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Original Research Article

A CROSS-SECTIONAL STUDY TO EXPLORE THE RELATIONSHIP BETWEEN PARENT-CHILD COMMUNICATION AND MENTAL STRESS IN THE LIFE OF YOUNG ADULTS OF VARIOUS COLLEGES IN INDORE DISTRICT

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ABSTRACT

Background: Parent-child communication is a foundational element in building a healthy and supportive family dynamic. It involves the exchange of thoughts, feelings, and information between parents and their children, playing a crucial role in the emotional, social, and cognitive development of the child. From early childhood through adolescence, the nature and methods of communication evolve, requiring parents to adapt their approaches to meet the changing needs of their children. Whether through words, body language, or actions, how parents communicate with their children significantly impacts their self-esteem, emotional regulation, and relationships with others.

Aim and Objectives: To determine the level of communication between parent and their adult children and to assess how the level of communication between parents and their children affects a child's mental health.

Materials and Methods: A cross-sectional study was conducted between October and December 2023 among 230 randomly selected students aged 18 to 25 from various colleges in the Indore district who gave consent, using a pre-designed, semi-structured, pre-tested questionnaire. Data entered in Microsoft Excel was analysed using SPSS software 25.0 (trial version).

Results: Mean Parent-Adolescent Communication Scale (PACS) score of medicos was 65.86±5.94 and non-medicos was 67.56±6.38, which was statistically significant. The mean Perceived Stress Scale (PSS) score among medicos was 20.99±5.21 and that of non-medicos was 20.66±5.11. Spearman's correlation between PACS and PSS was statistically significant among young adults. Mean PACS score of males was 67.46±5.98 and that of females was 66.03±6.35. Mean PSS score among males was 19.25±5.46 and that of females was 22.25±4.42, which was statistically significant. Mean PACS score of severe PSS category participants was 64.45±5.51, moderate PSS category participants was 66.36±6.08, and that of mild PSS category participants was 73.17±3.85, which was statistically significant ($p < 0.05$).

Conclusion: The correlation between PACS and PSS scores was found to be statistically significant (p-value<0.001) among young adults suggesting that, both parent-child communication and perceived stress are associated. So, better communication will help to reduce the stress in the personal lives of young adults.

Keywords: Parent-Child Communication, Mental Health, PACS, PSS.

INTRODUCTION

Parent-child communication is a foundational element in building a healthy and supportive family dynamic. It involves the exchange of thoughts, feelings, and information between parents and their children, playing a crucial role in the emotional, social, and cognitive development of the child. Effective communication fosters mutual understanding, trust, and respect, creating a nurturing environment where children feel valued and heard [1]. From early childhood through adolescence, the nature and methods of communication evolve, requiring parents to adapt their approaches to meet the changing needs of their children. Whether through words, body language, or actions, how parents communicate with their children significantly impacts their self-esteem, emotional regulation, personal stress, and relationships with others.

Strong parent-child communication serves multiple purposes: it helps children develop language and social skills, provides a platform for teaching values and problem-solving skills, and strengthens the parent-child bond. It also offers a means for parents to guide and support their children through life's challenges, ensuring they grow into confident and capable individuals.

In the fast-paced modern world, with its myriad distractions and pressures, maintaining open and effective lines of communication can be challenging. However, prioritizing this aspect of family life can lead to numerous long-term benefits, including better emotional health, academic success, stress reduction, and overall well-being for children. By understanding the importance of parent-child communication and actively working to improve it, families can create a harmonious and supportive environment where all members thrive. In today's technology-driven era, parent-child communication has diminished, with individuals increasingly absorbed in their own social media worlds. As a result, meaningful sharing of thoughts and emotions often takes a backseat, leading to the silent accumulation of stress. This isolation can, tragically, culminate in extreme consequences such as suicide. Reports reveal that Maharashtra, Tamil Nadu, and Madhya Pradesh rank among the states with the highest number of student suicides, collectively accounting for one-third of the national total [2].

By studying communication patterns between parents and children, this research could reveal crucial insights into the role family relationships play in either alleviating or exacerbating stress, providing an evidence-based foundation for intervention strategies to improve mental well-being and prevent suicides in the region. With Madhya Pradesh ranking among the top states contributing to one-third of student suicides nationally, exploring the dynamics of parent-child communication becomes critical.

Aim & Objectives

This study aims to find out the level of communication between parent and their adult children and to assess how the level of communication between parents and their children affects a child's mental health.

