finiteness of the resource is established. Sustainable agricultural systems should reduce reliance on non-renewable energy sources, explore, and exploit many opportunities of on-farm renewable sources of energy generation and use that can also mitigate climate change, as biomass is a carbon-neutral resource. Renewable energy sources like solar, wind and bioenergy are particularly useful in rural areas because of their local availability, adaptability to dispersed small-and medium scale energy requirements, reliability, and 24 environmental safety. It has been estimated that these could provide up to 57% of economic energy needs in Africa, 33% in Latin America and 22% within the Asia Pacific region (Hicks, 1997).

Summary:Sustainability is a perpetual issue in time scale with associated dynamism in resource base and outputs in terms of variety and quantity. Sacrificing agriculture sustainability will pose grave threat to the basic food security in agriculturally dependent countries. The ecological aspect of the negative effects is immeasurable. Agriculture is no longer location specific in terms of production as well as product outreach due to the technological advancements in production, transport, communication, supply chain and networking to cater to the demands of global citizens. The value system attached to the primary products of agriculture with

the associated limitations has transformed it altogether to an era of value added products and specialty services. The rate of changes expected and demanded from agriculture is acute and this precisely puts pressure on the long-term perspective of sustainability, that is directly related to the maintenance of support systems i.e., natural resource base. Measurement of sustainability through key indicators and their integration from multitude of aspects can best be depicted using AMOEBA diagram as per the processes of MESMIS. The reality of climate change, shrinking natural resources both in quantity and quality, the glaring catastrophic projections of the shortages of 5Fs (Food, Fodder, Fiber and Fuel and Foresttimber) to meet the burgeoning population and industrial raw material calls for urgent action for sustainability of agriculture.

V CONCLUSION

The realization of the shrinking carrying capacity of our planet to support humanity perpetually is essential to avoid over exploitation with the resultant protection of the natural resources and simpler and essential demographic changes. Yet, the resilience of natural systems with proper understanding, care and support from the humans can slow the clock of destruction. Assessment of sustainability should be done by including many indicators of physical, economical, demographic, ecological that have interrelationships in short term, and modifier effects in long term of various magnitude. The dynamics of resource changes in their per se availability, quality and utilization changes with time and

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A Study on the Switch to Fog Computing from the Cloud

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Abstract— This Research paper checks out at the security of information in circled enlisting. It is an assessment of information in the cloud and viewpoints related with it concerning security. The paper will go in to subtleties of data verification frameworks and approaches used all through the world to ensure most obvious data security by diminishing unendingly risks. Straightforwardness of data in the cloud is valuable for explicit applications yet it gives faces a test by familiarizing data applications which could at this point have security limits in them. Basically, When a guest OS is operated over a hypervisor without understanding the stability of the guest OS, which may contain a security assumption, data usage of virtualization for flowed figuring could wager with data. The paper will explain different data security stances for both data in transit and data at rest. All SaaS (Software as a Service), PaaS (Platform as a Service), and IaaS layers are necessary for the framework to function (Infrastructure as a Service). cloud defence. The Internet of Things (IoT) development's revolutionary advancement poses a number of obstacles to the admirable idea appropriately selected perspective, including elevated idleness, bound breaking point, and association disenchantment. To overcome these problems, dissipated joining and fog thinking bring the cloud closer to IoT PCs. Instead of transferring IoT objects to the cloud, cloud and fog allow IoT to manage and store them locally. Fog and clouds have made capacities dependent on them and enable quicker responses. The strongest method for ensuring that IoT provides reliable and stable resources for various IoT clients should also be considered to be cloud and darkness selection. This article focuses on the benefits and challenges of each strategy as it examines the most recent developments in cloud and fog computing and how they relate to IoT. Additionally, it is based on the cloud and fog model and new IoT advancements that have

been enhanced by using the cloud and fog model. Finally, potential testing proposals for distributed cutoff, fog handling, and IoT are considered, followed by direct subjects.

Keywords— Server Consolidation, Security issue Virtualization, Cloud Computing, Fog Computing, Internet of Things (IoT), Data Center.

I. INTRODUCTION

In the going with timeframe region, orbited cutoff will grow reliably. Cloud systems may be truly wanted to lead specific sensible activities and time sorts out for IT run, from cutoff and evaluation to edifying record and works. The general cloud installation stage obligations will unquestionably satisfy IT requirements much more. Spread recruiting is used by several organisations to analyse and interpret a huge variety of educational materials. The phrase "cloud computing" has only recently come into widespread use. One of the few definitions that are available is "an association reply for offering unpretentious, strong, straightforward and fundamental induction to IT resources" [1], which is also one of the less difficult meanings. Appropriate registration is not regarded as coordinated application.

Association was organised, at least. The help coordinated nature of cloud computing reduces not only the aforementioned framework and ownership costs but also offers the end user flexibility and improved performance [2, 3]. Security and protection in the cloud for information are two seriously pressing concerns [4]. The information quality, security, and affirmation should be guaranteed by the cloud association. As a result, various master habitats are using a variety of tactics and tools that depend on the nature, kind, and volume of information. Information sharing amongst various affiliations is probably a benefit of cloud computing. Whatever the case may be, this

