Prevalence & Associated Factors of Perceived Stress Among Female Adolescents in Nawabshah City, Pakistan

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Background

- Stress of any type has been identified as a major cumulative risk factor for many chronic diseases including mental and behavioral disorders. 10-20% of children have at least one mental or behavioral disorder.

- Stressful life events and depressive symptoms was stronger for girls than for boy.
Background

• Adolescent is viewed as most critical time for mental health and wellbeing because it is a time of psychosocial as well as biological transition.

• Adolescent consider as a stage of stress and strain. Since in this period, there are rapid changes in physical, mental, social, cognitive and sexual domains; these changes ultimately lead to an increased level of stress.

• Female adolescent are more vulnerable for stress than male. due to varying hormonal changes and social developments.

• Female adolescent are the source of hope for future generation nonetheless, there are limited researches on female adolescent in Pakistan.
Model For Development Of Mental Illness

Personal characteristics

Psychological defense coping

Life event

Objective stress

Subjective stress

Role ambiguity

Future ambiguity

Work load

Lost objects

Responsibility

Abilities psychological needs

Strain

Emotional

Physiologic

Behavioral

Genetic predisposition

Past experience

Illness

Chronic diseases

Mental disorders

Attitudes towards illness and medical care

Illness behavior

Displaying illness

Seeking help

Current life situation

Social support

Social Situation

Attitudes of peers and gate keepers

Dohrenwend BS, Dohrenwend P, editors. Stressful life events: their nature and effects
Objective

- To estimate the prevalence of and identify the factors associated with stress among female adolescents in Nawabshah city, Pakistan
Study Setting
27 secondary schools in Nawabshah city were approached

18 secondary schools consented to participate

474 female adolescents were recruited using simple random sampling

Subjects and Methods

**Study type**
School-based Cross sectional survey

**Study population**
Female adolescents who were the residents of Nawabshah city and studying at these schools

**Inclusion criteria**
Female adolescents studying in secondary schools of Nawabshah city and aged between 10 to 16 years

**Exclusion criterion**
Female adolescents having physical & cognitive disabilities

**Statistical analysis**
Descriptive statistics & Multiple Linear regression
Ethical Considerations

- Approval of study protocol by the institutional ethical review committee before starting the data collection process.
- Meeting with parents of all the randomly selected adolescents.
- Verbal and written consent sought from parents.
- Interviews were done in privacy.
- Consent was also obtained from participants after briefing about the study.
Most widely used psychological instrument for measuring the perception of stress

Developed by Cohen, Kamarck, and Mermelstein in 1983.

14-questions with three-point scale

(1 = never, 2 = sometimes, 3 = often)

The scale ranges between 14 to 42 score.

Content validity was established by a group of psychologists.