MATERIALS AND METHODS

Study population

A cross-sectional study was conducted between October and December 2023 among 230 randomly selected students aged 18 to 25 from various colleges (3 medical and 3 non-medical colleges) in Central India in the Indore district.

Sample size calculation

The sample size was calculated based on an estimated prevalence of stress among young adults of 59.3% according to the review article [3], at a 95% confidence interval with an allowable error of 7% to obtain a representative sample of students.

Using Cochran's Formula,

$\mathbf{Z^2pq/d^2 = (3.84 * 59.3 * 40.7) / 7^2 = 189}$,

taken 20% non-respondents

Total sample size =227, was rounded to 230 samples. 115 each from medicos and non-medicos are taken.

Medical Students were selected from MGM Medical College, Index Medical College, and SAIMS Indore & non-medicos were selected from SAGE, PMB Gujarati College, and DAVV Indore.

Study instruments and data processing

The study population was administered with Google Forms containing the Parent-Adolescent Communication Scale (PACS)-adolescent form [4] and Perceived Stress Scale (PSS) [5] (pre-designed, pre-tested, semi-structured questionnaires).

The Parent-Adolescent Communication Scale (PACS) comprises 20 items for adolescents and 20 for parents. PACS-Adolescent format Questionnaire was used to determine communication between parents and college students. The adolescent form consists of 20 items on a 5-point response scale (Strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree). The Parent-Adolescent Communication Scale consists of two subscales that measure the degree of openness in family communication (10 items) and the extent of problems with family communication (10 items). The subscales are calculated by adding the 10 items. For the degree of openness, a higher score indicates better communication between parents and adolescents. For the extent of problems, a higher score indicates more problems in parent-child communication.

The instrument used to survey the personal stress level was the Perceived Stress Scale (PSS). It helps us understand how different situations affect an individual's feelings and perceived stress. The questions in this scale ask about the individual's feelings and thoughts during the last month. In each

case, the candidate will be asked to indicate how often he/she felt or thought a certain way. Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress. Scores ranging from 0-13 would be considered low stress. Scores ranging from 14-26 would be considered moderate stress. Scores ranging from 27-40 would be considered high perceived stress.

Data was converted to a Microsoft Excel spreadsheet and analysed using SPSS 25.0 (trial version). The normality of the data was tested using the Kolmogorov-Smirnov test. Appropriate tests of significance like Chi-square, Fischer's exact test, Mann-Whitney U Test, One-way ANOVA, and Kruskal-Wallis H test were applied.

RESULTS

Out of 230 participants in the study, 47.4% of students were males and 52.6% of students were females. Among medical students, 46.1% are males and 53.9% are females. Among non-medical students, 48.7% are males and 51.3% are females. Among all students, 28.3% belong to 18-19 years of age, 43% belong to 20-21 years of age, 25.7% belong to 22-23 years of age and 3% belong to 24-25 years of age. The mean age of participants (in years) is 20.58 with a standard deviation (SD) of 1.64. The mean age of medical students (in years) is 20.50 with a standard deviation (SD) of 1.67 and that of non-medical students is 20.67 with a standard deviation (SD) of 1.61. The majority (43.5%) of students residing in govt. hostel followed by 31.7% of students who reside at home. Most (91.3%) of the students are Hindu by religion. 60.4% of students belong to the nuclear family and 22.2% belong to joint families. [Table 1]

The mean PACS score of students was 66.71±6.21 which ranges between 50 and 80 and the mean PSS score of students was 20.83±5.15 which ranges between 7 and 33. [Table 2]

Table 3 shows that PACS and PSS scores are inversely correlated with Spearman's rho value of -0.336. It indicates that, as the PACS increases PSS value decreases. It was found to be statistically significant ($p<0.0001$). [Table 3]

Table 4 shows that 10% of students had mild stress, most (72.6%) of the students were moderately stressed and 17.4% were severely stressed. Students with mild stress had a PACS score of 73.17±3.85, students with moderate stress had a PACS score of 66.36±6.08, and those with severe stress had a PACS score of 64.45±5.51. This indicates that low-level parent-adolescent communication increases stress in the younger generation. It was found to be statistically highly significant ($p<0.0001$). [Table 4]

Table 5 depicts that, the mean PACS score of male students was 67.46±5.98 and that of female students was 66.03±6.35. There was no statistically significant difference. PACS scores of medical students were 65.86±5.94 and that of non-medicos were 67.56±6.38. It was found to be statistically significant ($p<0.05$).