advantage itself tends to gamble on information. To stay away from likely bet to the information, it is crucial for safeguard information vaults. One of the central solicitations while including cloud for dealing with information is whether to utilize a pariah cloud association or make an inside different evened out cloud. A part of the time, the information is irrationally delicate to be put away on a public cloud, for instance, public security information or unbelievably private future thing subtleties, and so on. Such an information can be incredibly touchy and the outcomes of revealing this information on a public cloud can be serious. In such cases, it is energetically embraced to store information utilizing inner authoritative cloud. This approach can help in getting information via doing on-premises information utilization procedure. In any case, it doesn't actually ensure total information security and protection because different organisations aren't always willing to add additional layers of verification to sensitive data. This essay evaluates the information security measures put in place globally to safeguard and support cloud-based data. It discusses common threats to information in the cloud and how various master locations respond in order to protect it. This is how the rest of the document is constructed. The outline of the second segment provides information about the recently completed work in this area. Discussions in District 3 concerning these risks to cloud-based information. District 4 researches two or three suitable information security strategy embraced all through the world. The final section, at the finish, provides structure for this investigation. In order to assist customers in connecting to cloud associations, cloud working environments vendors also began integrating structures for pertinent information with the leaders in their gatherings [2]. The Cloud foundation model equips networks with numerous varied, quick, and advantageous PC sources with the appropriate acceptance. A scattered joining up perspective known as haze calculation supports the grid's traditional approach to handling cloud restrictions. Shadow enrollment provides excellent duplication management, managing, structure affiliation, and application association in an incredibly clearly coordinated stage at the edge of end devices and flowed enrollment server ranches [4]. Virtualization is a recent innovation that is timely for fog analysis when it is isolated. Real

framework for distributing free relationships so that several working schemes and experiences can be carried out simultaneously on a single resource [5]. As a cloud improvement, the shadowiness model has been facilitated. In order to clarify the need for a link to fulfil the requirements of the fundamental Internet of Things (IoT) affiliations, Cisco first portrayed the significance of "obscurity" [6]. When it comes to streaming affiliations and software, fog dealing has a certain virtual game plan [7-9]. Shadiness Computing reduces the amount of time needed to refer to apps that are provided and communicates close by using a chosen structure. This departs incredibly from mechanical constraints to monetary goals. Without focusing on the complexity and heterogeneity, clients will receive a lone and powerful aid from the cloud from any location in the cloud establishment concept. CISCO constructs immediately Adopted a practise known as "fog picking," which is The data, signing up, aggregating, and application resources have been provided by clients and end-clients close to devices rather than transmitting data to remoter servers in the cloud. The use of fog selection will improve network stability and strengthen the alliance's security. By delivering massive amounts of data from many devices to, it can persistently increase bandwidth and energy utilisation. Plus, every extraordinary person has, usually speaking, interacted with others through or important Internet communications. working conditions for terminal contraptions and connection approval to concentrated networks where required [10]. In 1997, Professor Ramnath Chellappa shipped off the thing choosing, Fog dealing with, and flowed figuring

The IoT contains authentic collectibles ("objects"), which award correspondences parts, sensors, Software, and gadgets to catch and share information [14]. circumnavigated cutoff or thought structures affiliation working conditions [12, 13]. Today the Internet of Things is connected with each other through some particular alliance, business, or foundation like schools.

In addition to presenting IoT applications enhanced by cloud and fog, this study covered cloud and fog modelling. This study intended to examine top-level research liabilities on cloud, fog, IoT, and its applications in our musical development scenario. It also aimed to establish fair pathways for research and open areas of

interest regarding surrounds linking up, fog dealing with coordination, and IoT. According to the going with, the extra paper has the following relationship: In Section II, there is a foundational discussion of the concepts of conveyed figures, smallness figures, the design of cloud-fog choosing, security concerns with cloud and murkiness handling, and IoT; in Section III, there are directions for related works; server resources around an adaptable platform to provide on-demand enlisting resources and associations. It is now more indisputably possible to enrol assets because to the astonishing effects of the internet in recent years. Additionally, this confirms a different figuring idea called cloud computing. To provide services to the end customers, master associations rent resources from framework suppliers. Dispersed handling is recognised as having a significant impact on the ongoing Information regarding progress business and has attracted major affiliations like Google, Microsoft, and Amazon.

Business visionaries are driven to dispersed recruiting thought since it involves many different aspects. Even if the flow of enrollment revealed the fundamental entrances to the continuing IT projects, there are still a lot of tasks that need to be diligently attended to. In our study.

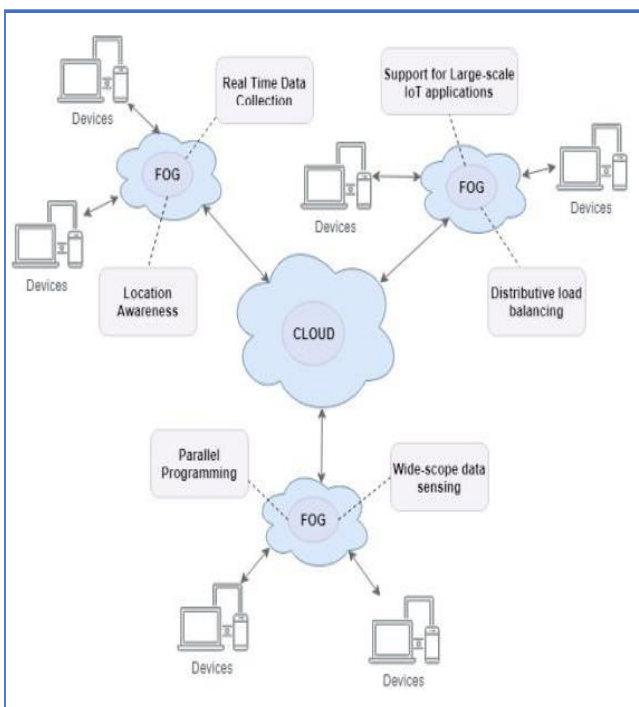


Fig.1.Fog-based IoT network.

