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Stress and Psychological Well-being: An Explanatory Study of the Iranian Female Adolescents

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Abstract

Objective: Female adolescents are suffering a higher prevalence of psychological disorder such as depression, anxiety and stress. Also they have high prevalent poor dietary behaviors and physical inactivity especially in low income countries. This study aimed to measure students' stress and psychological well-being status among sample female adolescents among a sample of girls in an Islamic country.

Methods: The cross-sectional study was carried out on a sample of 289 female students in the ninth grades randomly selected high school students in Tabriz, Iran. Numerous psychological variables including general health status, happiness, self-efficacy, perceived stress, hopefulness and life satisfaction were measured by using self-report written questionnaires.

Results: It was found that an inversely significant relation exists between stress and psychological well-being (r = -0.68). Findings also indicated that students, who had good relation with teachers, had 54% less probability of low psychological well-being than those who had not. No causal inferences were drawn due to non-experimental nature of the study.

Conclusion: This study concluded that the prevalence rates of mental disorders and stress reported for high school females of Iran, Thus there it is needed to develop effective strategies to promote psychological well-being and stress management, especially for female adolescence.

Keywords: Stress; Psychological well-being; Adolescents; Physical activity

Introduction

Many of mental disorders have their beginnings in adolescence ages which often go undiagnosed and untreated for years that including emotional and behavioral difficulties and adjustment problems [1-3]. Numerous studies have shown that adolescent girls have a higher prevalence of psychological disorder such as depression, anxiety and stress than boys that affect on their healthy status and successes as well [1,4,5]. Evidences have indicated that the prevalence of depression among adolescents varied between 10 to 70 percent and its incidence was notably more among females versus males [6,7]. In addition, gendered stress and mental health patterns are observed in several countries, indicating that young girls report more problems in compare of boys [8-10]. Similarly, several Swedish nationwide surveys have shown a tendency towards an increase in self-reported stress-related and mental health problems among girls [11]. For example, in 2010 self-reported moderate or severe anxiousness, nervousness, and anxiety were estimated at 32% among girls/women aged 16–24 years compared to 9% in 1988 [3]. In Canada, 9.5% of boys and 12% of girls had history of mental health problems [4]. The suicide rate for adolescent girls in Finland has steadily increased over the last few years [12]. Based on the findings of a study in Iran, 78% of the girls and 57% of the boys in the ages of 13-17 years have suffering mild-to-severe depression [6] and another study reported that 61.7% of the teenage female students in Tehran, the capital city of Iran had some degree of anxiety [13]. According to the recent studies adolescence ages especially among girls is associated with high rate of internalizing problems such as depressive disorders accompanied by suicidal attempts and also externalizing some other problems such as delinquent behavior [14]. It seems stress increases during the teenage years and affect girls more than boys. In fact both of boys and girls are more seriously are affecting by daily stresses than adults but girls are more sensitive to interpersonal stress than boys [15,16] and vulnerable to physical symptoms caused by stress as well [17]. Stress is known as an obvious risk factor for mental health disorders, which have been estimated to affect approximately one in five children ages 9 to17 years [18]. Additionally, stress is a well-documented factor in the development of addiction [19] and repeated and cumulative exposure to psychological stress may result in adult chronic diseases [20]. Furthermore ,the adolescent period is associated with various changes in eating habits and physical activity related behaviors of girls [21] and one of the most important issues that is common and serious problems among female pupils which affect their mental health, is physical inactivity [22,23]. Indeed, 30-50% of adolescent girls report no leisure-time of physical activity [24]. There is a large body of literature concerning the effects of exercise on mental health [25]. Concerning to mental health, San Francisco in 2008 asserted that having regular physical activity has positive effect on mental health status [26]. In fact, physical activity positively influences on health and fitness, reduction of risk of stress and diseases and promotes mental health and wellbeing [18,27]. In other words, sedentary life style, physical inactivity and

unhealthy nutritional status threaten mental health especially among girls [15] and because of limitations and roles in Iran, girls have less physical inactivity and less engage in the sport activities, both in and out of school [21]. One of the other problems that are high prevalent is having poor dietary behaviors among adolescence ages [24]. In other hand excessive weight gain during this transitional ages and facing some limitation for performing physical activities could derange body image and mental health status as well [18,21].

