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Dr. Sudipti Singh
Assistant Professor, Department of Psychiatry, JIMS Homoeopathic Medical College and Hospital Hyderabad, Telangana, India

Dr. Girish Navada U K
Head of the Department Department of Psychiatry, Father Muller Homoeopathic Medical College and Hospital, Deralakatte, Mangaluru, Karnataka, India

Corresponding Author:
Dr. Sudipti Singh
Assistant Professor, Department of Psychiatry, JIMS Homoeopathy Medical College and Hospital, KNR University, Hyderabad, Telangana, India

An In-depth look into the correlation between Internet Addiction and Perceived Stress among the young adults and exploring its Homoeopathic Management

Dr. Sudipti Singh and Dr. Girish Navada UK

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Abstract
Technological advances have made the internet an essential part of daily life, leading to rising global and Indian internet use. While it offers many benefits, excessive use is linked to stress, sleep problems, and depressive symptoms. The study found a strong positive association between stress and Internet Addiction, with higher mobile phone use correlating with greater stress and sleep disturbances. Promoting recreation, relaxation, and awareness may help reduce Internet Addiction.
Objectives: To assess the correlation between Internet Addiction and Perceived Stress in young adults. To evaluate the efficacy of Homoeopathic medicines in managing stress related to Internet Addiction and its physical-mental impacts.
Methodology: The study included 380 subjects from OPD, IPD, and Peripheral OPDs of Father Muller Homoeopathic Medical College. Diagnosis was based on Young's Internet Addiction Scale and the Perceived Stress Scale. Subjects were evaluated and treated according to Homoeopathic principles.
Results: Pearson's correlation showed a 0.32 positive linear relationship between Internet Addiction and Perceived Stress.
Among 180 subjects receiving Homoeopathic treatment: 121 improved, 36 mildly improved, 23 not improved. Among 180 controls: 49 improved, 34 mildly improved, 97 not improved**.** Paired-t test showed $p<0.0001$, indicating high statistical significance.
Interpretation and Conclusion: A clear correlation exists between Internet Addiction and Perceived Stress in young adults. Homoeopathic medicines showed significant benefit in reducing the adverse effects of Internet Addiction.

Keywords: Internet addiction, problematic internet usage, perceived stress, homoeopathy, cognitive therapy

Introduction
Technology has become central to daily life, with rapidly growing internet use worldwide and in India. [1, 2] By 2023, India's internet users were projected to reach 666.4 million. [2] Although the internet provides vast opportunities, excessive use leads to several negative consequences. [3] Mobile phone use has emerged as a major behavioural addiction in the 21st century. [4] Internet Addiction prevalence ranges from 1.5% to 25%. [5]High dependency is linked with interpersonal difficulties, loneliness, and preference for shallow online relationships over real-life connections. [6]
A strong positive association was found between stress and Internet Addiction. Individuals with avoidant coping may overuse the internet to escape real-world stress, predisposing to addiction. [7] High mobile use correlates with stress, sleep issues, and depressive symptoms in both genders. [8] Promoting recreation, relaxation, and awareness can reduce Internet Addiction among students. [2] Hahnemann emphasized removing factors that derange health (Aphorism 4). [8] As Internet Addiction acts as a maintaining cause for psychological and physiological issues, more studies are needed among young adults to guide management and preventive strategies.
Youths are more drawn to mobile phones due to technological trends, making them vulnerable to behavioural issues.[1] Excessive, problematic internet use is globally recognized. [2] India ranks second worldwide with nearly 500 million users, expected to rise to 666.4 million. [3] Mobile phone addiction is a growing non-drug addiction. [4] Internet Addiction prevalence is reported as 1.5%-2.5%. [5] It leads to academic failure, financial issues, loneliness, compulsivity, and vulnerability to interpersonal risks. [6] Indian studies

show limited data among college students, though IA correlates with depression, anxiety, and stress. [7] Stressful mobile accessibility increases mental health symptoms, highlighting the need for awareness and limit-setting. [9] Internet use ranges from education and communication to gaming, pornography, gambling, and excessive chatting. [10] The term "Internet Addiction" was introduced by Goldberg (1995). PIU was later proposed by Davis.10 DSM-5 uses Internet Gaming Disorder to represent excessive internet involvement causing impairment. [11] Research defines IA as excessive use with negative consequences like withdrawal, tolerance, poor achievement, lying, social isolation, and fatigue. [12] Though not an official disorder, it is a global concern. [13]

Psychometric Tool Used- Young's Internet Addiction Scale (YIAS) and Perceived Stress Scale (PSS)

A 20-item Likert questionnaire assessing the impact of internet use on daily functioning. Young suggests that a score of 20-39 points is an average online user who has completed control over his/her usage. A score of 40-69 signifies frequent problems due to Internet usage, and a score of 70-100 means that the Internet is causing significant problems. [14]

Perceived Stress Scale (PSS): The Perceived Stress Scale is a 10- item questionnaire. The results are interpreted based upon 5 categories. The scores of 0-7 are interpreted to be very low, 8-11 low, 12-15 average, 16-20 high and 20 and above very high. [15, 16]

Homoeopathy and Internet Addiction

Kent emphasized removing causes for true cure and warned against neglecting maintaining causes. [17] Dake's Postulates highlight that Homoeopathy cannot act when exciting causes are continuously present or vital powers are obstructed. [18] Internet Addiction is emerging as a public health challenge in India. [19] Students with IA show higher depression, anxiety, and stress. [20] Understanding stress and modifying behaviour can improve well-being, and Homoeopathy being a widely practiced system offers gentle and lasting relief [21].