Cloud Computing Lacks Uniform Standards of Security

There is currently no comprehensive set of safety criteria for distributed computing security ideas, which are still in the early stages of development. Other, more reputable organisations are striving to develop distributed computing security guidelines that will boost interoperability and security, minimise reused projects or reused development. For instance, the Cloud Security Alliance (CSA) and the Distributed Management Task Force (DMTF) have proactive A. Internet of Things(IoT)

Technology for synchronised communications, sensors, and PCs are all integrated[58]. The flawless operation of administrations everywhere, anytime, and anywhere is the main goal of IoT. Following ICT and the Internet, this breakthrough is crucial in bringing about the fourth mechanical revolution [59]. Following the growth of the Internet itself, IoT is expected to become the next major trend [60]. It would be speculative because there are millions and possibly billions of them whether it be a communication structure or an idiotic non-imparting element, the face of the Earth. Anything might be a component of the Internet, including a clever PC, a liquid glass or a leaf from a tree [62]. The way individuals go about their daily lives, what they choose to do, and how they operate have all altered dramatically as a result of various IoT applications, such as human organisational frameworks. It significantly affected some endeavors[63].

II. RELATED WORKS

A few firms' apps can't actually benefit from this broad figuring perspective, despite the unfathomable usage of cloud development, because of inherent problems with the cloud, such as the absence of flexibility support, the absence of area care, and unacceptable latency. Murkiness enrolling has established itself as an excellent institution for providing resources at the cutting edge of organisational adaptation. Fog fog has received attention from numerous experts. Therefore, in this section, we'll concentrate on one of its goals and how it performed when put into practise using various methods and techniques. The use of distributed

computing has increased and become the norm [3]. The percentage of cloud client security objectives and the capabilities of cloud specialised organisations are distributed computing security principles. With the consistent standard, the customer may choose from the cloud administration standard confirmation, laying out trust, and when an error arises, they can also quickly comprehend that responsibility.

2.2 Security Problems of Cloud Computing Network Layer Traditional organization assaults: Because cloud processing depends on organisational structure, traditional organisational assaults are quite dangerous. Traditional organisational assaults are particularly harmful because cloud processing rely on organisational structure. In essence, they can be divided into four categories: distributed denial of service (DDOS) assaults, false news attacks, use type attacks, and data collection type attacks [10]. It is inevitable that programmers will target distributed computing because it has unique properties including sizable client data repositories, strong integration, and convoluted administration. Programmers would most likely target all distributed computing administrations through a client, causing more obvious damage and loss than the regular endeavour nets application atmosphere. Access restriction is necessary. Information about users may be disclosed because, in general, cloud administrations have access to information but not individuals.

SSL assault: Secure Sockets Layer (SSL), an encryption technique that offers network communication security, is used by many cloud services. SSL contributes to cloud security. Many networks and programmers are presently concentrating on SSL. Although SSL assaults are still uncommon, SSL has developed into a security issue for distributed computing. SSL assaults differ from the typical organisation attack technique.

2.3 Data Security of Computing Clouds Data Location: Clients using distributed computing administrations are unaware of the location of the information stored on the servers and even the nation in which they are located [4]. Due to the various regulations, providers may be forced to submit information when these nations need to look into it without being able to

guarantee the security of customer information. **Divide information:** Many client records are shared in the administrations of distributed computing. Suppliers commonly reuse IP addresses in an effort to save costs, and since clients' IP addresses may be shared with other clients as well, information security cannot be guaranteed. In one way, information encryption is a way to guarantee the security of the information. Encryption doesn't always ensure information security, and information loss due to a decoding error is a possibility [9]. Inability to use the information causes asset abuse for customers and the cloud, which lowers its efficacy. **Informational assistance** If cloud services don't back up the data, if data is lost because of server issues, user error, or if customers unintentionally delete data, the data cannot be recovered.

III Cloud Computing Security Framework

Because distributed computing now has many security difficulties and has advanced into a barrier to the course of events and promotion of distributed computing, it is necessary to establish a distributed computing security structure and effectively complete its cloud security key innovation research. As shown in Figure 2, the proposed distributed computing security structure has the following points of view:

3.1 Firewall

It can significantly improve the security of a firewall's distributed computing architecture. The plan is to restrict the types of open ports. While the data set server group and the application server group only offer ports 8000 (special application administration ports) and 3306 (MySQL port), respectively, for the Web server group, the general public can access ports 80 (HTTP) and 443 (HTTPS) for the Web server group. The three sets of organisation servers concurrently open Port 22 (the SSH port) for clients; by default, these servers prohibit other organisation affiliations. This element will greatly increase security [5].

3.2 Security Measures of SaaS

When offering consumers complete applications and individual components in distributed computing, SaaS providers should ensure the security of the programmes and components. Two perspectives dominate how the offered security capabilities are viewed: Priority access control

method: The client name and secret key check feature is generally included by SaaS providers in their access control and personality validation capabilities. To completely eliminate any danger to the internal security of cloud applications, customers should have enough knowledge about the supplier they have selected. Concurrent cloud providers should offer high strength, replace the secret key on schedule, base the length of the secret word on the importance of the information, and refrain from utilising strategies such using an out-of-date secret word in order to increase the security of the client account. DDOS attack suppliers can employ a few methods based on the leaving mature organisation attack safeguarding tactics, taking into account its attack implications: Consider building a firewall that disables pointless TCP/IP administrations, blocks ICMP and any other obscure conventions, and is set up to deny all requests from the Internet as an example. Vendors can promptly update programming patches and regularly check TCP support for use-type assaults. Long-term research on the typical corporate attack has resulted in highly developed technologies that can be employed today. These devices can be fully utilised by cloud providers to guarantee the security of corporate mists [6].

safety: Application of innovation in virtual machines Suppliers might set up virtual machines in the current working framework by using the advantages of virtual machine innovation. While also having access restrictions in place, regular clients can still operate PC equipment by requesting working permissions. This is fantastic since it is understood by regular clients and executives; regardless of whether the client has been pursued, the server will not be harmed.

