

Assessment of Unhealth risk Behavior among Adolescents Students at Technical Health Institute

Eman, A. Mohamed, Hyam, R. Tantawy, Asmaa, S. Mohamedy
Pediatric Nursing Department, Faculty of Nursing – Ain Shams University

ABSTRACT

Background: High-risk behaviors are those that can have adverse effects on the overall development and well-being of adolescents, or that might prevent them from future successes and development. **Aim:** Assess unhealthy risk behavior among adolescent students at the technical health institute. **Design** a descriptive exploratory study. **Setting:** The study was carried out in technical health institute at Benha. **The convenience sample** composed of available students from both sexes (200) who actually participated in the study over a period of 6 months. **The tool of data collection** involved **interviewing questionnaire sheet** to assess adolescent students' demographic data, the second tool was anxiety symptoms scale to assess the adolescent anxiety symptoms, the third tool was sleep problem scale to assess the sleep problem and disturbances that evoked from the risky behavior of adolescents, the fourth tool was emotional disturbances scale to assess adolescents emotional disturbance that arise from their risky behaviors and the fifth tool was educational problem scale to assess the education hardships observed among adolescents and considered a risk behavior confronting them. **Results of the Study:** More than one third of studied sample (35%) had taken smoking behavior habits & less than three quarters of the studied sample (71%) had nutrition risk behavior. There were statistically significant relation between adolescent students' sex and total risk score ($p<0.05$). There were highly statistically significant differences and positive relations between the studied sample residence and their total risk score ($p<0.001$). **The study concluded that** all students participate in some risk behavior as smoking, unhealthy hygienic, behavior leading to injury, disturbed dietary and physical inactivity behavior. **The study recommended that**, emphasize the importance of periodic assessment of unhealthy risk behavior among adolescence students at the technical health institute and provide appropriate program for its management.

Key words: adolescents, risk behavior, pediatric nurse, unintentional injury

INTRODUCTION

Adolescence is a key phase of human development. The rapid biological and psychosocial changes that take place during the second decade affect every aspect of adolescents' lives. These changes make adolescence a unique period in the life-course in its own right, as well as an important time

for putting the foundations of good health in adulthood. (Bulm, Kelly and Ireland, 2013).

Adolescents represent nearly one quarter (1.8 billion) of the world's population. Despite their importance as the future generation of adults, they receive less attention to their health concerns than other age groups. Adolescence is a stage of human development in which risk-taking and

unhealthy behaviors are common (**Gupta et al., 2014**).

Adolescents in Egypt account to nearly 28% from total population about 89.4% nearly 20 million and hence represent a substantial proportion of the country's human potential. They are exposed to the many of the same risk behaviors that predispose to aggression and criminal behavior everywhere in the world. Exposure to unhealthy risk behaviors among adolescents may also have increased recently due to the political instability and conflict in Egypt since 2011, as reported in the media (**Wahdan, et al., 2014**).

Many of these behaviors are common among youth and tend to increase with age and continue into adulthood. These risk behaviors do not occur in isolation so there is a growing evidence that adolescents tend to adopt sets of healthy or unhealthy behavior patterns from their surroundings. Understanding patterns of associations among multiple health behaviors and the extent to which risk behaviors occur is essential for the screening and intervention of multiple health behaviors (**Haye et al., 2014**).

Some adolescents also struggle to adapt behaviors that could decrease their risk of developing chronic diseases in adulthood, such as healthy nutrition, engaging in physical activity, and choosing not to use tobacco. Social factors, such as family, peer group, school, and community characteristics also contribute to adolescents' health and risk behaviors (**CDC, 2014**).

Nurses in health care are tasked with improving the health of adolescents through evidence-based recommendations while encouraging individuals to receive preventative services, such as screenings, counseling and precautionary medications. Through public health education, nurses can inspire a larger group of people to engage in

healthy lifestyles and ultimately live longer lives. Nurses take part in on a regular basis depending on their position in health care facilities or organizations (as a clinician, advocate, teacher, researcher, consultant, counselor, case manager) (**U.S. Preventative Services Task Force, 2014**).

Aim of the Study:

The present study aimed to assess the unhealthy risk behaviors among adolescent's students at the Technical Health Institute.

Research Question

What are the unhealthy risk behaviors among adolescent's students at the Technical Health Institute?

Subject and methods for this study were portrayed under the following four main designs:

- 1- **Technical design.**
- 2- **Operation of design.**
- 3- **Administrative design.**
- 4- **Statistical design.**

1- Technical design:

Descriptive study design was utilized to conduct the study, it included the setting of the study and subjects and tools for data collection.

a) Setting:

This study was conducted at the Technical Health Institute in Benha city.

b) Subject size and inclusion criteria:

Convenience sample was composed of the available adolescent students in the above

mentioned setting involving 200 students. Inclusion criteria, students who agreed to participate in the study during the academic year (2013-2014). Students were in different departments as emergency, nursing and psychiatric nursing departments.

c) Tools of data collection:

Data was collected through using the following tools:

First tool: a structured interviewing questionnaire:

The researcher designed an interview questionnaire sheet. It was written after reviewing the recent related literature to assess the adolescents' risk behavior. It was written in simple Arabic in the form of closed questions and multiple choice questions (MCQ) to gather data in relation to the following items

First part included the following, questions related to socio-demographic characteristics. Second part, questions related to family characteristics. Third part, questions related to behavior leading to intentional and unintentional injuries. Fourth part, questions related to smoking behavior. Fifth part, question related to alcohol and other drug use behavior. Sixth part, questions related to unhealthy dietary behaviors. Seventh part, questions related to physical inactivity. Finally, question related to sources of health educations and health information.