Methodology

Objectives of the Study

- To determine the correlation between Internet Addiction and Perceived Stress among the young adults.
- To explore the efficacy of Homoeopathic Medicines in the management of Perceived Stress due to Internet Addiction and its other impacts on the physical and mental levels.

Source of Data

The subjects of the study was selected from the general population and patients coming to OPD, IPD, peripheral centres of the Father Muller Homoeopathic Medical College and Hospital as per the inclusion criteria.

Method of Collection of Data: (Including Sampling Procedure If Any). Sample and sampling technique.

- The subjects of the study were selected from the general population and patients coming to OPD, IPD, peripheral centres of the Father Muller Homoeopathic Medical College and Hospital as per the inclusion criteria.
- In the first step CONSENT was taken from the subjects regarding their participation in the study. The Consent form was available in two languages Kannada and English.
- Total number of 380 subjects with Internet Addiction (severe and moderate) and Perceived Stress (average, high and very high) was selected using Young's Internet Addiction Scale (YIAS) and Perceived Stress Scale (PSS) respectively. The two scales were provided in two languages Kannada and English.
- The correlation among the scores of Internet Addiction and Perceived Stress was determined using the Karl Pearson Product Moment Correlation tool.
- Subjects were further divided into two groups, Intervention Group (ODD ones, receiving Homoeopathic management along with Psychotherapy) and Control Group (EVEN ones, receiving placebo and Psychotherapy).
- Subjects were analysed and evaluated to form a Totality and Prescription was done according to the totality formed taking references from the Materia Medica along with psychotherapy for the Intervention group.
- For the Control group Placebo and Psychotherapy was provided.
- Appropriate potency was selected as per the Potency Selection Criteria.
- First reassessment of the subjects was done after one month.
- Reassessment of the subjects was done after 2 months using Perceived Stress Scale (PSS) and the final scores was compared with the initial scores and "paired T test" was applied.

Sample Size Estimation

$$\text{Sample size } N = \frac{(Z_\alpha + Z_\beta)^2 + 3}{C^2}$$

$$= 189$$

Where,

$Z_\alpha = 1.96$ $Z_\beta = 0.84$ $C = -0.205$

Ln

$$\left\{ \frac{1+r}{1-r} \right\}$$

r =0.203 Karl Pearson Correlation coefficient.[16] As 189 is the calculated sample size, in this study 380 (round of figures) subjects will be studied.

Inclusion Criteria

- Population of age between 18 to 40 years.
- History of using INTERNET from past 6 months or more.
- Willing to give a valid consent.

Exclusion Criteria

- Population not using INTERNET.
- Population taking any antipsychotic drugs or are under any addictions or substance abuse.

Research Hypothesis I

There exists a correlation between Internet Addiction and Perceived Stress Scale among the young adults.

Null Hypothesis I
There exists no correlation between Internet Addiction and Perceived Stress Scale among the young adults.

Research Hypothesis II
The Homoeopathic management of Perceived Stress due to Internet Addiction and its other impacts on the physical and mental levels is effective.

Null Hypothesis II:
The Homoeopathic management of Perceived Stress due to Internet Addiction and its other impacts on the physical and mental levels is not effective.

Tools Used in the Study
1. Young's Internet Addiction Scale. (YIAS)
2. Perceived Stress Scale (PSS)

Results
Distribution of Cases According To Age-Group

Table 1: Distribution of cases according to age group

AGE GROUP	NUMBER OF PATIENTS			PERCENTAGE		
	G1	G2	TOTAL	G1	G2	TOTAL
15-20	11	10	21	5.79%	5.26%	5.53%
20-25	82	89	171	43.16%	46.84%	45.00%
25-30	73	73	146	38.42%	38.42%	38.42%
30-35	11	7	18	5.79%	3.68%	4.74%
35-40	13	11	24	6.84%	5.79%	6.32%

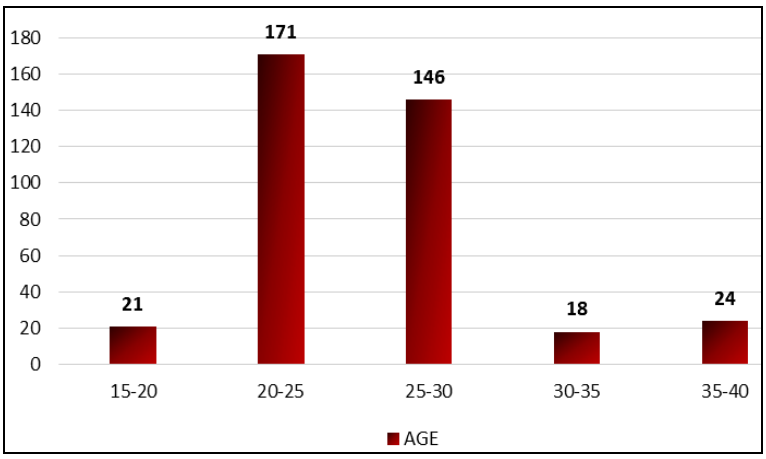

Fig 1: Distribution of cases according to age group

Among 380 subjects, the age distribution was noted as 5.53 % (15-20 yrs.), 45% (20-25 yrs.), 38.42% (25-30 yrs.), 4.74% (30-35 yrs.) and 6.32% (35-40 yrs.).