SSL attack defence: The customer should strengthen their preventive measures in the event of an SSL attack. Suppliers should provide the relevant patch and safety precautions so that the client can correct right away and that the SSL fix may be applied quickly. In addition, strengthening administration power, making it challenging to obtain security endorsement, and using the firewall to restrict a port to prevent typical HTTPS attacks are all excellent defence techniques [7].

3.4 Security Measures of IaaS Layer

By and large, IaaS isn't apparent for customary clients, the executives and support likewise altogether depend on cloud suppliers, and the main part is the security of information stockpiling. Cloud suppliers ought to tell clients the data of the nation where server finds, and it's anything but an issue to work these information without clashing with the nearby regulation. For the blend of various client information, the information encryption isn't simply dependable, yet additionally lessening the productivity of information, suppliers need to isolate client information put away in various information server [8]. Isolating the client information capacity can forestall information partition tumult. For information reinforcement, significant and secret information ought to be upheld, simultaneously, regardless of whether there is sure equipment disappointment, information can be effectively recuperated and the recuperation time likewise needs an assurance.

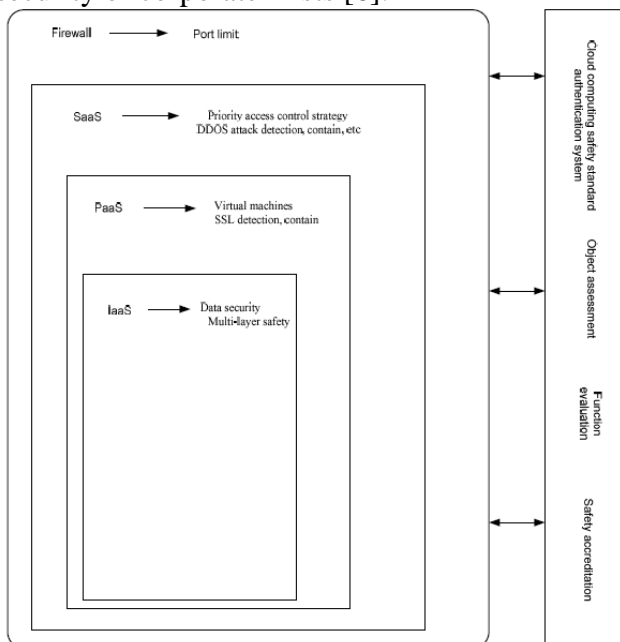


Fig. 2. Cloud computing security framework

3.3 Security Measures of PaaS Layer

PaaS is the central layer in distributed computing, and there are two approaches to

3.5 Cloud Computing Security Standard Authentication

There is currently no framework for unified security standard validation in distributed computing, but numerous groups have been formed to lay the foundation. The reference

principles that make up a complete distributed computing security system can be used to gauge the reliability, efficiency, and security of a structure. The integrated distributed computing security standard, which is a set of thorough security verification standards meant to handle a number of safety issues with distributed computing that are present in the primary task, is a requirement for the framework.

IV Conclusion

Distributed computing has recently undergone a swift evolution, however security concerns have emerged as roadblocks that need to be overcome if distributed computing is to gain more notoriety. This work analysed the security concerns and the state-of-the-art of distributed computing, and it presented a reference model for distributed computing security. The model offered a series of solutions to the security issues that distributed computing currently faces, but innovative acceptance necessitates increased participation from associations and individuals in the field of distributed computing security research. However, distributed computing security isn't just a specialised issue; it also takes into consideration normalisation, overseeing mode, regulations and guidelines, as well as many other viewpoints. Distributed computing is also linked by development opportunities and challenges, in addition to the security issue.

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ONLINE SCAMS – A CRISIS IN ONLINE WORLD

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Abstract Millions of people have fallen victim to a wide variety of online scams, many of which are conducted entirely or partially online, making internet fraud a big issue in many nations. The scope and character of this issue are examined in this article. based on information gleaned from in-depth interviews with victims of online fraud, including pharming, phishing emails, tech support scams, and numerous online articles. The article examines the reasons why people fall for internet fraud. It lists a number of factors that contribute to fraud, such as the variety of scams, the tiny sums of money sought, the authority and legitimacy presented by con artists, emotional appeals, embarrassing frauds, pressure and coercion, grooming, fraud at a distance, and many strategies.

I INTRODUCTION

There are various fraud tactics used in the online world. Because of online fraudsters, these frauds are conceivable. Scams can occur in a plethora of different ways, including through phishing emails, social media, SMS messages on your phone, phone calls posing as tech assistance, scareware, and more. These scams' primary objectives can include identity theft, the theft of credit cards, and the capture of user login and password information. With thousands of people losing their hard-earned money in a matter of minutes, it has truly become a severe problem. Such instances occur frequently, and the current state of affairs is exceedingly bleak, with the likelihood of things getting worse in the future increasing.

They cannot be stopped until firm action is taken against these frauds. However, who is in

charge of the faceless criminals hiding behind their computers? This is both practically and conceptually impossible. So where is the answer to the problem?

Money orders have become almost obsolete. With the current pandemic situation, cash transactions have reduced to almost zero. Online payments seem to be the thing of the future, one that propels India into the digital age of independence. The Government launched online payments portals, and encouraged online transactions rather than cash transactions, with the slogan- "Make India Digital".

With immense technological boost in the finance and banking sectors of the country, online frauds in India, have increased in number as well. Hackers and scammers are finding more innovative ways to skim off money from law-abiding citizens. The more digital India gets, the more ways scammers find to scam people of their hard-earned money. These are a few common types of online frauds that have been registered by the Cyber Crime cell of India.