The Mean degree of openness among males was 37.12±5.32 and that of females was 35.21±5.13. It was found to be statistically significant ($p<0.05$). Also, the degree of openness among medicos was 35.14±5.37 and that of non-medicos was 37.10±5.26. It was also found to be statistically significant ($p<0.05$).

The Mean extent of problems among males was 30.34±4.30 and that of females was 30.82±3.70. It was not statistically significant ($p>0.05$). Also, the extent of problems among medicos were 30.72±4.11 and that of non-medicos were 30.46±3.89. It was also not statistically significant ($p>0.05$).

The mean perceived stress scale value of males was 19.25±5.46 and that of females was 22.25±4.42. It was found to be statistically highly significant ($p<0.0001$). The mean perceived stress scale value of medicos was 20.99±5.21 and that of females was 20.66±5.11. It was not statistically significant ($p>0.05$).

21.5% of female students were highly stressed compared to 12.8% of male students, 77.7% of female students were moderately stressed compared to 67.0% of male students, and 20.2% of male students had low stress compared to 0.8% of female students. It was found to be statistically highly significant ($p<0.0001$).

23.5% of medical students were highly stressed compared to 11.3% of non-medical students, 74.8% of non-medical students were moderately stressed compared to 70.4% of medical students, and 13.9% of non-medical students had low stress compared to 6.1% of medical students. It was found to be statistically significant ($p<0.05$). [Table 5]

The mean value of the degree of openness among highly stressed students was 29.90±4.24, moderately stressed students was 36.61±4.00, and that of students with low stress was 43.35±3.50. It shows that those students who were openly communicating had low stress and those who were not openly communicating had high stress. It was found to be statistically highly significant ($p<0.0001$).

The mean extent of the problem among highly stressed students was 34.55±2.25, moderately stressed students was 29.75±3.78, and that of students with low stress was 29.83±3.81. It shows that those students with a high extent of problem communication had high stress compared to those with less extent of problem communication. It was found to be statistically highly significant ($p<0.0001$). [Table 6]

Table 1: Socio-demographic characteristics of participants

Variable		Medicos (n=115)	Non-medicos (n=115)	TOTAL (n=230)
Sex	**Males**	53 (46.1%)	56 (48.7%)	109 (47.4%)
	Females	62 (53.9%)	59 (51.3%)	121 (52.6%)
Age	**18-19 years**	34 (29.6%)	31 (27.0%)	65 (28.3%)
	20-21 years	49 (42.6%)	50 (43.5%)	99 (43.0%)
	22-23 years	29 (25.2%)	30 (26.0%)	59 (25.7%)
	24-25 years	3 (2.6%)	4 (3.5%)	7 (3.0%)
Mean age		20.50±1.67	20.67±1.61	
Overall Mean age	20.58±1.64			
Residence type	**Home**	41 (35.7%)	32 (27.8%)	73 (31.7%)
	Paying guest	4 (3.5%)	5 (4.4%)	9 (3.9%)
	Private hostel	3 (2.6%)	7 (6.1%)	10 (4.4%)
	Rented flat	15 (13.0%)	23 (20.0%)	38 (16.5%)
	Govt. hostel	52 (45.2%)	48 (41.7%)	100 (43.5%)
Religion	**Hindu**	104 (90.4%)	106 (92.2%)	210 (91.3%)
	Muslim	5 (4.4%)	3 (2.6%)	8 (3.5%)
	Jain	6 (5.2%)	2 (1.7%)	8 (3.5%)
	Christian	0	3 (2.6%)	3 (1.3%)
	Sikh	0	1 (0.9%)	1 (0.4%)
Family type	**Joint family**	22 (19.1%)	29 (25.2%)	51 (22.2%)
	Three generation family	12 (10.5%)	16 (13.9%)	28 (12.2%)
	Nuclear family	75 (65.2%)	64 (55.7%)	139 (60.4%)
	Single parent family	6 (5.2%)	6 (5.2%)	12 (5.2%)

Table 2: Mean, SD, and range of PACS, PSS scale scores

Parameter	Mean±SD	Range	N
Parent-Adolescent communication score	66.71±6.21	50–80	230
Perceived Stress Scale score	20.83±5.15	7-33	230