Distribution of Cases According To Gender

Table 2: Distribution of cases according to Gender

Number of Male Patients			Number of Female Patients		
Group I	Group II	Total	Group I	Group II	Total
61	56	117 (30.79%)	129	134	263 (69.21%)

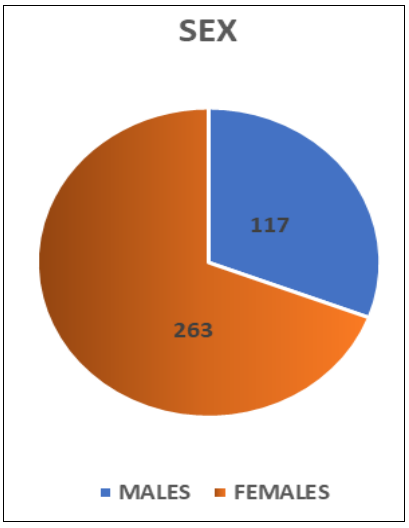

Fig 2: Distribution of cases according to Gender

The Gender distribution of the 380 subjects includes 69.21 % as males and 30.79% as females

Distribution of cases according to the occupation

Table 3: Distribution of cases according to the occupation

Occupation	Number of Patients	Percentage
Students	292	76.84%
Homemakers	18	4.73%
Doctors	58	15.26 %
Businessman	3	0.78%
Corporate Workers	9	2.36%

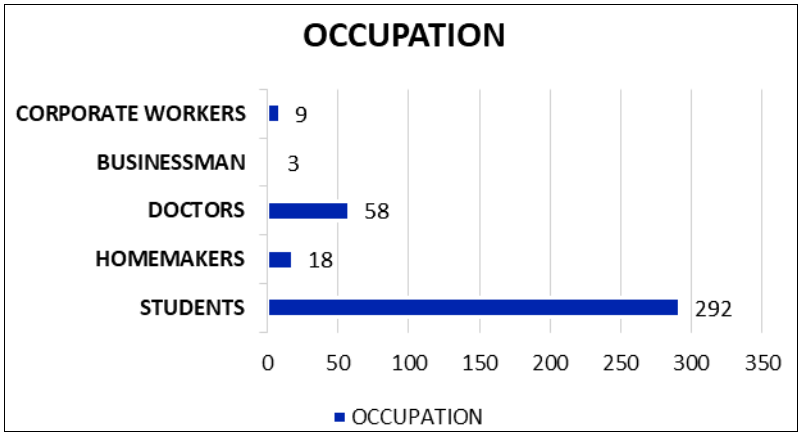

Fig 3: Distribution of cases according to the occupation

According to occupation the 380 subjects includes 76.84% (Students), 4.73% (Homemakers), 15.26% (Doctors), 0.78% (businessman) and 2.36% (corporate workers) respectively.

Distribution of Cases According to the Ailments

Table 4: Distribution of cases according to the Ailments

WORK	230	60.52%
SELF	87	22.89%
FAM	41	10.7%
SOCIETY	22	8.78%

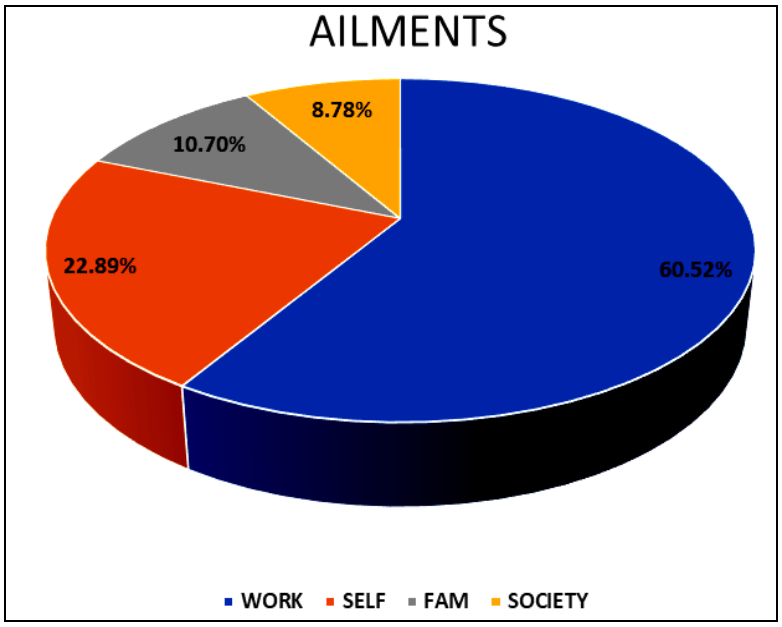

Fig 4: Distribution of cases according to the Ailments

Among 380 subjects 230 (60.52%) had work-related stress, 87 (22.89%) had Stress related to self, 41 (10.7%) had family-related stress, and 22 (8.78%) had stress related to social factors.