Different Methodologies of online fraud

There are different variety of scams in the online world. Since the fraudsters are quick to learn from their errors and make it difficult for the authorities to find them, previous attempts to curb these scams have all failed. This is the reason why these frauds are still prevalent and still wreak havoc on unwary internet users. Following is a list of the common online frauds-

Phishing
Pharming
Fake non-profit donation
Fake anti-virus software
Tech support scams
Identity theft

webpage that looks exactly like the webpage it is mimicking. This is usually a bank or credit card website. The target user is sent a cleverly disguised link through email, causing the user to believe that the email has arrived from the real bank or Credit Card Company. When the user clicks on the link, instead of being led to the original website, the fake website shows up instead. The unsuspecting user enters his/her login credentials into the webpage, which are then sent to the scammer's harvesting page, which is usually a text file, with a script to collect the login credentials. Once the login credentials have been entered, the user is then automatically redirected to the original website, being none the wiser about the collection of the login credentials by the fake webpage. This is the basic working of a phishing scam.

II LITERATURE REVIEW

Motive behind these scams The primary goal of online scams is to obtain the targets' financial information so that the fraudster can utilise it to transfer any amount of money to their own bank account.

Although the fraudsters' true motivations aren't always evident, their immediate goal is undoubtedly to obtain a sizable sum of money and flee with it as quickly as they can.

The fact that many online users are afraid to confidently browse the Internet is the single factor contributing to the success of these online scams. This is particularly true if they have only recently started using the Internet.

Common online scams explanation

Explanation of the Common Online Scams
Due to the complexity of the online scams, it can be hard for a novice Internet user to recognise each and every scam. The large variety of scams makes it even harder for the user to stay away from the traps set in multiple websites. That is why it is necessary to have a sound knowledge about the working of such scams, so that they can be recognised and prevented, if not eradicated entirely.

Phishing

This is one of the earliest forms of scams. Phishing refers to the process of creating a fake

III METHODOLOGY

Case study- What happened in the case of the e-mail scam involving ICICI Bank? A few customers of ICICI Bank received an e-mail asking for their Internet login name and password to their account. The e-mail seemed so genuine that some users even clicked on the URL given in the mail to a Web page that very closely resembled the official site. The scam was finally discovered when an assistant manager of ICICI Bank's information security cell received e-mails forwarded by the bank's customers seeking to crosscheck the validity of the e-mails with the bank. Such a scam is known as 'phishing'.

Pharming

Pharming is a cyber-attack by which hacker install malicious code on personal computer or server, redirect a website traffic to another without their knowledge or consents. This is also called "Phishing without a lure". It occurs when hackers locate vulnerabilities in DNS software and by rearranging the host file on the target computer. The term "Pharming" is

neologism based the word “farming” and “phishing”. Phishing is a type of social engineering attack to obtain access credentials like username, password. Now a year, both phishing and pharming is used. Now a day for online identity theft both pharming and phishing is used. The most popular pharming targeted website are online banking and e-commerce websites. Due to lack of security administration, Desktop are also vulnerable to pharming threads. Pharming and phishing threads have been used simultaneously and these can cause the most potential for online identity theft. Unfortunately, anti-virus software is incapable of protecting against these types of cybercrime. Pharming attack will redirect the victim to the fake website even though victim enter the correct website address.

Case study-

A spurt in cyber-attacks has left Lucknow police in a tizzy as the database of four companies were targeted and tampered in the last one week. The biggest cyber-attack was reported on March 30 when the website of a Gontinagar-based company which maintains database of cane farmers’ transactions with sugar mills in 12 districts of UP was breached by hackers who either deleted or changed the data of around 19 lakh farmers.

Fake Non Profit Donations (Fake Charity)

Charity Fraud is the act of using deception to get money from people who believe they are making donations towards a cause. Often a person or a group of people will make material representations that they are a charity or part of a charity and ask prospective donors for contributions to the non-existent charity.

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Tech Support scams

A technical support scam, or tech support scam, is a type of fraud in which a scammer claims to offer a legitimate technical support service. Victims contact scammers in a variety of ways, often through fake pop-ups resembling error messages or via fake "help lines" advertised on websites owned by the scammers. Technical support scammers use social engineering and a variety of confidence tricks to persuade their victim of the presence of problems on their computer or mobile device, such as a malware infection, when there are no issues with the victim's device. The scammer will then persuade the victim to pay to fix the fictitious "problems" that they claim to have found. Payment is made to the scammer through ways which are hard to trace and have fewer consumer protections in place which could allow the victim to claim their money back, usually through gift cards.

Case study-

Three Indian nationals, who had initially come to Singapore to study, were sentenced to prison for participating in a transnational money mule syndicate that was perpetrating "tech support scams," a media report said.

On Wednesday, Nandi Niladri, 24, was handed the stiffest sentence of 18 months in prison, after he pleaded guilty to three charges under the Payment Services Act and one count of obstructing the court of justice, the Straits Times newspaper reported.

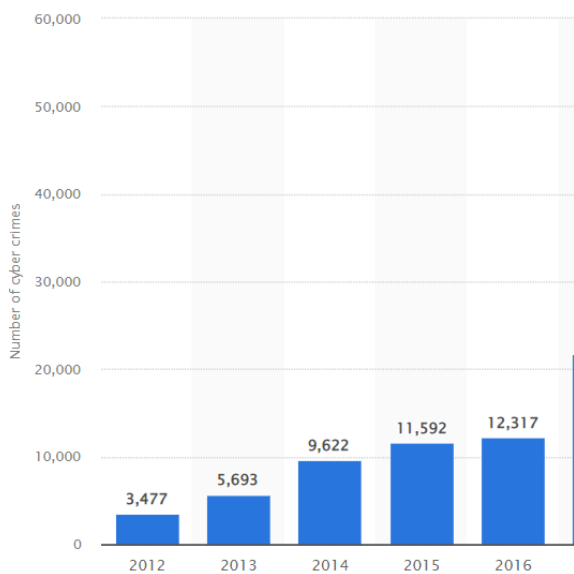
Another man, Akash Deep Singh, 23, who dealt with cash totalling more than SGD 118,000, pleaded guilty to three charges, including an offence under the Act, and was sentenced to a year in jail, the report said.