Table 3: Correlation between PACS and PSS scores

Score 1	Score 2	Spearman's rho value	p-value
PACS	PSS	-0.336	<0.0001

Table 4: Mean PACS score of participants among the PSS category

PSS category	Frequency (%) (n=230)	PACS score (Mean±SD)	p-value (one-way ANOVA)
Mild	23 (10.0%)	73.17±3.85	<0.0001
Moderate	167 (72.6%)	66.36±6.08	
Severe	40 (17.4%)	64.45±5.51	

Table 5: PACS and PSS scale analysis among medicos, non-medicos, and with sex

Variable	Male (n=109)	Female (n=121)	Medico (n=115)	Non-medico (n=115)
PACS score	67.46±5.98	66.03±6.35	65.86±5.94	67.56±6.38
p-value (Mann-Whitney Test)	**0.147**		**0.048**	
Openness score	37.12±5.32	35.21±5.13	35.14±5.37	37.10±5.26
p-value (Mann-Whitney Test)	**0.028**		**0.005**	
Problem score	30.34±4.30	30.82±3.70	30.72±4.11	30.46±3.89
p-value (Mann-Whitney Test)	**0.481**		**0.648**	
PSS score	19.25±5.46	22.25±4.42	20.99±5.21	20.66±5.11
p-value (Mann-Whitney Test)	**<0.0001**		**0.998**	
PSS Category	**Frequency (%)**	**Frequency (%)**	**Frequency (%)**	**Frequency (%)**
Mild	22 (20.2%)	1 (0.8%)	7 (6.1%)	16 (13.9%)
Moderate	73 (67.0%)	94 (77.7%)	81 (70.4%)	86 (74.8%)
Severe	14 (12.8%)	26 (21.5%)	27 (23.5%)	13 (11.3%)
p-value	**<0.0001** (Fischer exact)		**0.014** (chi-square)	

Table 6: Mean openness and problem score of participants among PSS category

PSS category	N (n=230)	Openness score (Mean±SD)	p-value (Kruskal-Wallis Test)
Mild	23	43.35±3.50	<0.0001
Moderate	167	36.61±4.00	
Severe	40	29.90±4.24	
PSS category	**N (n=230)**	**Problem score (Mean±SD)**	**p-value (Kruskal-Wallis Test)**
Mild	23	29.83±3.81	<0.0001
Moderate	167	29.75±3.78	
Severe	40	34.55±2.25	

DISCUSSION

The present study aimed to find if there was any correlation between parent-adolescent communication and perceived personal stress among college students of the Indore district. The target population was college students (both medicos and non-medicos) of 18-25 years from Indore district.

In the current study, 47.4% of students were males and 52.6% of students were females. In a similar study conducted by Anagha K et al [6], in Kerala, 66.7% of girls and 33.3% of boys participated. In this study, the mean age of participants (in years) is 20.58 with a standard deviation (SD) of 1.67. In a similar study by Mane Abhay b. et al [7], the mean age of the study participants was 19.6±1.4 years, with a range of 17-24 years. In another study by Farooq et al [8], a study conducted at Al-Ameen Medical College, Bijapur the mean age of the participants was 18.42±0.67.

The mean PACS score of students was above average (66.71±6.21) which ranges between 50 and 80 and the mean PSS score of students was 20.83±5.15 which ranges between 7 and 33. Whereas, in the study by Farooq et al [8], the mean PSS score in the study population was 25.61±5.46. In similar studies by R. Anuradha et al [9], in Tamilnadu, and Brahmbhatt, Krutarth et al [10], in Karnataka, the mean perceived stress scores were 25.64±5.44 and 27.53±7.01 respectively. The highest value was observed in a study by Gaikwad A et al [11], where the mean perceived stress score was observed as 28.61.

In the present study, PACS and PSS scores are inversely correlated with Spearman's rho value of -0.336. It indicates that, as the PACS increases PSS value decreases. Similarly, a study by Tulsi Agrawal et al [12], in Noida-India, found a negative correlation between perceived stress and resilience, as well as the associations between different parenting styles and stress levels. Also, in a study by SBV Raja Mohan et al [13], in Malaysia, there is a positive correlation between parent-adolescent communication and self-esteem and a negative correlation between self-esteem and level of stress perceived among adolescents at r (350) =-.103, p=.054. in our study, it is indicated that low-level parent-adolescent communication increases stress in the younger generation. In a study by Qiongwen Zhang et al [14], in China (2021), positive parent-adolescent communication protects children from developing mental health problems. Other studies [6,15], also indicated that there is a significant relationship between stress and the parent-child relationship.