Distribution of Cases According to Co-Morbidities: SSS (Somatic symptoms like neck pain, headache, eye pain, etc.); BS (Behavioural Symptoms like irritability, agitation); ES (Emotional Symptoms like sadness, hopelessness, etc.); CS (Cognitive Symptoms like concentration difficulty, etc.). This signifies the mental and physical impacts of Internet Addiction.

Table 5: Distribution of total cases according to co-morbidities

SSS	225	59.21%
ES	80	21.05%
BS	70	18.42%
CS	107	28.15%

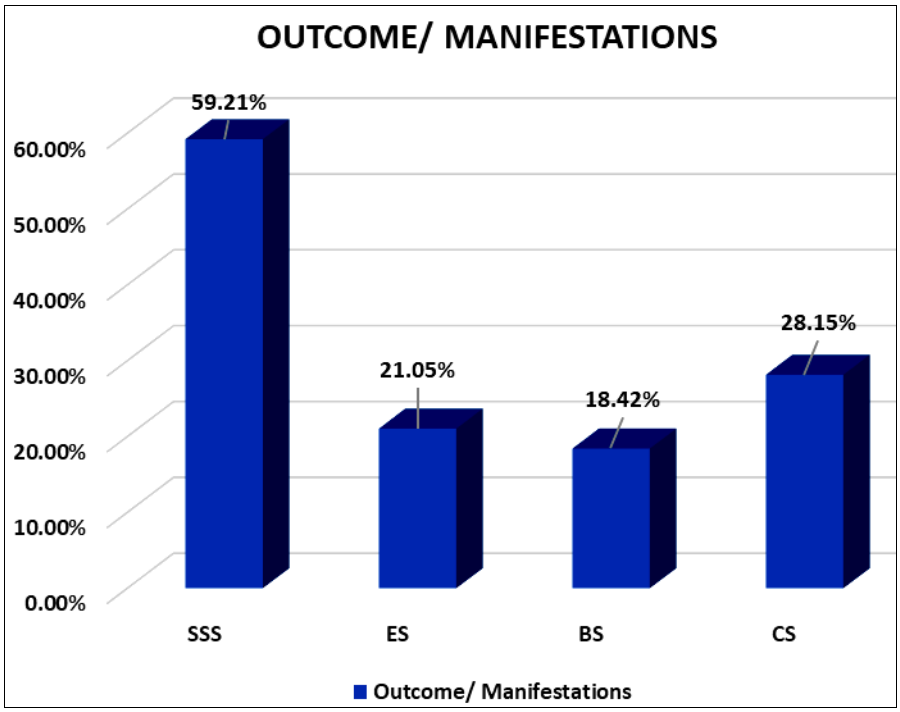

Fig 5: Distribution of total cases according to co-morbidities

The above-mentioned stress factors had resulted into 225 (59.21%) somatic symptoms; 107 (28.15%) cognitive symptoms; 80 (21.05%) emotional symptoms and 70 (18.42%) behavioral symptoms.

Correlation between Internet Addiction and Perceived Stress

Table 6: Correlation Coefficient IA/PSS Scoring

Correlation Coefficient IA/PSS Scoring	**0.32 Positive Linear Relationship**

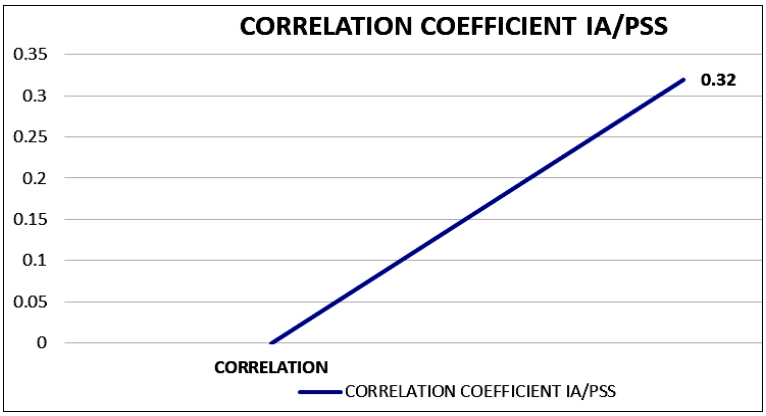

Fig 6: Correlation coefficient of IA and PSS scores

Analysis of the correlation between Internet Addiction and Perceived Stress was done using the Karl Pearson Product Moment Correlation tool. The outcome of the correlation coefficient of IA/PSS scoring came out to be a 0.32 positive linear relationship.

