

Original Research Article

Assessment of the magnitude of behavioural risk factors among school going adolescents of Kashmir valley: a cross sectional study

Darakshan Ali¹, Suhail Shah¹, Muzamil Nazir^{2*}, Anjum B. Fazili³

¹Directorate of Health Services, Jammu and Kashmir, India

²Department of Community Medicine, Government Medical College, Baramulla, Jammu and Kashmir, India

³Department of Community Medicine, Sher-i-Kashmir Institute of Medical Sciences, Srinagar, Jammu and Kashmir, India

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*Correspondence:

Dr. Muzamil Nazir,

E-mail: drmuzamil786@gmail.com

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ABSTRACT

Background: Adolescents are one sixth of the world's population and account for 6% of the global burden of disease and injury. The unique health issues associated with adolescence have been little understood. Adolescence is a period when many behaviours are consolidated which have major effects on future adult health.

Methods: A cross sectional study was conducted in a total of 8 schools in order to assess the magnitude of various behavioural risk factors among school going adolescents. 614 students in the age group of 10-19 years were included in the study. Data was collected using modified WHO global school-based health survey questionnaire. Weight and height of the adolescents were also taken to assess their nutritional status.

Results: In the present study 45% of the participants resorted to diet restriction. 19.2% of the adolescents felt lonely. 18.2.5% of the participants had disturbed sleep and 8.8% of them reported having had suicidal thoughts. 3.9% of the participants had ever smoked cigarettes, 3.9% had ever consumed alcohol and 1.8% had ever used drugs. 28.3% of the adolescents reported having been physically attacked and 12.5% reported having been bullied. 29.5% had a screen time of 3 hours or more.

Conclusions: It was observed that behavioral risk factors like unhealthy eating habits and lack of physical activity and substance abuse were quite prevalent in the adolescents. Health education on all these behavioural risk factors and incorporation of life skills education in the school curriculum will help in improving the overall health of the adolescents.

Keywords: Adolescents, Behavioural risk factors, Mental health, Substance abuse, Violence

INTRODUCTION

Adolescents are one sixth of the world's population and account for 6% of the global burden of disease and injury.¹ In 2015, more than 1.2 million adolescents died. More than 3000 adolescents die every day from largely preventable causes such as unintentional injuries; violence; sexual and reproductive health problems, non-communicable diseases, poor nutrition, substance use and suicide.²

Adolescence is also a period when many risk or protective behaviours start or are consolidated which have major effects on adult health. For 10-14-year-olds, unsafe water, unsafe sanitation and inadequate hand washing are major health risks for both boys and girls.³ For 15-19-year-olds, health risk factors such as alcohol and tobacco use, unsafe sex and drug use also become very important. For years, the unique health issues associated with adolescence have been little understood.¹ Thus, the present study was conducted to assess the risk or

protective behaviours among school going adolescents using the school-based student health survey questionnaire. The global school-based student health survey questionnaire is a self-administered questionnaire to obtain data on young people's health behaviour and protective factors related to the leading causes of morbidity and mortality among children and adults worldwide.²

Objective

Objective was to assess the magnitude of various behavioural risk factors among school going adolescents.

METHODS

A cross sectional study was conducted in a total of 8 schools which were randomly selected from two districts (Srinagar and Bandipora) of Kashmir. The present study was conducted for a period of 2 months (June and July 2019). 614 students in the age group of 10-19 years (adolescents) selected by convenience sampling from high and higher secondary schools (both government and private) were included in the study. Students who were present on the day of the data collection and gave consent to be a part of the study were included. Data was collected using modified WHO global school-based health survey questionnaire. Weight and height of the adolescents were also taken.

RESULTS

Table 1 shows 52.4% of the adolescents belonged to 14-16 years age group followed by 17-19 years (45.9%) and 1.6% in the 10-13 years age group. There were almost equal number of males and females and adolescents from rural and urban areas (52.1% and 47.9% respectively). 85.7% of the adolescents were from government schools while as only 14.3% were from private schools.

Table 1: General characteristics.