The third offender, GiriDebjit, 24, was sentenced to seven months' jail after he pleaded guilty to two charges, including an offence under the Act.

He had received multiple inward transfers totalling more than SGD 61,000, it said. Giri and Nandi came to Singapore to study in 2019, while Akash arrived the following year. Court documents, however, did not disclose details of the colleges they were studying in. The trio were the last offenders linked to the case to be dealt with in court.

IV RESULT

Chart to Express Cases in India



India saw a significant jump in cyber crimes reported in 2020 from the previous year. That year, over 50 thousand cyber crime incidents were registered. Karnataka and Uttar Pradesh accounted for the highest share during the measured time period.

Uttar Pradesh leads the way

The northern state of Uttar Pradesh had the highest number of cyber crimes compared to the rest of the country, with over six thousand cases registered with the authorities in 2018 alone. India's tech state, Kamataka, followed suite that year. A majority of these cases were registered under the IT Act with the motive to defraud, or sexually exploit victims.

It's a numbers game

It was estimated that in 2017, consumers in India collectively lost over 18 billion U.S. dollars due to cyber crimes. However, these were estimates based only on reported numbers. In a country like India, it is highly likely that the actual figures could be under-reported due to a lack of cyber crime awareness or the mechanisms to classify them. Recent government initiatives such as a dedicated online portal to report cyber crimes could very well be the main factor behind a sudden spike in online crimes from 2017 onwards.

Measure To Prevent Getting Scammed In Online World

1. Use verified apps only-

Mobile apps have changed the way we shop and transact. Every time you install an app on your device, make sure you are using a verified app. Whether it's a financial app or a new game, download only from official play stores like Google Play Store, Windows App Store or Apple App Store.

2. Use secure connections only-

The urge to use free Wi-Fi at a cafe, hotel lounge or airport can also lead to financial fraud. Avoid using public hotspots for making a financial transaction. Public networks are more prone to the risk of data theft since their encryption can be cracked easily to access your account's crucial information.

3. Browse on authorised websites only-

Beware of imposter websites that may look professional or carry the same domain name as the original one in the URL. Look for "https://" before "www" and the lock icon on the address bar of your browser.

4. . Be vigilant while using card-

Always make a card payment in front of your eyes. Be sure that the POS machine is 100 percent genuine. There are dozens of stories about cards being cloned by skimmers since the card was out of sight while the transaction was being done. Don't let anyone steal your hard-earned money because of your negligence.

5. Don't compromise on security software for phones/computers-

Everyone wants their payments to be secure but how many of you pay attention to your mobile and computer's security software, web browser and operating system. Update your PC/laptop and mobile security to prevent online mishappenings. Also, always set up strong passwords with a combination of special characters, letters, numbers and upper and lowercase. Don't forget to change the passwords on a regular basis

6. Don't share personal information with anyone-

Never share your personal information online or offline, unless you are absolutely sure about the authenticity of the representative. There can be a possible scammer hiding behind a stranger or any third party posing as an executive from a bank or financial institution. Always verify the identity of the person asking for your financial details. Bank authorities never ask for sensitive

Perience Link baiting, spurious emails and SMS are the most common forms of trapping people into fraud. These links may seem genuine and attract your attention with claims of lottery or a job overseas. Do not follow any such links, as they may lead you to a phishing site and rob you off your mobile's security features. It's better to hang up in case you receive an unsolicited call.

information like OTP, CVV on calls. Also, sharing important financial details like bank name, branch, account number, etc on social media is a big no.

7. Never click on suspicious links on SMS or emails

Every year, thousands of people fall prey to banking scams with the internet becoming one of the most popular tools to commit fraud. These basic measures can help you protect yourself from being a victim of online fraud.

In case your debit or credit card is lost or stolen, informing the bank immediately and getting it blocked is the first step to avoid a financial loss. Timely blocking the card can save your financial security from being compromised.

V CONCLUSION

Although it is impossible to curb all forms of online scams in the near future, it is indeed possible for the average netizen to be safe from the dangers of such scams, by staying away from them. This might surely appear to be a challenge, and it will take some time to recognise and educate netizens about all such scams. However, for a smooth browsing experience, it is indeed essential that the netizens first learn about these scams, so that they can then proceed to have an uninterrupted browsing ex

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The Learning of English Language and Literature

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Abstract— Learning the English language and reading English-language literature tends to raise many concerns about the advantages and significance of doing so. Why is it necessary for English language learners to also study English literature? What is the fundamental component of studying the subject? Should the approach and objectives of both remain the same? Is the study of both language and literature interdependent? What facets do their partnerships encompass? We can expect to understand it by what, why, and how.

Keywords— English language, English literature, Interdependence, learning.

I INTRODUCTION

As is common knowledge, English Studies can include English Literature, English Teaching, and English Linguistics. These three courses are the obvious next step in learning how to understand and use English, especially for individuals who want to deepen and widen their comprehension of the language. Therefore, studying English literature, for instance, requires a certain level of proficiency in the language. One's English sense becomes stronger and, as a result, their understanding and critical awareness of English literature becomes more sensitive as their level of English proficiency increases. Additionally, this essay contends that English language and English literature are interconnected and that each depends on the other.

But more than only English is studied in English literature studies. The subject matter of practically all English literary works is society's various elements. In other words, English-speaking persons of a specific nation, educational background, line of employment, cultural background, political inclination, and time communicate different parts of their lives in written English. The major goals of studying their literary works are to increase our knowledge of and comprehension of the great moral and intellectual values they contain. However, it needs "know-how"—which includes English proficiency and strategies—to understand what an English literary work is all about and the messages it intends to convey. In light of this, this essay contends that the study of English literature can only take place in the presence of know, what, how balance.