Mean IA Score of Homoeopathic Treatment Group and Control Group

Table 7: Mean IA Score of Group G1 and G2

MEAN I. A SCORE GROUP 1	MEAN IA SCORE GROUP II
50.73	50.39

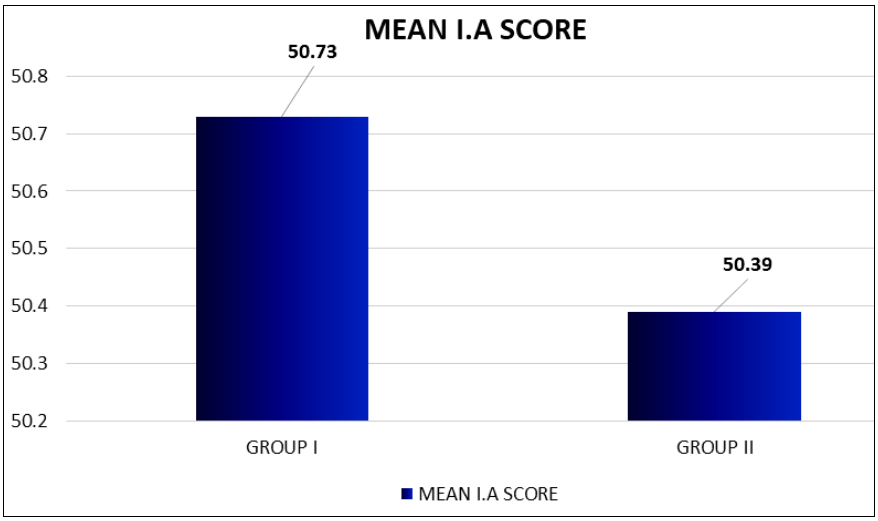

Fig 7: Mean IA Score of Group G1 and G2

The mean IA score for the Homoeopathic Treatment Group is 50.73 and for the Control Group is 50.39.

Pre- and Post-Treatment Values of PSS Score of Group I (Homoeopathic Treatment Group)
Paired Sample Statistics

Table 8: Pre- and Post-Treatment Values of PSS Score of Group I (Homoeopathic Treatment Group)

	Mean	N	STD. Deviation	STD. Error Mean
Before Treatment After Treatment	21.24 12.62	190 190	4.39 4.47	0.32 0.32

The Pre- and Post- Treatment values of PSS scores in the Homoeopathic Treatment Group are Mean of 21.21 to 12.62, Standard deviation of 4.39 to 4.47, and Standard. Error as 0.32 in both Pre and Post states respectively

PSS Score before and After Treatment of in Homoeopathic Treatment Group

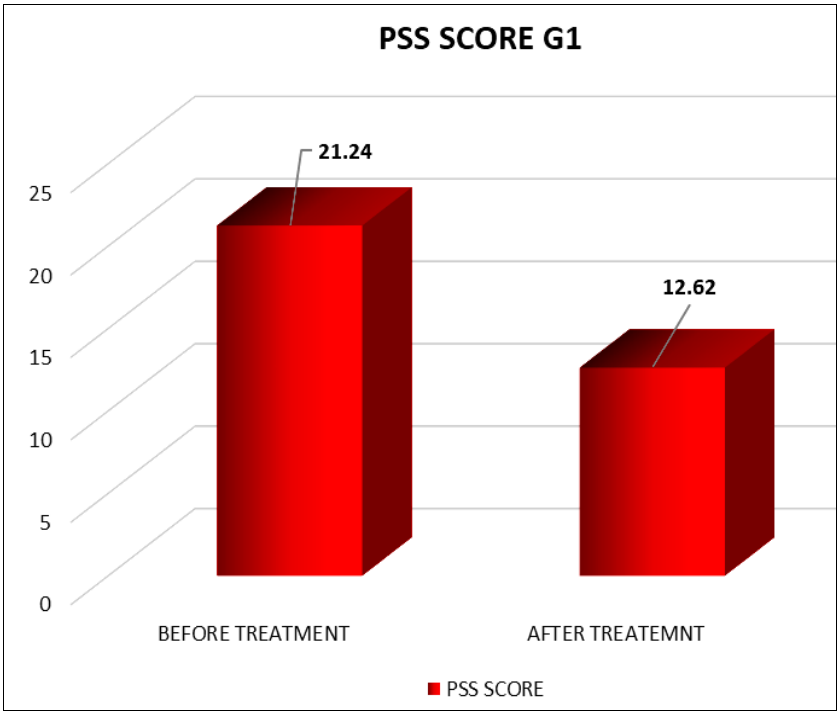

Fig 8: PSS score before and after treatment G1

Paired Sample's Test: Paired T Test Group I Homoeopathic Treatment Group

Table 9: Paired Sample's Test: Paired T Test Group I

	Paired Differences					t	DF	Sig. (1 tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre-Treatment & Post Treatment	8.63	4.80	0.35	7.94	9.31	24.77	189	3.0363E-61

Pre and Post Treatment Values of PSS Score of Group II (Control Group) Paired Sample Statistics

Table 10: Pre and Post Treatment Values of PSS Score of Group II (Control Group)

