

Stress and Anxiety among College Students and Mother's Working Status: Is There a Link?

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Abstract

Background: Mother Child relationship is significant in the development of human beings. She is a vital factor in the physical, social, and cognitive growth and independence of a child. This study is aimed to assess the stress and anxiety levels among adolescent students and their relationship with their mother's employment status.

Objective: To assess an association between stress and anxiety of adolescents and the working status of mothers.

Methods: It was a cross-sectional survey. The data were collected from three private sectors and three government sector intermediate colleges, including male and female students. Analysis was conducted on the software SPSS, version 22.

Results: Total 246 students enrolled. Overall 59% of participants were male and 41% were female students. Females had a higher frequency of stress and anxiety as compared to male students using the Perceived Stress Scale and Hamilton Anxiety Rating Scale (HAM-A) respectively. Around 83% of the students had staying-at-home mothers. There was no statistically significant difference identified between the stress and anxiety levels among the children of working mothers and non-working mothers.

Conclusion: Mothers' working status is not associated with stress and anxiety among college students. It is required to conduct further studies to gain more detailed insight into the associations between the mental health of students and their mothers' working statuses.

Keywords: Working mothers, adolescents, college students, stress, anxiety.

INTRODUCTION

Maternal employment is closely linked to various beliefs, differing worldwide, regarding the child's health, both physical as well as mental [1]. On the one hand literature quote that women working as full-timers have troubled families [2] and affect children's cognitive achievements in junior school [3]. On the contrary, studies showed the positive impact of maternal employment on child nurturing and development at various stages of life [4] and these children had higher achievements in their life as compared to non-working mothers [5]. It is often the material goals and the necessities of daily living that require both parents to work. A woman in the majority of cases, works to maintain an effective career and also to be financially independent [6]. Because of the varying results of studies conducted on maternal employment status and adolescent health outcomes, continued interest in the subject has given way to a recent upsurge in research exploring links to adult outcomes and maternal employment status. Most working women are found to live with the guilt of not being able to give their children the quantity and quality of time [7-9]. This

increases the worry of working mothers and it may affect their family life [10].

Stress and anxiety are the mind's complex way of tackling or failing to tackle events [11]. According to research conducted in Maharashtra, India, of the 1,224 respondents, 299 (24.4%) experienced stress [12]. In a study published in Karachi, Pakistan, 27.4% of the general population aged 30 years and above reported having anxiety and depressive symptoms [13].

Stress and anxiety, especially among adolescent students, is a major public health issues since these students are the most productive group of the population. Anxiety at this age has serious mental health consequences in the adult life of these children [14]. A mother's participation is extremely important in the life of college-going teenage boys and girls. It provides him/her with reassurance and a strong base for effective coping with various situations in life [15, 16]. The mothers were attentive listening to their everyday activities and challenges can help in reducing stress. Through this research, we aimed to assess an association between the mental health of adolescents, including stress and anxiety, and the working status of mothers.

METHODOLOGY

It was a cross-sectional survey. The data were collected from three private-sector and three government-sector intermediate colleges in Karachi.

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A simple random sampling technique was employed for the recruitment of the students through their roll number lists provided by the college administration. Participants included male and female college students doing their intermediate in government and private sector colleges in Karachi, Pakistan. Students who were not willing to answer the questionnaire and those who were on medications for psychiatric issues were excluded from the study.

The sample size was calculated by using the software OpenEpi software version 3.01. The prevalence of stress was taken as 50%, with a 95% level of significance, the sample size calculated was $n=246$.

The study was approved by the Ethical Review Board (ERB) of Liaquat National Medical College (LNMC), Karachi, Pakistan (Ref: App # 0620-2021 LNH - ERC).