1.1 Language And Literature: Two Sides Of A Coin

There are numerous thorough, in-depth, or straightforward definitions of language. Language is "a set (finite or infinite) of sentences, each finite in length and composed out of a finite set of constituents," according to Chomsky (1957, p. 13). Language is described as a system of

customary spoken or written symbols used by members of a common culture to communicate with one another in the Merriam Webster dictionary. The way a culture thinks is both reflected in and influenced by its language. Language, on the other hand, is described by the Oxford Dictionary as "the process of human communication, either spoken or written, consisting of the use of words in an organised and traditional fashion." The core of language is the same whether it is defined by Chomsky or a more modern scholar. Language has rules and components, can be spoken or written, reflects the culture and way of thinking of its users, and is primarily used to convey ideas. In actuality, literature has just as much meaning as language. Widdowson contends that literary works can take on different interpretations depending on the context to which they are being used. It could refer to literary works like fiction or literature as a field of study. It is possible to define literature in terms of literary writing as "the achievement of aesthetic and moral excellence," such as those found in canon or in the great tradition. Alternatively, it is regarded as "creative and inventive" writing (1999, p. 4-5). Literature has been defined as having a variety of qualities including being excellent, aesthetically pleasing, imaginative, creative, expressive, valuable, and universal. Merriam Webster defines literature as "writings having excellence of form or expression and expressing ideas of permanent or universal interest," and Oxford defines literature as "written works, especially those considered of superior or lasting artistic merit."

Therefore, a tool—language—is inevitably required in order to convey its attributes and entity. It becomes the sole option and the only means available. As a result of the concepts of language and literature being established, their relationships can now be seen. The phrase "literary is the message, language is the cell phone" can be used in the digital world lexicon. These two relationships are inextricably linked and cannot be separated in any way. Despite the fact that there are disagreements over how deeply a student should study both of them, the symbiosis of both of them is based on the premise that their proximity makes them mates.

Literature is not the main subject of study in kindergarten, primary, or secondary schools. The students benefit from exposure to creative, innovative, and aesthetic writing because of this minor subject. Literary work, including stories, poetry, and theatre, is well narrated, memorised, and performed, despite not being a major study. Bedtime stories served as our lullabies throughout our formative years, and dramas served as our proud

demonstration of existence on the primary and secondary stages. We either clearly or vaguely recall one or two of the children's tales that our grandmothers, grandfathers, fathers, or mothers told us.

From the simplest to the most difficult forms, literature can be used as a teaching tool in higher education. There are several literary works available for study, ranging from the canon to modern writing. One of the conversation subjects in a language classroom can be plays, which frequently employ simpler language. It may be intended to introduce students to colloquial language so they can adapt and accept the idioms and later utilise them in specific settings. In order to expose pupils to more difficult language, novels with more complicated language styles, themes, and issues might be utilised in advanced language classrooms. Thus, it is anticipated that this will improve pupils' exposure to language, which in turn will affect their language proficiency. The aforementioned methods all serve as a gentle yet early introduction to reading. This merely demonstrates how literature has occupied our lives at an early age and must have continued, having either a significant or negligible impact on modern life.

Literature and language are two topics that are interdependent. For instance, learning English literature requires understanding the language, and studying English literature requires mastering the language. This is due to the fact that learning English literature is only possible with the aid of the English language. When little is understood about, for example, sentence construction and the ways in which sentences might have lexical and connotational meanings, it is impossible to understand an English literary work. As a result, learning English well is a need for studying English literature. One can only attempt the study of English literature if they have a particular level of English proficiency.

Similar to this, studying English literature can help you improve and refine your command of the language. It goes without saying that reading English-language literature helps one's proficiency in the language while also advancing one's knowledge, comprehension, and sense of self. For instance, reading English short stories and novels frequently is likely to increase and expand one's language sense in terms of how dialogue between characters, setting descriptions, and psychological tone of the characters are written. The construction of English chronologies can also be learned by regularly reading historical texts written in the language. Unquestionably, the knowledge of the intimate relationship between text and context is one of the most significant improvements in English proficiency that comes through thorough study of English literary masterpieces. In other words, specific English texts are employed to represent specific circumstances. On the other hand, some texts are used to describe specific settings but not others. As a result, reading works by journalists on a regular basis is necessary if one wishes to be able to create well-researched reports, for instance.

II LITERATURE REVIEW

2.1 "KNOW-WHAT-HOW" IN THE STUDY OF ENGLISH LITERATURE

Only when there is a why-what-how balance can English literature be studied. Why is learning English literature necessary? If there are no advantages, nobody will study English literature. What advantages does reading English-language literature offer the reader? The moral and wisdom lessons found in several literary works can be found in numerous locations and at various times. It is crucial to read any books or publications that advance our comprehension, provide us more insight, and give us confidence. It is a common misconception that all literary works will undoubtedly convey particular meanings to particular audiences. People acquire particular knowledge from particular sources, and as a result, they are able to assign values to any works that are regarded as valuable. Furthermore, anybody who reads and responds to a literary work based on their own experiences, goals, and interpretations confers the value on it.

Additionally, there are issues with language and power in English literature. The person with English as their first language appears to be the one who dominates the globe. Although it can be difficult to identify whether English is the first, second, or third power today, the core power still has the same appearance. This implies that learning the English language well, which can come from studying English literature, is a requirement for acquiring power.