	Mean	N	STD. Deviation	STD. Error Mean
Pre- Treatment Post- Treatment	21.37 17.57	190 190	4.16 5.53	0.30 0.40

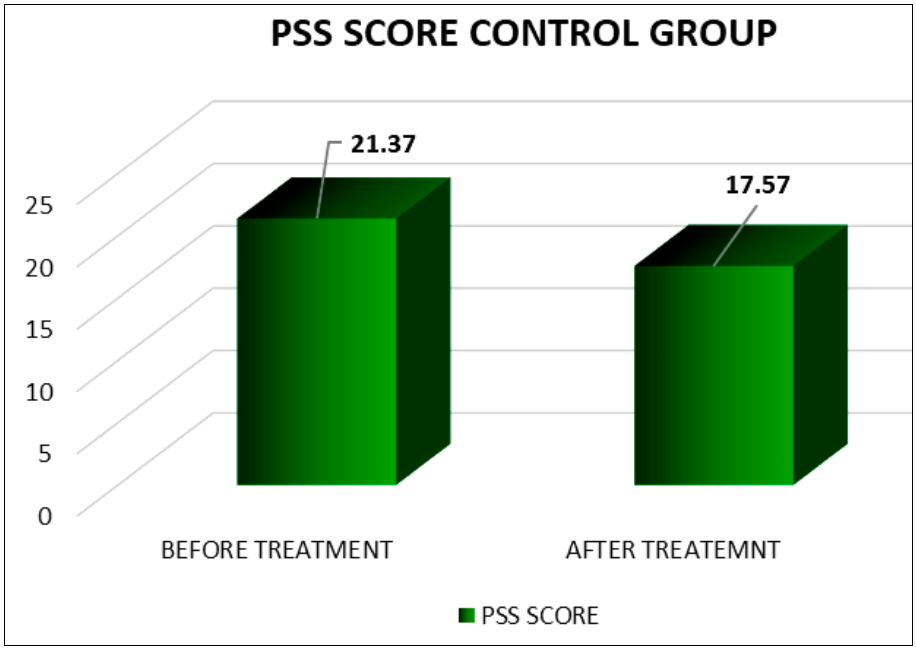

Fig 9: PSS score before and after treatment in Control Group

Paired Sample's Test: Paired T Test Group II

Table 11: Paired Sample's Test: Paired T Test Group II

	Paired Differences					t	DF	Sig. (1 tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre- Treatment & Post Treatment	3.79	5.72	0.41	2.98	4.61	9.15	189	3.0363E-61

Unpaired t-test

Unpaired t-test	2.05477E-17

The Pre- and Post- Treatment values of PSS scores in the Control Group are 21.37 to 17.57, Standard Deviation from 4.16 to 5.53, and Standard Deviation from 0.30 to 0.40 respectively. The value for the Unpaired T-Test for Experimental Group and Control Group is 2.05477E-17

Distribution of Cases According to Medicine Prescribed

Table12: Distribution of cases according to Medicine prescribed

Medicne	Frequency	Percentage
Ruta Graveolens	27	15%
Kalmia Latifolia	16	8.8%
Rhododendron Chrysanthum	12	6.6%
Lachesis	9	5%
Graphites	7	3.8%
Lycopodium	3	1.6%
Ledum Pal	22	12.2%
Euphrasia Officinalis	15	8.3%
Jaborandi	12	6.6%
Chamomilla	9	5%
Sulphur	16	8.8%
Arsenicum Album	15	8.3%
Phosphorous	5	2.7%
Natrum Muriaticum	9	5%
Belladonna	9	5%
Pulsatilla Pratensis	4	2.2%