Based on the abovementioned background, purpose of the present study in all, attempts to answer the following questions: (1) are female adolescents' stress affect on their psychological wellbeing? And (2) which kind of demographic and cognitive factors interfere on between mental health status, and stress trait among a sample of Iranian female adolescents?

Methods

Study sample

The current study which have evaluated stress and its relation to psychological well-being was a part of a large project which conducted among high school students in Tabriz, Iran during 2013-2014. The main goal of which was to provide knowledge for designing and implementing mental health promotion program in high schools. After obtaining approval from the relevant university's ethical committee and permission from the students' parents, this project was carried out. Of the 289 female students in the ninth grades who were in the 14 to 15 ages range were recruited. At first through five educational district area of Tabriz city the number 4 district area was selected randomly and at a later stage random cluster sampling method were applied. Next from three sub-regions of selected area one sub-regions was chosen randomly and within the area two high schools were selected with almost same educational and environmental conditions randomly. Before completing the questionnaire, students were given instructions on how to complete it.

Data collection

Background data included age, enjoy of attending parties, enjoying to spend time with parents, having healthy diet, having/had boyfriend, having/had mental health problem, having/had physical activity, having/had time management and having/had of high stress. Response options for all items were included yes/no". Numerous variables including general health status, happiness, self-efficacy, perceived stress, hopefulness and life satisfaction were measured by using a self-report written questionnaires. The details of Persian version of applied scales have reported previously [28].

Statistical Analysis

Analyses were conducted by using SPSS-16 and a probability level of 0.05 was used throughout. Data were presented by frequency (percent) for qualitative variables. Frequency tables were created to examine study participants characteristics among adolescents. Psychological well-being Status was considered as the dependent outcome of interest by coding zero for being healthy and coding one for being unhealthy. For investigating the relationship between stress and the demographic and psychological wellbeing, self-efficacy, hopefulness, life satisfaction and happiness, a series of simple and multiple logistic regressions were performed. In the univariate analyses, each (demographic or psychological wellbeing related) variable was entered separately and in the next step for multivariate analyses; those variables, which were significant in the univariate analyses were entered.

Results

As shown in Table 1, of the 289 students, 187(64.7%) have/had of slightly mental health problems. In addition, 231(79.9%) were reported to enjoy attending parties, 149(51.6%) have/had boyfriends, 211(76.5%) reported enjoy spending time with parents, 108(74.3%) have/had of high stress, 100(34.6%) used to have healthy diets, 241(83.4%) were physical inactivate and 130(45%) have/had skills of time management (Table 1).

Variable	Average	MSTr	F	Significance
Status of Elections (Se)	Bullies: 1.83 Control: 3.39	16.628	4.148	0.048
Status of Rejections (Sr)	Bullies: 5.61 Control: 2.23	95.986	11.247	0.002
Reciprocity of Elections (Re)	Bullies: 1.18 Control: 1.96	4.792	4.527	0.039
Impression of Elections (Ie)	Bullies: 2.09 Control: 3.42	15.820	4.745	0.035
Impression of Rejections (Ir)	Acosadores: 5.03 Control: 2.21	63.650	19.783	0.000
Social Indiference (SI)	Bullies:11.20 Control: 12.75	17.070	7.549	0.009
Social Distance (SD)	Bullies:10.63 Control: 12.86	37.553	9.702	0.003
Antipathy (Ant)	Bullies: 0.26 Control: 0.09	0.203	11.306	0.002
Sociometric Status (SS)	Bullies: -0.19 Control: 0.11	0.618	11.191	0.002

Table 1: Socio metric Characterization of bullies, using the recreational criterion.