Characteristics	Frequency	Percent
Age (years)		
10-13	10	1.6
14-16	322	52.4
17-19	282	45.9
Gender		
Male	314	51.1
Female	300	48.9
Location of school		
Rural	320	52.1
Urban	294	47.9
Type of school		
Government	526	85.7
Private	88	14.3

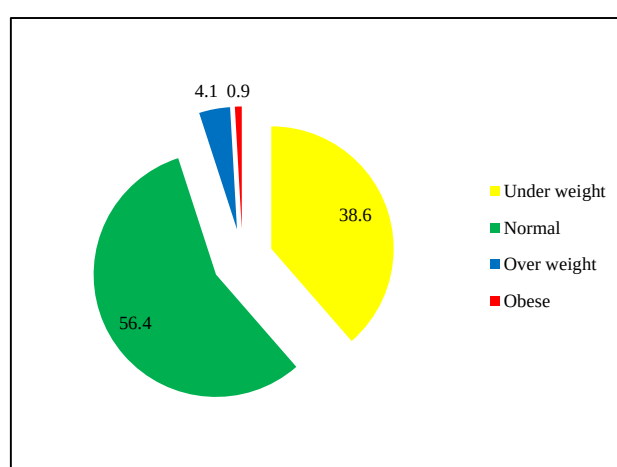


Figure 1: Distribution of study participants by BMI.

Figure 1 shows that out of the 614 adolescents 38.65 were underweight, 4.1% were overweight and 0.9% were obese.

Table 2: Distribution of study participants by dietary behavior.

	Gender				Total		P value
	Male		Female				
	Frequency	Percent	Frequency	Percent	Frequency	Percent	
Resort to diet restriction							
Yes	135	43.0	141	47.0	276	45.0	0.33
No	179	57.0	159	53.0	338	55.0	
Taken fast food last week							
Yes	117	37.3	85	28.3	202	32.9	0.01
No	197	62.7	215	71.7	412	67.1	
Carry lunch pack							
Yes	132	42.0	175	58.3	307	50.0	<0.001
No	182	58.0	125	41.7	307	50.0	

Table 3: Mental Health of study participants.

	Gender				Total		P value
	Male		Female				
	Frequency	%	Frequency	%	Frequency	%	
During the past 12 months felt lonely							
Never	75	23.9	75	25.0	150	24.4	0.001
Rarely	12	3.8	24	8.0	36	5.9	
Sometimes	149	47.5	161	53.7	310	50.5	
Most of the time	49	15.6	28	9.3	77	12.5	
Always	29	9.2	12	4.0	41	6.7	
Unable to sleep during last 12 months							
Never	86	27.4	85	28.3	171	27.9	0.707
Rarely	38	12.1	29	9.7	67	10.9	
Sometimes	129	41.1	135	45.0	264	43.0	
Most of the time	38	12.1	34	11.3	72	11.7	
Always	23	7.3	17	5.7	40	6.5	
Had suicidal thoughts during past 12 months							
Yes	27	8.6	27	9.0	54	8.8	0.86
No	287	91.4	273	91.0	560	91.2	

Table 4: Distribution of study participants by tobacco/substance use.

	Gender				Total		P value
Ever smoked cigarette	Males		Females				
	Frequency	%	Frequency	%	Frequency	%	
Yes	22	7	2	0.66	24	3.9	<0.001
No	292	92.9	298	99.3	590	96.1	
Ever consumed alcohol							
Yes	22	7.0	2	0.7	24	3.9	<0.001
No	292	93.0	298	99.3	590	96.1	
Ever used drugs							
Yes	9	2.9	2	0.7	11	1.8	0.03
No	305	97.1	298	99.3	603	98.2	

In the present study 45% of the participants resorted to diet restriction. More females (47%) than males (43%) resorted to this practice. 32.9% of the participants had taken fast food in the last one week. Significantly greater number of males had taken fast food in the last one week (p value 0.01). In comparison to males more females carried lunch packs to school and the difference was statistically significant (p value <0.001) (Table 2).

Table 3 shows 19.2% of the study participants felt lonely either always or most of the time in the last 12 months. The differences in the responses by males and females was statistically significant (p value 0.001). 18.25% of the participants had disturbed sleep either always or most of the time in the last 12 months. 8.8% of the participants reported having had suicidal thoughts in the past 12 months.

Table 4 shows that 3.9% of the participants had ever smoked cigarettes, 3.9% had ever consumed alcohol and 1.8% had ever used drugs. All forms of substance abuse

were significantly more common among males (p values of <0.001, <0.001 and 0.03 for cigarettes, alcohol and drugs respectively).

Table 5: Violence among the study participants.

	Frequency	Percent
Physically attacked/past 12 months		
Yes	174	28.3
No	440	71.7
Indulged in physical fight/past 12 months		
Yes	157	25.6
No	457	74.4
Bullied during past 30 days		
Yes	77	12.5
No	537	87.5

Table 5 shows that 28.3% of the participants reported having been physically attacked, 25.6% reported having indulged in a physical fight and 12.5% reported having been bullied.

Table 6: Distribution of study participants by physical activity.

