

Research Article

Lifestyle Practices and Stress among School Adolescents in Delhi

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A B S T R A C T

Background: Stress is now seen as a “lifestyle crisis” and affects any and every individual regardless of the stage of life they are in. It needs to be managed through life style modification.

Objectives: To determine gender differences among lifestyle practices, the relationships among perceived stress and different lifestyle practices, and effective life style practices (coping strategies) to manage stress.

Methodology: It is school based cross-sectional study, conducted among adolescents of two conveniently selected schools of Delhi from March 2012 to Jan 2013. A pretested self-administered questionnaire was used for the data collection. Statistical analysis was done using percentage, chi-square test, ANOVA test.

Results: Out of 397 students participated in the study 15.4% and 16.6% students indulged in daily consumption of carbonated drinks and tea/coffee respectively. Marginally higher perceived stress score obtained among students associated with daily consumption of beverages. 28.4%, 3% and 4.5% students engaged in daily physical exercise, meditation and yoga respectively. Lower perceived stress scores obtained among students with daily practice of physical exercise and yoga.

Conclusion: Consumption of beverages is high among adolescent males. Insufficient physical activity is high among adolescents especially females. Physical exercise and yoga practices found to be associated with lower stress among adolescents.

Keywords: Lifestyle Practices, Adolescent Stress, Perceived Stress Scale, Coping Strategy

Introduction

Lifestyle was originally used by Alfred Adler to denote a person's basic character established early in childhood which governs his reactions and behavior.¹ Lifestyle diseases are ailments that are primarily based on the day to day

habits of people. Lifestyle is about the diet, smoking, alcohol, physical exercise and stress.²

Adolescence was a term first coined by Hall GS in 1904 as a time of heightened emotionality, storm and stress, experimentation and a desire for independence.³ Rapid growth and physiological, emotional and social development

and changes are the most important characteristics of adolescence. The WHO uses the term adolescents for those aged 10 to 19 years.⁴ This is the time when an individual undergoes tremendous changes both physically, emotionally and psychologically.

Generally, a layperson may define stress in terms of pressure, tension, unpleasant external forces or an emotional response.⁵ A adolescent's life is subjected to different kinds of stressors, such as the pressure of academics with an obligation of success, uncertain future and difficulties envisaged for integration in to the system. These students face, social, emotional and physical and family problems which may affect their learning ability and academic performance.⁶ Stress is now seen as a lifestyle crisis and affects any and every individual regardless of the stage of life they are in.

Stress is usually deemed as negative component but healthy or moderate level of stress is necessary for motivation, developing and honing new skills and liberating one's full potential. Stress is integral part of life. Unmanaged stress can lead to emotional, physical and interpersonal problems. So developing the important life skills pertaining to anticipation, recognition and successful management of stress is of utmost importance.

Thus, for deeper understanding of lifestyle factors and bridging the gaps in the existing literature we conducted the present study with objectives to assess the gender wise differences among lifestyle practices, explore the relationships among perceived stress and different lifestyle practices which could be effective life style practices (coping strategies) to manage stress.

Materials and Methods

Study Settings

It was a school based cross sectional study conducted in two schools of Delhi from January 2012 to March 2013. Two co-education schools were conveniently selected from east and west Delhi. Almost 1000 students were studying in each of these schools in different sections.

Study Participants

The study population consisted of students studying in 9th and 11th standard present at the time of study. Out of 4 sections in each school 2 sections were randomly selected to participate in the study. Each section was having approximately 50 students.

Sample size was calculated based on previous study conducted by Thaker R et al (2013)⁷ and it was calculated to be 356.

Study Instruments

A pre-tested, semi structured, self-administered

questionnaire containing items on socio-demographic profile like adolescent's age, gender, and family structure etc. was used. Perceived Stress Scale (PSS) was used to find stress scores among study subjects. PSS is the most widely used psychological instrument for measuring the perception of stress. It has a total of 10 items having a maximum score of 40 and minimum score of 0. PSS scale evaluate the degree to which situations in one's life is appraised as stressful during the past month. Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress.

Scores ranging from 0-13, 14-26 and 27-40 would be considered as low, moderate and high perceived stress levels respectively. Higher score values denotes more amount of stress.⁸

Methodology

Administrative approval obtained from school and institutional ethics authorities and informed consent from school adolescents and assent from their parents was taken for participation in the study. A date was prefixed and selected classes were approached on the scheduled days and time to collect baseline information from the students. Although the questionnaire was pretested and semi-structured, researchers remained available to clarify any matter related to the questionnaire during the procedure. Confidentiality of the information obtained was maintained.