III METHODOLOGY

However, we cannot understand an English literary work's teachings or take away its messages unless we are aware of its main themes. The subject matter of practically all English literary works is society's various elements. That is, English-speaking individuals of a certain nation, profession, background, political inclination, and time communicate different facets of their lives in written English. A good reading of a piece of literature, according to Brumfit (2001), "is an act of interpretation, in a culture where taste and style are frequently highly prized and where inexperienced learners face an enormous temptation to rely on secondary understanding." (p. 94). In order to establish and synthesise interpretations and an appreciation for the work, literary analysis must consider how the text and context interact. Therefore, the work has more worth due to the natural connections between the text and context. A comprehensive critical analysis that incorporates multidisciplinary knowledge from fields like sociology, psychology, and history has also been produced as a result of the numerous ways that literary works might be interpreted. The enrichment goes beyond literature as a text, in fact.

Furthermore, literature is the subject of study in English literature. According to Brumfit (2001), literature itself has several elements that should be learned, including knowledge, attitudes, abilities, and responses. English literary tradition, genre, western culture, regional context, and in-depth text study are all possible additions to the

knowledge of English literature. As well as tolerance, respect, and awareness of cultural, imaginative, and intellectual differences, views toward English literature should also take these into consideration. In addition, one of the talents required for learning English literature is literary criticism, which comes from creative interpretation and critical thinking. Literature criticism initially appears to be a "correction" or "positive-negative appreciation." On the other hand, literary criticism actually adds to and improves the field of literature. It demonstrates how a literary work can acquire much deeper and extended meaning via the perspective and responses of others, which helps us find wisdom in our own life.

IV RESULTS

All of them require "know-how" or techniques to comprehend. Approach, design, and process are examples of methodologies, according to Richards and Rogers (2001). Richards and Rogers' idea may have its roots in language teaching, but it also appears to have application to studying English literature. In terms of strategy, for instance, it would be wise to carefully consider a theory of the nature of literature and the nature of literature learning, without which it could be impossible to understand the concepts of literature learning. The intrinsic nature of literature is found in the principles that the literary work upholds (Brumfit, 2001). A literary work's categorization is determined by whether or not it can be read from a variety of perspectives, making it worthwhile.

The tactics, strategies, and approaches utilised in the study of English literature must be modified to fit each student's goals. An excellent place to begin may be with a close reading of a literary work using language analysis. However, students must comprehend the author's history, the society in which the work is produced, and the author's personal experience with the work in order to relate to and explore a literary work. They also need to know what methods should be used to analyse a piece of literature.

The process of studying English literature also involves scheduling time and having access to resources like media or a multi-media lab. Learning poetry by reading them aloud will be much more engaging than studying a DVD in a classroom. Knowing how to interpret each word lexically and connotatively is the next stage in analysing a poem. Information on diction, word choice, rhyming schemes, and grammatical and syntactical analyses must be covered. In fact, language becomes the only tool available for analysing poetry.

The methodologies, strategies, and procedures utilised to study English literature are also influenced by the Post-Modern era in which we currently live. The emergence of postmodernism, feminism, and postcolonialism has led to more interdisciplinary and adaptable methods of studying English literature. The idea that "great narratives" contain the highest or most definitive truth has been disproved. Literary works have more flexibility and autonomy thanks to the Post-Modern Era (Widdowson, 1999, p. 87). In conclusion, methods for understanding literature have greatly increased our ability to uncover the many values and truths that are present in literary works.

Skills, methods, and strategies are employed in both the teaching and learning processes as means of acquiring knowledge. The learning and teaching process would be chaotic and nonsensical without them. Before studying poetry, prose, or plays, for instance, it seems important to have a basic understanding of the genre. For instance, recognising the genre will greatly aid the reader in comprehending Nathaniel Hawthorne's *The Scarlet Letter*. There will be hints for the reader on anticipated conflicts, the complexity of plots, and characterization.

Moving on to more contemporary technology use and development in classrooms around the world, lecturers and teachers are thought to be in charge of adaptation and empowerment. It would be difficult and probably amazing to introduce just finished old yellow classical texts into classrooms and carry out a comparison study of the same-named film adaptation. Another amazing experience would be to draw lines in the sand between the canon and the technologically advanced fiction. The suggestion made by LoMonico is to "sing out Whitman's "Song of Myself" before writing and reciting our own version." Acting like Shakespeare, creating an online newspaper board of the news coverage from the Elizabethan era, and recreating or redesigning the clothing that they wore would be more engaging projects to do than simply reading Shakespeare's plays (n.d). Only when it is well-planned and developed will changing methods and approaches not harm the literary works. Variation would enrich the literary study process and foster a positive learning atmosphere.

It has been determined that the new shift in language learning from single to many viewpoints is the most efficient and appropriate approach to use. Likewise, there is more latitude for interpretation and appreciation while studying literature. Instead of being the passive actors they formerly were, students today are encouraged to start their own literary study projects based on their own interests. As a result, it is intended that they will arm themselves with literary principles that apply to their everyday life.

V CONCLUSIONS

The why-what-how balance is actually necessary for learning any subject. While the "know-why" aspect conveys the significance of and context for such learning, the "know-what" aspect restricts the subject matter of the learning activity. Additionally, the "know-how" component explains how a learning process could be carried out.

At least three factors suggest that there should be a balance between "know why," "know what," and "know how." First of all, English Literature Learning is a construct within the larger body of knowledge. Given that it is a construct, a system needs to be present. In this instance, the system functions as a correlation and interrelationship between each component. As a result, the "know why-what-how" are expanded in order to develop a scientific justification through experimentation, dialogue, and practise. It is important to provide students additional opportunities to examine and discuss a literary work through short papers or essays.

Second, the syllabus should be created to aid students in learning new information because studying English literature also aims to foster the development of good values that are present in literary works in order to promote critical thinking. The discussion's contents should be organised to support the intended learning objectives.

Thirdly, methods, tactics, and procedures are developed to fit the content and materials in order to support students in their learning process and help them reach their academic objectives.

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