Interviews

A semi-structured questionnaire was developed and administered by trained interviewers. The questionnaire was used to collect information from the students regarding their socio-demographics and the information regarding the working status of their mothers. To maintain their confidentiality, a relatively private and quiet place was chosen for administering the questionnaires. The questionnaires were translated into the local language (Urdu). Data collection continued from February to December. The study questionnaire included socio-demographic characteristics of the study participants: age, gender, education, and, the working status of their mothers. The study assessed the stress and anxiety level of the students, through validated questionnaires for stress (Perceived Stress Scale, PSS) and anxiety (Hamilton Anxiety Rating Scale, HAM-A).

Stress

To measure stress, the “Perceived Stress Scale (PSS)” was used. Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress. Scores ranging from 0-13 were considered low stress. Scores ranging from 14-26 were considered moderate stress. Scores ranging from 27-40 were considered high perceived stress [17].

Anxiety

To measure anxiety, the “Hamilton Anxiety Rating Scale (HAM-A)” was applied. Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0–56, where <17 indicates mild severity, 18-24 mild to moderate severity, and 25-30 moderate to severe [18].

Statistical Analysis

Descriptive statistics of socio-demographic variables were calculated as means (with standard deviations) for

continuous variables and frequency (with percentages) for categorical variables. Univariate and multivariate analysis was done using logistic regression to determine the unadjusted and adjusted relationship between the predictor (age, gender, and working status of the mother) and outcome variables (stress and anxiety among college students). Odds ratios with their 95% confidence intervals were determined for each independent variable. Predictor variables with a p-value of less than 0.25 in univariate analysis were retained in the multivariable model. A p-value of ≤ 0.05 was considered statistically significant. The data were analyzed using IBM SPSS Statistics version 22.

RESULTS

The mean age of the participants was 17.24 years (SD: 0.506), with 59.3% males and 40.7% females. The majority of the students had moderate stress (80.5%) and mild anxiety (64.6%) (**Table 1**). About 83% of the students responded that their mothers stay at home, doing household chores.

Table 1: Demographic and mental health characteristics of college students in Karachi ($n=246$).

Variable	Frequency (%)
Age	Mean (SD)* = 17.24 (0.506)
Gender	
Male	146 (59.3)
Female	100 (40.7)
Type of Learning Institute	
Public	126 (51.2)
Private	120 (48.8)
Mother's Occupation	
Housewife	205 (83.3)
Teacher	19 (7.7)
Health worker	10 (4.1)
Others**	12 (4.9)
Stress level	
Low	18 (7.3)
Moderate	198 (80.5)
High	30 (12.2)
Anxiety level	
Mild	159 (64.6)
Moderate	67 (27.2)
Severe	20 (8.1)

*SD = Standard Deviation, **Others = Administration and Management

Table 2 shows the Multivariate logistic regression analysis for the association of anxiety levels among students with the working status of mothers. The study showed no significant association between anxiety levels among students with the working status of mothers. The female students were 2.72 times more anxious compared to the male students, which was found to be statistically significant (p-value: <0.001). The anxious students were more likely to have moderate and high levels of stress.

Table 3 shows the results of Multivariate logistic regression for an association of stress levels among students with

Table 2: Multivariate logistic regression for the association of anxiety levels among students with the working status of the mother.

Variable	Odds Ratio (95% CI)	
	Unadjusted	Adjusted
Age (yrs)	0.58 (0.32-1.05)	0.69 (0.33-1.30)
Gender		
Male	1	1
Female	3.18 (1.84-5.47)*	2.72(1.47-5.01)*
Type of learning institute		
Public	1	1
Private	1.2 (0.71-2.02)	1.02 (0.54-1.90)
Mother's Occupation		
Housewife	1	1
Teacher	0.67(0.23-1.94)	0.66(0.19-2.25)
Others	1.88(0.78-4.56)	1.23 (0.43-3.51)
Stress level		
Low	1	1
Moderate	7.26(2.26-25.65)*	5.54(1.61-19.08)
High	53.23(12.64-224.13)*	40.22 (9.24-174.99)

*P-value =<0.001

among the students was generally high it was found to be not significantly associated with the working status of their mothers. Female students were more likely to be stressed (OR: 4.71 (CI: 1.98-11.15), p-value: < 0.001), compared to male students. The age of the students, although insignificant, was likely to be protective of both anxiety and stress among students.