Statistical Analysis

Data was coded and compiled using Microsoft Excel, and analyzed using Epi-info and SPSS software. Outcome variables were the stress levels among adolescents. The association of different lifestyle practices and stress levels was assessed using qualitative test such as chi-square, ANOVA or fisher exact tests.

Result

Total numbers of study participants were 411. No student refused for participation. 397 students were included in the final analysis as 14 forms excluded due to incomplete reporting. Study questionnaire was framed to collect the data on majority aspects of lifestyle factors. However, in view of gross underreporting by participating adolescents on smoking, drinking and substance (tobacco) abuse, these factors were excluded from final analysis.

Table 1, shows the age distribution of the participating adolescents in the study. Students were within the age range of 13 to 17 yrs. The mean age of the adolescents was 14.87 ± 1.06 yrs. More than half of the school adolescents participating in the study were males. There were 242 (61%) male adolescents and 155 (39%) female adolescents in the study.

Table 2, shows that lifestyle practice of beverage

consumption in the adolescents. Daily consumption of carbonated drinks and Tea/Coffee is higher among males compared to females.

Out of total, 17.1% and 15.3% of adolescents had mentioned that they never consume any type of carbonated drinks or Tea/Coffee respectively. Overall 15.3% and 16.6% of adolescents revealed that they prefer to have daily carbonated drinks or Tea/coffee respectively. However, we did not find statistically significant relation among the groups.

The study findings revealed that most preferred coping strategy is exercise in both genders followed by Meditation and yoga. 28.4% adolescents mentioned they were exercising daily while 3.0% and 4.5% adolescents practiced daily meditation and yoga respectively. More than half (54.1%) of the adolescents mentioned occasionally engaging in physical exercise. 17.3% of study participants admitted they never involvement in physical exercise. Study observed 75.3% and 50.8% individuals never engaged in meditation and yoga practices.

Table 1. Age and gender-wise distribution of study participants

(n=397)

Age (years)	Male n (%)	Female n (%)
13	13 20 (52.6)	18 (47.4)
14	14 87 (66.9)	43 (33.1)
15	15 51 (58.6)	36 (41.4)
16	16 74 (56.5)	57 (43.5)
17	17 10 (90.9)	1 (09.1)
Total	242 (61)	155 (39)

Table 2. Pattern of Beverage consumption among study participants

(n=397)

Beverages	Never	Sometimes	Daily	χ^2 , df, P-value
Carbonated Drinks				
Males	38 (15.6)	162 (66.6)	43 (17.6)	3.092, 2, 0.213
Females	30 (19.4)	106 (68.8)	18 (11.6)	
Total	68 (17.1)	268 (67.5)	61 (15.3)	
Coffee/ Tea				
Males	36 (32.7)	25 (22.7)	49 (44.5)	5.669, 2, 0.059
Females	25 (16.2)	112 (72.7)	17 (11.0)	
Total	61 (15.3)	270 (68.0)	66 (16.6)	

Table 3. Distribution of Lifestyle practices among study participants

Coping strategy	Never	Occasionally	Daily	χ^2 , df, P-value
Physical Exercise				
Males	44 (63.7)	136 (63.2)	74 (65.4)	0.161, 2, 0.922
Females	25 (36.2)	79 (36.7)	39 (34.5)	
Total	69 (17.3)	215 (54.1)	113 (28.4)	
Meditation (chanting Om)				
Males	188 (62.88)	46 (53.4)	09(75.0)	3.753, 2, 0.153
Females	111 (37.1)	40 (46.5)	03 (25.0)	
Total	299 (75.3)	86 (21.6)	12 (03.0)	
Yoga				
Males	133(65.8)	100(56.4)	10(55.5)	3.723, 2, 0.155
Females	69(34.1)	77(43.5)	08(44.4)	
Total	202(50.8)	177(44.5)	18(04.5)	

Table 4. Relationship between intake of beverages and Perceived Stress Score (PSS)

	Daily (Mean+SD)	Occasionally (Mean+SD)	Never (Mean+SD)
Tea/ Coffee Intake	21.38+5.63	21.37+4.56	20.21+5.38
F-value, df, P-value	1.45,2,0.236		
Carbonated Drinks	21.75+4.74	21.04+4.92	21.29+4.93
F-value, df, P-value	0.543,2,0.581		

Table 5. Relationship between Lifestyle practices and Perceived Stress Score (PSS)

	Daily (Mean+SD)	Occasionally (Mean+SD)	Never (Mean+SD)
Physical Exercise	20.7 + 5.06	21.5 + 4.94	20.8 + 4.67
F-value, df, P-value	1.104, 2, 0.333		
Meditation	23.42 + 7.02	21.13 + 4.55	21.16 + 4.85
F-value, df, P-value	1.26, 2, 0.285		
Yoga	20.71 + 5.08	21.58 + 4.65	22.78 + 4.49
F-value, df, P-value	2.494, 2, 0.084		

The current study explored relationship between intake of beverages and stress levels and noted that the higher stress score among adolescents indulged in daily intake of beverages (Tea/ Coffee) compared to occasionally and never beverage taking groups. However, study did not find statistically significant relationship in both the groups. However highest stress scores were associated with the daily intake of carbonated drinks.