	Gender				Total		P value
	Male		Female				
	Frequency	%	Frequency	%	Frequency	%	
Time spent watching television/playing computer games/day							
<3 hours	214	68.2	219	73.0	433	70.5	0.187
≥3 hours	100	31.8	81	27.0	181	29.5	
Slot for physical activity in school time table							
1-3 times a week	92	29.3	67	22.3	159	25.9	0.118
Almost daily	116	36.9	115	38.3	231	37.6	
Never	106	33.8	118	39.3	224	36.5	

As shown in Table 6, 51.5% of the participants were physically active as per guidelines and 29.5% had a screen time of 3 hours or more.³ Also 36.5% of the participants reported that there was no slot for physical activity in the school time table.

Regarding sanitation and hygiene, 99.2% of the adolescents reported having safe drinking water at school and almost all adolescents (99.5%) reported that they had sanitary latrine facility available within the school premises. However, only 72% of the adolescents used soap when washing hands. Only 8.5% of the adolescents had received sex education at school and 9.1% had received sex education at home. Education about menstrual hygiene had been received by most of the adolescent girls at home (70.6%).

DISCUSSION

In our study 38.65 adolescents were underweight. Similar prevalence of thinness among adolescent girls in Kashmir was also reported by Ali et al (35.7%).⁴ A much lower prevalence of underweight was reported by Reddy et al among adolescents in South Africa (9%).⁵ In the present study 4.1% of the adolescents were overweight and 0.9% were obese. Ali et al reported 7.2% adolescent girls to be overweight while as Reddy et al reported 16.9% of adolescents to be overweight and 4% to be obese.^{4,5} In the present study 32.9% of the participants had taken fast food in the last one week. In a study conducted by Rathi et al in Kolkata among 14-16-year-old adolescents reported that 70% of the adolescents had 3 or more servings of fast foods a day before.⁶ Al Faris et al also reported that 79.1% of the adolescents consumed fast foods at least once a week.⁷ In the present study 6.5% of the participants always had disturbed sleep while 11.75% of them had disturbed sleep most of the time in the last 12 months. A higher number of adolescents reported having disturbed sleep in a study conducted by GuoLan et al among Chinese adolescents (39.6%).⁸ 8.8% of the participants in our study reported having had suicidal thoughts in the past 12 months. A higher number of adolescents reported having suicidal ideation in studies conducted by Canbaz et al in Turkey and Amara et al in Ethiopia (17.9% and 22.5% respectively).^{9,10} 3.9% of the

participants had ever smoked cigarettes, 3.9% had ever consumed alcohol and 1.8% had ever used drugs. Almost similar results were reported by Raphael et al in Kerala 4.72% adolescents had ever used cigarettes/bidis, 5.7% had ever consumed alcohol and 2.98% had ever used drugs.¹¹ Higher numbers were reported by Kaul et al among adolescents in Srinagar, Kashmir (12.8% among males and 8.2% among females) and by Daniel et al in Delhi (55.6%).^{12,13} In the present study it was seen that all forms of substance abuse were significantly more common among males. Raphael et al in Kerala also reported significantly higher prevalence of substance abuse among males than females.¹¹ In our study, 25.6% of the participants reported having indulged in a physical fight and 12.5% reported having been bullied. Lesser number of adolescents reported having indulged in a physical fight in a study conducted by Sousa et al in Portugal (7.9%).¹⁴ In a study conducted by Wang et al among US adolescents 12.8% of the adolescents reported having been bullied which was similar to the findings of our study.¹⁵ In the present study all forms of violence was seen more among boys. Similar observations were reported by, Sousa et al in Portugal, Wang et al in US and by Golshiri in Iran.¹⁴⁻¹⁶ 51.5% of the participants in the present study were physically active as per guidelines. Similar results were reported in a study conducted by Filho VCB in Brazil where 49.5% of adolescents had sufficient physical activity.¹⁷ A higher number of adolescents (96.7%) were reported to be physically active for more than 1 hour everyday by Prajapati in Gujarat.¹⁸ In our study 29.5% had a screen time of 3 hours or more. In a study conducted by Wang et al in Zhejiang, China it was seen that 42.4% of the students had a screen time of 2 hours or more.¹⁵

CONCLUSION

As considerable proportion of the adolescents were undernourished, education on the importance of balanced diet is important. Behavioral risk factors like unhealthy eating habits and lack of physical activity were quite prevalent in the adolescents which have adverse consequences for the health of these adolescents, thus calling for a preventive action. 30-45 minutes of physical activity should be made compulsory in the school time

table on daily basis. Sale of junk food in the school canteens should be discouraged. Some of the adolescents were also indulged in substance abuse. Thus, anti-tobacco awareness activities should be started in the school itself. Life skills education can be incorporated in the school curriculum which will help the adolescents to cope with the stresses of life and improve their mental health. The availability of safe drinking water and sanitary wash room facilities in the schools must be ensured.

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