For estimating prevalence, it was categorized into two groups i.e. stressed and non-stressed adolescents taking the midpoint of PSS i.e. score of 28 as a cut-off point.
Prevalence of Stress among female adolescents in Nawabshah city was 57.6%
Univariate Linear regression analysis of factors associated with stress among school going adolescents in Nawabshah city, Pakistan, March 2005 (n = 474)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n (%)</th>
<th>β {SE (β)}</th>
<th>95% CI</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of Participants (10-16 Yrs)</td>
<td>14.0 (1.0)</td>
<td>-0.051(0.095)</td>
<td>0.238, 0.137</td>
<td>0.596</td>
</tr>
<tr>
<td>Age of Mother (23-65 yrs)</td>
<td>40.2 (6.14)</td>
<td>-0.001(0.021)</td>
<td>-0.043, 0.004</td>
<td>0.946</td>
</tr>
<tr>
<td>Age of Father (32-75 yrs)</td>
<td>46.7 (7.27)</td>
<td>0.023 (0.018)</td>
<td>-0.012, 0.058</td>
<td>0.204</td>
</tr>
<tr>
<td>Employment of Mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>432 (91.1)</td>
<td>0.161 (0.459)</td>
<td>-0.74, 1.064</td>
<td>0.725</td>
</tr>
<tr>
<td>Yes</td>
<td>42 (8.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment of Father</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>35 (7.4)</td>
<td>0.792 (0.498)</td>
<td>-0.186, 1.770</td>
<td>0.112</td>
</tr>
<tr>
<td>Yes</td>
<td>439 (92.6)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of rooms</td>
<td>3.0 (2.0)</td>
<td>-0.211(0.082)</td>
<td>-0.372, -0.050</td>
<td>0.01*</td>
</tr>
<tr>
<td>Parental quarrel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>144 (30.4)</td>
<td>0.612(0.282)</td>
<td>0.058, 1.167</td>
<td>0.031*</td>
</tr>
<tr>
<td>No</td>
<td>330 (69.6)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of siblings (0 to 12)</td>
<td>5.0 (2.0)</td>
<td>-0.004(0.053)</td>
<td>-0.108, 0.10</td>
<td>0.945</td>
</tr>
<tr>
<td>Body Mass Index</td>
<td>20.0 (4.0)</td>
<td>0.003 (0.036)</td>
<td>-0.069, 0.074</td>
<td>0.937</td>
</tr>
<tr>
<td>Prior information about puberty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>71 (15.0)</td>
<td>0.107 (0.366)</td>
<td>-0.826, 0.611</td>
<td>0.77</td>
</tr>
<tr>
<td>No</td>
<td>408 (85.0)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Multiple linear regression analysis of factors associated with stress among school going adolescents in Nawabshah city, Pakistan, September March 2005 (n = 474)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>$\beta \ {SE (\beta)}$</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment of Father</td>
<td>0.734 (0.493)</td>
<td>-0.236, 1.703</td>
<td>0.138</td>
</tr>
<tr>
<td>Number of rooms</td>
<td>-0.213 (0.082)</td>
<td>-0.373, -0.053</td>
<td>0.001*</td>
</tr>
<tr>
<td>Parental quarrel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0.158 (0.051)</td>
<td>0.056, 1.159</td>
<td>0.001*</td>
</tr>
</tbody>
</table>

Adjusted $R^2 = 0.023$, $\beta_0 = 27.843$, $F=4.635$, P-value: 0.003
Our study has estimated the prevalence of stress as 58% among school-going female adolescents in Nawabshah city, Pakistan, which is very alarming. Prevalence of stress in general population in Pakistan is unknown, therefore, it was not possible to compare the results in local context. However, international studies of high school students have shown that the incidences of stress and depression among adolescents are greater for females than males.

Our research has found an association between fathers’ employment and stress; although it was not statistically significant but served as a confounder. This was measured as a proxy indicator to assess socio-economic status of our study subjects. Parental long-term unemployment (especially of fathers) is associated with adolescents’ subjective health.
This study provides evidence that there is an inverse relationship between the number of rooms and perceived stress among female adolescents. In our study, number of rooms was taken as proxy to assess socio-economic status of subjects; previous studies have also manifested that lower socioeconomic status is correlated with increased stress among adolescents;

Our study has found a significant association between parental quarrel and the risk of stress. This study finding was consistent with the previous studies. Previous studies suggest that conflicts and arguments within the home were clearly and directly associated with the prevalence of stress, depression and suicidal phenomena among adolescents, whereas family harmony and cohesion appeared to have a protective effect.

Discussion
Prevalence of stress (57.6%) among female school-going adolescents is alarming.

Risk factors for Stress included: father’s employment, parental quarrel and socioeconomic status.

Parental counseling.

Training of school teachers and families in multidisciplinary handling of adolescents.

Mass awareness about pubertal body changes.

Validity study of Perceived stress scale for future researches.
Future Implications

- Life cycle approach

- Female adolescents are the mothers of tomorrow
References


10. Rigby K, Slee PT, Martin
Thanks...