Table 3: Multivariate logistic regression for the association of stress levels among students with the working status of mothers.

Variable	Odds Ratio (95% CI)	
	Unadjusted	Adjusted
Age (yrs)	0.68 (0.38-0.22)	0.76 (0.41-1.41)
Gender		
Male	1	1
Female	4.84 (2.06-11.34)*	4.71(1.98-11.15)*
Type of Learning Institute		
Public	1	1
Private	1.04 (0.55-1.99)	1.13 (0.56-2.27)
Mother's Occupation		
Housewife	1	1
Teacher	0.65 (0.22-1.93)	0.66(0.21-2.04)
Other	2.34 (0.52- 10.47)	1.92 (0.41-8.92)

*P-value =<0.001

DISCUSSION

The etiology and pathogenesis of stress as well as anxiety are complex and multi-factorial and may differ in varied settings [19]. The results of this study showed no significant associations between stress and anxiety among college students and the working status of their mothers. Studies across the globe represent varied results regarding the mental health of children of mothers who work to earn a living. In every case, whether the mother is occupied outside her home at work or else staying at home with the child, parenting is of utmost importance. A person's mental health is shaped by a range of social, economic, and physical environments at different stages of life [20]. Child mental and physical health outcomes are intertwined

within and across different areas of development. Early positive and supportive interactions with parents and other caregivers have been shown to greatly enhance child development, according to the report of the National Academies of Sciences, Engineering, and Medicine, 2016. These early interactions could result in a long-lasting effect on the development of the child throughout life, all domains impacting each other positively. If parenting is focused on the positive nurturing of the child, pressures in the adolescent years could easily be handled by the child.

At the beginning of the twenty-first century, there were 78 percent of mothers who were employed, having children under the age of 18 [21]. Studies like ours have shown no impact of the working of mothers with the stress and anxiety among adolescent boys and girls. The working mother merges a successful career that gives her a sense of financial independence, with an effective motherhood raising a child [22]. Results of a study by Bakhtari *et al.* [23] reveal that children who had working mothers showed a better mental health status, compared to the children of non-working mothers. The reasons suggested by them were the mother's education leading to better communication with their children. Similarly unemployed mothers having less education were associated with the lowest levels of parenting quality [24].

Several studies have shown similar results regarding stress being greater among females compared to males [25, 26]. The reasons may be various and multi-faceted. Females may report their symptoms more compared to males. Psychological and social differences also might aid in explaining these gender differences [27].

The study had some limitations. The working hours of the mothers were not taken into account, which could have explained some associations in greater detail. Respondent bias may exist, whereby females are known to report their symptoms more as compared to males.

CONCLUSION

The working status of the mothers is not associated with stress and anxiety among college students. Further, longitudinal studies are required to access the effect of maternal working and non-working status on the mental health of students.

ETHICAL APPROVAL

Ethical approval was obtained from the Ethical Review Board (ERB) of Liaquat National Medical College (LNMC), Karachi, Pakistan (Ref: App # 0620-2021 LNH - ERC). All procedures performed in studies involving human participants were following the ethical standards of the institutional and/or national research committee and with the Helsinki Declaration.

CONSENT FOR PUBLICATION

Written informed consent was taken from the participants.

AVAILABILITY OF DATA

Data sets generated or analyzed during the current study shall be provided at the personal request of the reader.

FUNDING

The project did not receive any funding.

CONFLICT OF INTEREST

The authors have no conflicts of interest to declare for this study.

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AUTHOR'S CONTRIBUTION

Dr. Hafiz Ali Shabbir: study concept, study designing, data collection,

Dr. Saima Zainab: critical review and revision of initial draft, data analysis and interpretation, final editing of manuscript,

Dr. Aneeta Khoso: critical review, final approval of manuscript

Dr. Laraib Shabbir: study designing, writing of initial draft, data collection. The manuscript has been read and approved by all authors for publication.

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