The study revealed higher stress scores among adolescents engaged in occasional exercise. Stress scores observed among daily exercising and never exercising group were similar, hinting towards no substantive role of physical exercise in reducing stress.

Highest stress scores were detected among daily meditating adolescents compared never and occasional meditating adolescents. Those adolescents who were not involved in the yoga ever had shown high stress scores. No statistically significant relationships were found among any of the group.

Discussion

The purpose of this research was to examine different lifestyle factors among adolescents and their association with perceived stress as well as to explore the coping strategies employed by the adolescents for managing perceived stress.

Age of the study participants was ranging from 13 to 17 yrs. Study has witnessed a greater number of male participants 242 (61%) compared to females 155 (39%).

The study evidenced that daily and occasional carbonated drink consumption is 15.3% and 67.5% respectively among adolescents. These findings are in line with existing literature by Scully M et al. (2017) quoted 14 % of students reported

consuming four or more cups (≥ 1 litres) of soft drinks each week ('high soft drink consumers').⁹ The study by Somichon KSV et al (2017) has reported that majority of the adolescents 71.6 Percent had the habit of consuming soft drinks.¹⁰

However, Yang L et al. (2017) mentioned 54.3% of adolescents reported consuming a carbonated soft drink at least once per day in middle- and low-income countries.¹¹

This study has revealed daily and occasionally engaging students in physical exercise were 28.4% and 54.1%. Physical inactivity is high among adolescents especially males. These findings are in line with study by Balaji SM et al (2018) cited 63% of adolescents were insufficiently engaged in Physical activity.¹² While study in Taiwan by Chen Li-Jung et al (2007) previous literature has explored 80% of adolescents reported engaging in some physical activity, only 28.4% of the sample met recommended guidelines.¹³

Current study mentioned higher stress scores associated with daily beverage. These findings are in line with study by Rios et al. (2013) who quoted the consumption of caffeinated beverages is known to be a coping strategy used by college students in the management of stressful academic situations with 49% of a representative stratified sample of Puerto Rican students reporting caffeinated products to be useful for coping with stress.¹⁴ Pettit a et al (2011) have also reported a positive relationship between energy drink consumption and perceived stress levels in undergraduate students.¹⁵

The review of literature by Gerber et al. (2009) noted the 16 studies supported the buffering effect of physical exercise on stress where six studies were based on adolescents. In

contrast 15 studies did not support this hypothesis where five studies were organized in adolescent's samples.¹⁶

This study showed the higher stress levels among daily meditation practicing adolescents compared to occasional and non-meditation practicing adolescents. Though contrary results obtained in a study by Rizer et al. (2016) showing reduced stress among meditation practicing students.¹⁷ Bonadonna (2003) conducted an 8-week study on medical and premedical students to find out regular meditation would make the students less anxious and less stressed during an examination period.¹⁸ This difference could be due to type of meditation. There are various kinds of meditation and single technique may not fit into all therefore, just chanting Om will not reduce the stress. Correct technique needs to be told to students for better benefit. The other variability in results could be attributed to diversity of sample characteristics, study designs and measurements.

The study unveiled higher stress scores among never yoga practicing adolescents compared to the occasionally and never practicing groups. These findings are corroborated with very similar literature reported by Kaur M. (2014) et al. revealed that the students who experienced yogic practices i.e. *pranayama* and meditation experience less stress.¹⁹ Nassiri (2005) evaluated the effects of regular yogic relaxation on perceived stress and found that it produces lower perceived stress scale scores.²⁰

Limitations of the Study

This was a self-administered questionnaire-based study, the information provided by study participants cannot be verified hence reporting bias cannot be totally eliminated. Many confounders like current emotional state, personality, etc. may be present. Study was organized in the private schools which may impact its generalizability.

Conclusion

Consumption of beverages is high among adolescent males. Higher stress levels detected among adolescents with high beverage intake. Insufficient physical activity is high among adolescents especially females. Physical exercise and yoga practices found to be associated with lower stress among adolescents.

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Conflict of Interest: None

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