Most (72.6%) of the students in this study were moderately stressed and 17.4% were severely stressed (PSS ≥28). Similarly, in the study by John, K. A. et al [16], on undergraduate medical students at a private medical college in Dakshina Kannada district, Karnataka, moderate stress was observed in 68% of the study participants. In contrast, in a study by Choudhury et al [17], among undergraduate medical students of R.G. Kar Medical College, India, the overall mean perceived stress score was 29.58 ±6.60, and 46.3% of the participants were in the group of high stress (PSS ≥28).

In this study, the degree of openness was higher among males than females. In contrast, A study by Asamenew Demessie Bireda et al [18], in South Africa, found that female participants perceived the nature of communication with both parents as more open than boys did. A study by Dr. Neeru Rathee et al [19], at Rohtak also observed that female secondary school students have more cordial relationships with their parents than male students. These studies contradict our finding of communication differences between genders. In our study, the extent of the problem didn't show any difference with gender and type of course studying. A study by Raihan 'Ainun Hasanah et al [20], in Indonesia, shows the direct effects of openness on parents-adolescent communication, self-control, and stress levels on problematic internet use. Problems in parents-adolescent communication and self-control have an indirect effect on problematic internet use as mediated by stress levels.

In this study, the mean PSS score of females (22.25±4.42) was higher than males (19.25±5.46). It is consistent with the studies by Muskan Hossain [21], (females 22.18 vs males 19.28), the study by Ruchira Pangtey et al [22], in an urban resettlement colony of Delhi (19.75 in women vs 18.69 in men), the study by R. Anuradha et al [9], in Tamilnadu, (female 26.19±5.57 vs male 24.83±5.15 medical students), the study by Hassan Jan et al [23], among the Students of a Medical College in Southern Punjab, (female students 31.3±9.49 vs male students 30.3±16.34), and In a study by Marchewka W et al [24], in Poland, (female 22.47 ±6.81 vs male 19.32 ±7.33). All these stress levels were significantly higher in female students (p<0.001).

In the present study, 21.5% of female students were highly stressed compared to 12.8% of male students, 77.7% of female students were moderately stressed compared to 67.0% of male students, and 22.1% of

male students had low stress compared to 0.8% of female students. 23.5% of medical students were highly stressed compared to 11.3% of non-medical students, 74.8% of non-medical students were moderately stressed compared to 70.4% of medical students, and 13.9% of non-medical students had low stress compared to 6.1% of medical students. Similarly, in a study by Seedhom AE et al [25], in Egypt, it was found that the prevalence of perceived stress was slightly higher (88.9%) among medical students than among nonmedical students (83.5%). Severe stress was found among (18.8%) of medical students compared to (12.4%) among nonmedical students ($p< 0.05$). The results of this study also revealed that female students had significantly higher stress levels than male students. It was consistent with a study by Jafri SAM et al [26], in Pakistan, where the Stress levels of medical students were found to be suggestively higher than those of non-medical professional students.

In the current study, the mean value of the degree of openness among highly stressed students was 29.90±4.24, moderately stressed students were 36.61±4.00, and that of students with low stress was 43.35±3.50. It shows that those students who were openly communicating had low stress and those who were not openly communicating had high stress. A study by Ruoxuan Yang, et al [27], found that open parent-child communication was found to be beneficial in reducing the developing symptoms of depression in adolescents. The mean extent of the problem among highly stressed students was 34.55±2.25, moderately stressed students was 29.75±3.78, and that of students with low stress was 29.83±3.81. It shows that those students with a high extent of problem communication had high stress compared to those with less extent of problem communication. A study by Muskaan Saksena et al [28], the results revealed that relationships between parents and children are very important in forming adolescents' social, emotional, and mental health. Also, a study by Micah Ioffe [29] at Northern Illinois University in 2018, found that both open communication (OC) and co-problem solving with mothers and fathers, separately, were negatively correlated to later anxious symptoms.

CONCLUSION

The study reveals a significant (p-value<0.001) inverse relationship between parent-child communication and perceived stress, indicating that better communication can greatly reduce stress in young adults. Females reported higher stress levels than males, while males showed more openness in communication. Most participants experienced moderate stress, with medical students facing notably higher stress compared to their non-medical peers. These findings emphasize the importance of fostering open and supportive communication within families to alleviate stress. Tailored stress management programs for medical students and gender-sensitive support systems are recommended, along with promoting emotional openness, particularly among females, to enhance overall mental well-being.

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