Distribution of Cases According to Medicine Prescribed

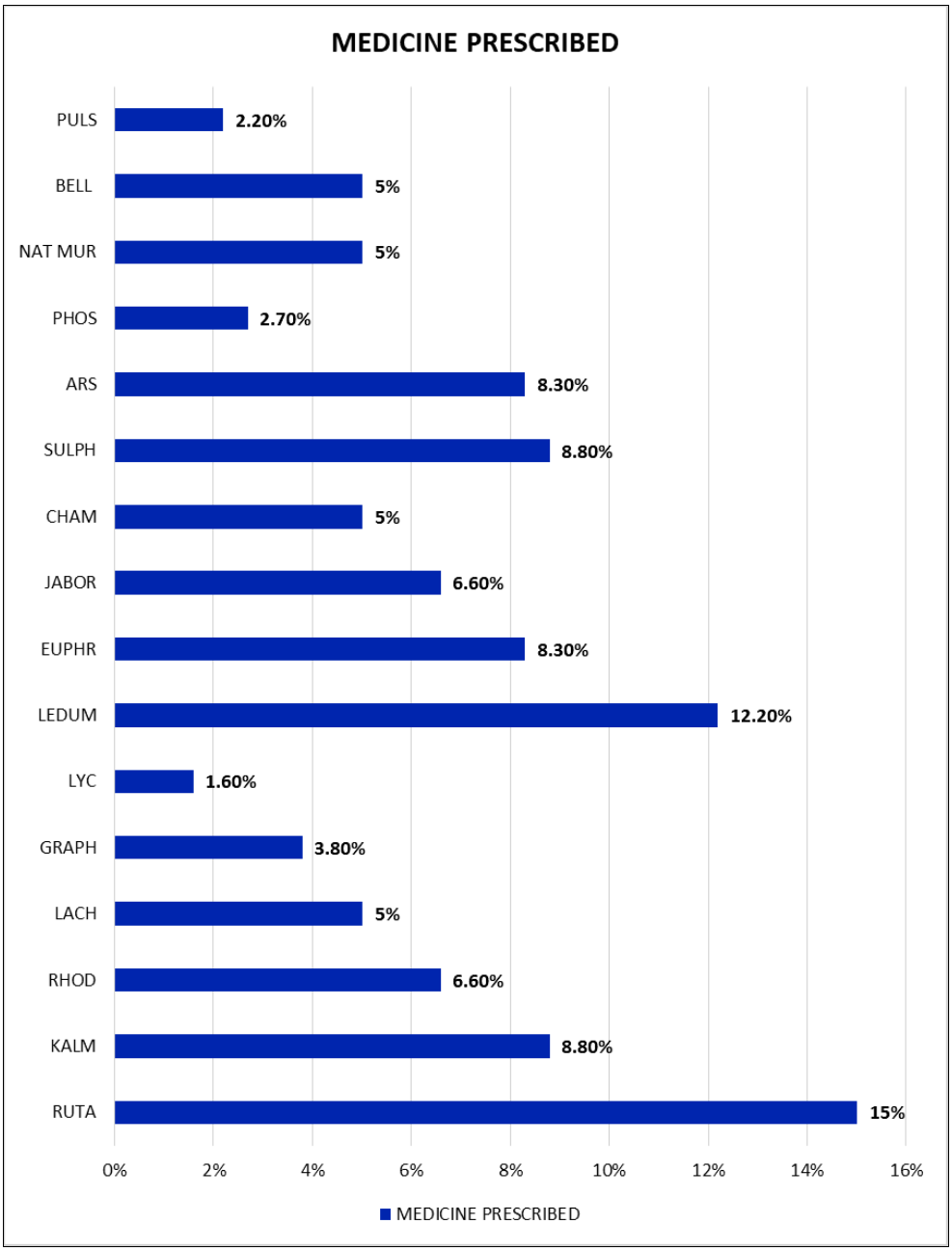

Fig 10: Distribution of cases according to Medicine prescribed

The commonly used medicines for the treatment were Ruta Graveolens 27 (15%); Ledum Pal 22 (12.20%); Kalmia Latifolia 16 (8.8%); Rhododendron 12 (6.6%); Lachesis 9 (5%); Graphites 7 (3.8%); Caladium Seguinum 22 (12.2%); Euphrasia Officinalis 15 (8.3%); Jaborandi 12 (6.6%); Chamomilla 9 (5%); Arsenic Album 15 (8.3%); Phosphorus 5(2.7%); Natrum Muriaticum 9(5%); Belladonna 9(5%) and Pulsatilla 4 (2.2%).

Distribution of Subjects According to Outcome

Table 13: Distribution according to Outcome

Experimental Group			Control Group		
Improved	**Mildly Improved**	**Not Improved**	**Improved**	**Mildly Improved**	**Not Improved**
121	36	23	49	34	97