Table 2 shows the Zero-order correlations. A two-tailed test at the significance levels of 0.01 and 0.05 were the criteria for the analysis. The bivariate assessment of variables revealed that there were signs of multicollinearity between psychological wellbeing and stress (r = -0.68), and also it had a significant relation with happiness (r = 0.53), hopefulness (r = 0.40) and life satisfaction (r = 0.38). In addition, happiness was significantly related to the life satisfaction(r = 0.59) and hopefulness (r = 0.44). Furthermore, happiness was inversely and significantly related to perceived stress(r = -0.56). As shown in Table 3, based on the results of simple logistic regression (Un-adjusted OR's) for participant characteristics, self-efficacy, hopefulness , satisfaction, stress, happiness, having/had boyfriend, enjoy attending parties, having/had relation with teachers, were significantly related to psychological well-being (All $P < 0.05$). As a result by increase of one score of hopefulness, satisfaction, self-efficacy and happiness ,the likelihood of the low psychological well-being decreased by 35%, 11%, 9% and 7% respectively. Additionally, based on increasing one score for

stress, the possibility of the low psychological well-being increased by 45%. In addition students, who have/had boyfriend, had 65% less possibility of low psychological well-being compared with those who had not. Students who enjoyed attending parties, had 62% less the ratio of probability of low psychological well-being compared with those who did not. Students, who having/had good relation with teachers, had 54% less probability of low psychological well-being than those who had not. These variables were candidate as to be entered in the multivariate analysis. However, of the above mentioned variables, stress and have/had satisfaction, were significant in the multivariate analysis (All $P < 0.05$) (Table 4).

Variable	Average	MSTr	F	Significance
Status of Elections (Se)	Bullies: 1.57 Control: 3.37	26.197	4.924	0.032
Accurate Perception of Rejections (Apr)	Bullies: 1.15 Control: 0.61	2.645	4.806	0.034
Antipathy (Ant)	Bullies: 0.25 Control: 0.10	0.196	12.976	0.001
Reject Perceptual Realism (RPr)	Bullies: 0.38 Control:0.22	0.261	4.380	0.042
Sociometric Status (SS)	Bullies: -0.16 Control: 0.05	0.368	9.101	0.004

Table 2: Sociometric Characterization of bullies, using the work criterion.

Variable	Average	MSTr	F	Significance
Status of Rejections (Sr)	Bullied: 5.03 Control: 2.39	37.917	3.836	0.057
Impression of Elections (Ie)	Bullied: 3.42 Control: 2.21	15.291	4.569	0.038

Table 3: Socio metric Characterization of bullied individuals, using the recreational criterion.

Variable	Average	MSTr	F	Significance
Status of Elections (Se)	Bullied: 1.33 Control: 3.01	35.735	7.009	0.011
Status of Rejections (Sr)	Bullied: 4.93 Control: 2.23	65.455	8.314	0.006
Accurate Perception of Elections (Apr)	Bullied: 0.82 Control: 1.68	6.111	5.840	0.020
Accurate Perception of Rejections (Apr)	Bullied: 1.18 Control: 0.60	2.766	5.051	0.030
Impression of Rejections (Ir)	Bullied: 4.36 Control: 2.42	31.063	7.073	0.011
Antipathy (Ant)	Bullied: 2.23 Control: 0.11	0.140	8.544	0.006
Elections Perceptual Realism (EPr)	Bullied: 0.26 Control: 0.55	0.684	5.912	0.019
Reject Perceptual Realism (RPr)	Bullied: 0.35 Control: 0.71	0.271	4.581	0.038
Sociometric Status (SS)	Bullied: -0.15 Control: 0.06	0.333	8.059	0.007

Table 4: Socio metric Characterization of bullied individuals, using the work criterion.