Scoring system:

The total score level for the questionnaire sheet was 47 grades. Each study subject was individually interviewed, knowledge obtained from students was scored and calculated. According to the answers, their responses were evaluated using the model key answer sheet prepared by the researcher. According to their answers, their responses as a yes were scored as (1). Their responses as a no were scored

(0) grade. Never answered questions were scored (0) (1) grade was scored for "sometimes" and (2) for the "usually" response. (equal 100%) calculated for each behaviors as:

- No risk (0%).
- Mild risk (1% - less than 50%).
- Moderate risk (50% - less than 75%).
- Severe risk (more than 75%).

Second tool was anxiety symptoms scale, about 18 questions, adopted from **Mclnery, (2009)**. It was used to assess the adolescents' anxiety symptoms that represent major problem related to risk behaviors. For the utilized scale, "never" answer was weighted as (0). Score (1) was the grade for "sometimes" and score (2) for "usually" responses. The total score level for the sheet was 36 grades (equal 100%) calculated for each behavior as:

- Mild risk (0% - less than 50%).
- Moderate risk (50% - less than 75%).
- Severe risk (75% -100%).

Third tool was sleep problems scale, about 10 questions, adopted from **Mclnery, (2009)**. It was utilized to assess the sleep problems and disturbances that evoked from their risky behavior. For the utilized scale, grade (0) was scored to "never" answer. Scored (1) grade for "sometimes" and score (2) for "usually" responses. The total score level for the sheet was 20 grades (equal 100%) calculated for each behavior as:

- Mild risk (0%- less than 50%).
- Moderate risk (50%- less than 75%).

- Severe risk (75%-100%).

Fourth tool was emotional disturbances scale among adolescents, it was adopted from **McInery, (2009)**, it was conducted to assess adolescents' emotional disturbances that arise from their risk behaviors. It included 15 questions. For the utilized scale, grade (0) was scored to "never" answer. Scored (1) grade for "sometimes" and score (2) for "usually" responses. The total score level for the sheet was 30 grades (equal 100%) calculated for each behavior as:

- Mild risk (0%- less than 50%).
- Moderate risk (50%- less than 75%).
- Severe risk (75%-100%).

Fifth tool: Educational problem scale, it was adopted from **McInery, (2009)**. To assess the education hardships observed among adolescents and considered a risk behavior confronting them. It included 10 questions. For the utilized scale, answer grade (0) was scored to "never" answer. Scored (1) grade for "sometimes" and score (2) for "usually" response. The total score level for the sheet was 20 grades (equal 100%) calculated for each behavior as:

- Mild risk (0%- less than 50%).
- Moderate risk (50%- less than 75%).

Severe risk (75%-100%).

Operation of design:

The operational design included: preparatory phase, validity and reliability, pilot study and field work.

A. Preparatory phase:

It included reviewing of current and past, local and international related literature

and theoretical knowledge of various aspects of the study using books, articles, periodical, magazines and internet to develop the tool for data collection, and get acquainted with the various aspects of the research problem.

B. Content validity:

Before starting the data collection, tools were translated into Arabic and tested for their content validity by group of five experts in the field of pediatric nursing, psychology and sociology. The required modifications were carried out according to their comments.

C. Pilot study:

A pilot study was conducted on 10% of adolescent students who participated in the study sample to evaluate validity, feasibility, applicability and time required of the used study tools. Based on the pilot study results, tools were modified. After refinement and modification, the final form of the tools was developed. The pilot study sample was excluded from the main study subject.

D. Field work:

Date collection was carried out during a six months period where the researcher was available three days / week from 9:30 am to 2 pm at Saturday, Monday and Thursday. Each student was interviewed individually using the previously mentioned study tools.

The actual field work was carried out at the first week of April 2014 up to end of September 2014 for data collection. The purpose of the study was explained by the researcher to all the students who were included in the study and oral ethical consent was obtained from the students.

Administrative phase:

Approval was obtained through an issued letter from the dean of Faculty of Nursing, Ain Shams University to the directors of Benha Technical Health Institute, explaining the aims of the study and the methods of data collection to obtain the permission to carry out the study.

Ethical consideration:

The researcher introduced herself to the students, and the purpose of the study was explained to them to gain their cooperation. Adolescent students were assured that the information collected would be treated confidentially and that it would be used only for the purpose of the research.

Statistical Design:

The collected data was organized, revised, coded, tabulated, and analyzed using the number and percentage distribution. Statistical analysis was computed by statistical package for social science (SPSS version 18). Proper statistical tests were used to determine whether there were significant differences or not.