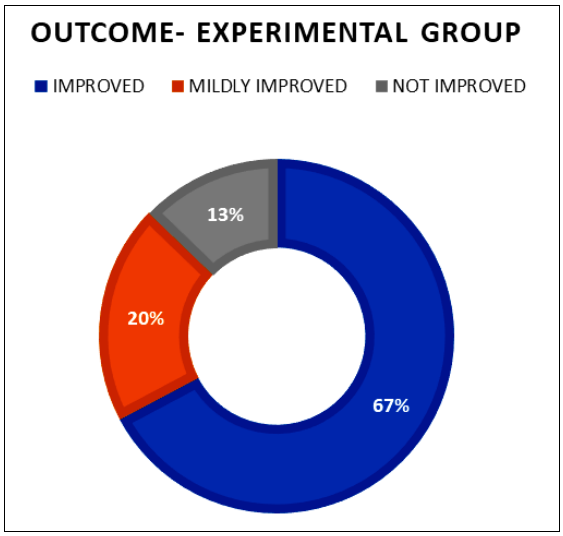

Fig 11: Distribution of cases according to outcome- Homoeopathic Treatment group

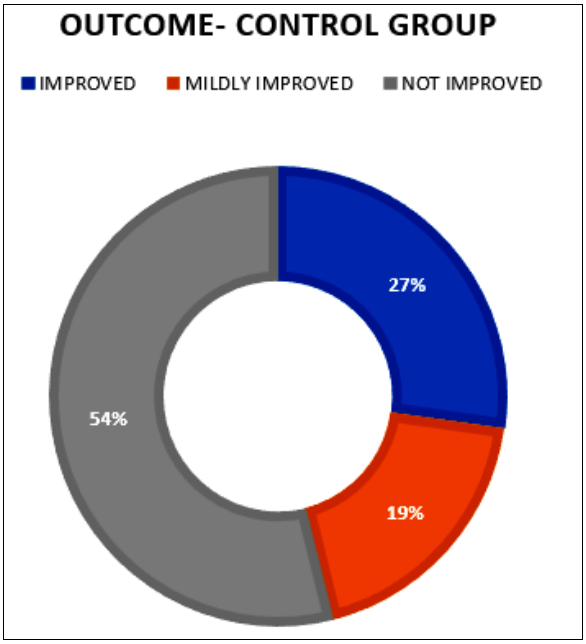

Fig 12: Distribution of cases according to outcome- Control group

The analysis of subjects through Outcome includes Improved 121, Mildly Improved 36, and Not Improved 23 respectively in Experimental Group whereas for Control Group, Improved 49, Mildly Improved 34 and Not Improved as 97 respectively

Discussion

This study assessed the correlation between Internet Addiction and Perceived Stress in young adults and evaluated the Homoeopathic management of stress arising from Internet Addiction. Conducted in the OPD, IPD, and peripheral centres of Father Muller Homoeopathic Medical College, the study used Young's Internet Addiction Scale (YIAS) and the Perceived Stress Scale (PSS) to diagnose Internet Addiction and Perceived Stress, followed by correlation analysis and Homoeopathic intervention.

A total of 380 subjects were examined as per inclusion and exclusion criteria. Major stress factors included relationship issues, academic pressure, homesickness, loneliness, unemployment, financial strain, and variable life situations.

For convenience, stress factors were grouped into SELF**,** FAMILY**,** WORK**,** and SOCIETY domains. Among the subjects, 230 (60.52%) reported work-related stress, 87 (22.89%) self-related, 41 (10.7%) family-related, and 22 (8.78%) social stress. These contributed to somatic symptoms (59.21%)**,** cognitive symptoms (28.15%)**,** emotional symptoms (21.05%)**,** and behavioural symptoms (18.42%)**.**Age distribution showed most subjects were young adults: 45% (20-25 yrs.) and 38.42% (25-30 yrs.)**.** Gender distribution included 69.21% males and 30.79% females**.** Occupationally, subjects were predominantly students (76.84%)**,** followed by homemakers, doctors, businessmen, and corporate workers.

Commonly prescribed medicines included Ruta Graveolens (15%)**,** Ledum Pal (12.2%)**,** Caladium Seguinum (12.2%)**,** Kalmia Latifolia (8.8%)**,** Euphrasia (8.3%)**,** Arsenic Album (8.3%)**,** Rhododendron (6.6%)**,** Jaborandi (6.6%)**,** Lachesis (5%)**,** Chamomilla (5%)**,** Natrum Muriaticum (5%)**,** Belladonna (5%)**,** Graphites (3.8%)**,** Phosphorus (2.7%)**,** and Pulsatilla (2.2%)**.**The mean Internet Addiction score was 50.73 in the Homoeopathic group and 50.39 in the Control group. Karl Pearson's correlation revealed a 0.32 positive linear relationship between Internet Addiction and Perceived Stress.In the Homoeopathic group, PSS scores improved from Mean 21.21 to 12.62, with SD from 4.39 to 4.47. In the Control group, scores changed from 21.37 to 17.57, with SD from 4.16 to 5.53. The unpaired t-test value was 2.05477E-17**,** confirming significant differences between groups.

Outcome Analysis Showed

- **Homoeopathic Group:** 121 Improved, 36 Mildly Improved, 23 Not Improved
- **Control Group:** 49 Improved, 34 Mildly Improved, 97 Not Improved

Limitations

A larger and more diverse sample could enhance validity and generalizability.

Recommendations

- Future studies should include broader population groups.
- Findings can guide interventions to promote healthier and more productive internet use.

Conclusion

The study titled "An in-depth look into the correlation between Internet Addiction and Perceived Stress *among young adults and its Homoeopathic management"* evaluated 380 subjects, all of whom exhibited clear stressors such as academic pressure, relationship issues, loneliness, homesickness, unemployment, financial strain, and varied personal situations. These were grouped under self-, family-, work-, and society-related stress, with work-related stress being the most common (60.52%). The associated symptoms were predominantly somatic, followed by cognitive, emotional, and behavioural manifestations. Most participants were young adults (20-30 years), predominantly students and males.

Correlation analysis showed a positive linear association (r = 0.32) between Internet Addiction and Perceived Stress. Multiple homoeopathic remedies were prescribed, with Ruta, Ledum Pal, and Caladium being most frequent. The Homoeopathic group demonstrated a substantial reduction in PSS scores (21.21 to 12.62) compared to the Control group (21.37 to 17.57), with a highly significant intergroup difference. Overall outcomes showed markedly better improvement with homoeopathic management (121 improved) than in the control group (49 improved), indicating its potential efficacy in reducing stress associated with Internet Addiction. A larger and more diverse sample could enhance validity and generalizability. Future studies should include broader population groups, and the present findings can guide targeted interventions to promote healthier and more productive internet use.

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