Discussion

The main objective of the study was to assess prevalence of stress among a sample of Iranian female high school students and its relation with subjective psychological well-being which findings of current study demonstrate an inverse association between stress and psychological well-being variables, which is consistent with findings from other community studies [29]. It seems widespread active mental health 'promotion' programs can play an important role in reducing stress in adolescents. Higher level of stress and its effect on risk of developing other mental health problems among female students was another finding in this study. Consistent evidence demonstrated a strong association between common mental disorders and a number of recent and early-life stressors [30]. Stress is an important and clear risk factor for mental health disorders, thus requires more attention from the part of health authorities for female developing adolescent stress management's skills. In spite of present evidences that there has been a rise in adolescent mental health problems in recent decades [31], the current study demonstrated high prevalence of mental health problems among female adolescents which may be due to lack of organized "mental health promotion programs" in Iranian schools. There is general agreement that schools can play an important role in mental health promotion [32]. Students are spending a notable part of their life in school where learning of lessons that may be very stressful for students and placing health promotion in schools would be necessary. Schools can promote positive mental health and create a joyful environment, providing the child or young person with resources to thrive and, in adverse conditions, to cope by buffering negative stressors [33].

Since our findings indicated that the majority of students in Iran are suffering because of high level of stress, students have to shoulder the burden of their parents 'expectations academic about children's success, conflict peers and conquer for enter to university that all these could lead to high level of stress and mental health problems. It seems that stress management skills promotion alongside mental health promotion would be necessary and useful to develop community health through school health programs, a setting which a large part of population are existing. Physical activity is also an important aspect of health promotion and a predictor of disability and death worldwide [34]. The findings of the study revealed that consistent with the being evidences [22,23], sedentary life style and high rate of physical inactivity because of religious and cultural context may lead to progressive mental health problems among female. Therefore, our findings are consistent with these previous studies. Physical activity may also act as an empowering or buffering factor, protecting young people from stress, poor physical and mental health. Additionally physical activity positively influences on health status and fitness,

reduces the risk of several diseases and promotes mental health and wellbeing [27]. Many environmental and cultural factors in Islamic countries might predispose adolescents to greater sedentary behaviors, such as that might be due to spending too much time watching television and playing computer games, impact a parent or guardians decision to encourage their girls to continue activities and the cost of sports as well as due to decreased opportunities for exercise in schools and communities. Also lack of East girls tend to exercise may be due lack of their ability to participate in international sports competitions such as swimming and football, because in many of the countries in the East due to religious or cultural believes participation in such competitions is not accepted and allowed formally by families or larger societies. Furthermore, findings of this study indicated that majority of female students haven't healthy diet to keep their fitness and proper weight that might be caused by lack of knowledge about healthy nutrition and inappropriate skills. In fact, healthy nutritional status is particularly important for maintaining mental health [18]. Health-promoting behaviors such as healthy diet, regular physical activities, and avoiding stress, helps prevent many chronic diseases such as obesity, diabetes mellitus, hypertension, cardiovascular disease, and some types of cancers also decrease healthcare costs [34] and schools could provide a good chance for establishment of these healthy behaviors among adolescent's population. The outcomes of this study revealed that stress has association with psychological well-being of adolescents and also stress is an obvious risk factor for mental health problem. Consequently, unmanaged stress can have a profound impact on adolescent's physical and mental wellbeing, leading to various illnesses such as depression [29]. Schools are important setting for learning and acquiring skills which are retained with the students all along their life. In the absence of optimal levels of healthy strategies, the education programs can fail resulting in academic failure and poor return of investment [35].

By considering these facts, that the stress, unhealthy behaviors such physical inactivity and unhealthy diet are prevalent phenomenon among females. It seems the approaches use to promote healthy behavior, relaxation, stress management training and performance mental promoting program in schools is crucial and schools could initiate and transfer healthy programs toward parents, families and communities, school setting should act as a creative environment to develop stress management skill among female students. In conclusion

Low and middle income countries are faced a high rates of mental disorders and stress for girls because of cultural context which it is needed to develop and apply comprehensive and effective strategies to promote psychological well-being and for female adolescence.

This study concluded that the prevalence rates of mental disorders and stress reported for high school females of Iran, Thus there is an urgent need for performance and encourage psychological well-being and stress management programs for female adolescence in schools where students are spending a notable part of their life. It seems that stress management skills advancement and supportive environment alongside mental health promotion would be necessary and useful to develop community health through school health programs, a setting which a large part of population are existing.

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