The following statistical techniques were used:

Number and Percentage, mean degree and standard deviation (SD), chi-square (χ^2), correlation and probability of error (p-value) that indicate the significance of results through the following:

- When $p > 0.05$, there was no statistically significant differences.
- When $p < 0.05$, there was statistically significant differences.
- When $p < 0.001$, there was highly statistically significant differences.

Table (1): Distribution of the studied sample according to demographic characteristics revealed that, more than two thirds of the studied sample (72%) were male students. Concerning age, the most of the studied sample (82%) were 19 years old with a mean age ($18.8 \pm .54$), as for the religion, most of them (95%) were Muslims, more than one half of studied sample (57% - 58%) respectively were (65 kg) in weight and (170-195 cm) in height and the majority of studied sample (90.5%) lived in rural areas.

Table (2): Distribution of the studied sample in relation to their nutritional habits, showed that more than two fifths of the studied sample (42.5%) sometimes ate balanced diet. Meanwhile more than half of them (53.5% , 54% , 66%) respectively usually ate breakfast, chocolate and sweets and they slept immediately after eating, and less than one half of them (49.5%) had never eaten fried food.

Table (3): Distribution of the studied sample in relation to sleeping habits problems showed that more than quarter of studied sample (26%) often had sleeping problems while, more than half of them (55.5%) sometimes had unusual movements during sleep like snoring, periodic limp movement and shaking.

Table (4): Distribution of the studied sample in relation to their educational problems, illustrated that two thirds of studied sample (66%) sometimes didn't listen to rules, nearly two thirds of them (66%) were often absent from institution and more than quarter of them (26%) often had problems in nursing substances.

Figure (1): Relation between the studied sample ages and their total risk behaviors score demonstrated that, there was no statistically significant difference between total risk behaviors score and their ages with X^2 14.77 at **P value** > 0.05 .

Figure (2): Relation between the studied sample students' sex and their total risk behaviors score, figure (5) revealed that there was a statistically significant difference between total risk behaviors and adolescents' sex. More than one third of the studied sample (37%) were males and had severe risk from total risk score behaviors compared with the minority of them (8.5%) whom were females with mild risk behaviors. With X^2 14.11 at **P value <0.05**.

Figure (3): Relation between studied adolescent students' residence and their total risk behavior score figure (6) revealed that there was a highly statistically significant difference between the adolescent students' rural residence and their total behavior risk score. Meanwhile nearly half (48.5%) of adolescent students had severe risk from rural areas at X^2 58.67 at **P value <0.001**.

Table (1): Distribution of the studied sample according to demographic characteristics: N =200

Personnel characteristics	Frequency	%
Sex		
Male	144	72.0
Female	56	28.0
Age in years		
16.00	3	1.5
17.00	3	1.5
18.00	30	15.0
19.00	164	82.0
Mean±SD	18.78±.54 Range (16.00-19.00)	
Religion		
Muslim	190	95.0
Christian	10	5.0
Weight in kg		
45-	74	37
65-	117	58.5
85-100	9	4.5
Mean±SD	67.9±9.8 Range(55.00-45.00)	
Height in cm		
150-	86	43
170-195	114	57
Mean±SD	170.4±9.1 Range (45.00-150.00)	
Current residence		
Rural	181	90.5
Urban	19	9.5

Table (2): Distribution of the studied sample in relation to their nutritional habits.

Item	Never		Sometimes		Usually	
	No	%	No	%	No	%
Students interested in a balanced diet	61	30.5	85	42.5	54	27.0
Students eat breakfast	32	16.0	61	30.5	107	53.5
Students eat the chicken skin	44	22.0	51	25.5	105	52.5
Student adds salt to meal?	78	39.0	77	38.5	45	22.5
Students eat chocolates/sweets?	44	22.0	48	24.0	108	54.0
Students sleep immediately after eating?	20	10.0	47	23.5	133	66.5
Students watch TV during eating?	47	23.5	101	50.5	52	26.0
Students eat fried food?	99	49.5	75	37.5	26	13.0

Table (3): Distribution of the studied sample in relation to sleeping habits problems.

Items	Never		Sometimes		Often	
	No	%	No	%	No	%
-Problems in sleeping habits	80	40.0	68	34.0	52	26.0
-Thinking of own sleeping habits compared with a peer of similar age	69	34.5	65	32.5	66	33.0
-Tried to solve this problem	17	8.5	41	20.5	142	71.0
-Prefer the atmosphere in your room to be dark and quiet	39	19.5	103	51.5	58	29.0
-Take some naps during the day	176	88.0	13	6.5	11	5.5
-Take any caffeine or nicotine in the evening	42	21.0	134	67.0	24	12.0
- Prefer before bedtime to take a shower or have hot drinks	102	51.0	44	22.0	54	27.0
-Have time for sleeping	148	74.0	36	18.0	16	8.0
-Anything unusual during sleep like snoring, periodic limp movement or shaking	59	29.5	111	55.5	30	15.0
-Feel when wake up in the night the disorders of arousal, anxiety or fear	86	43.0	90	45.0	24	12.0

Table (4): Distribution of the studied sample in relation to their educational problems.

Items	Never		Sometimes		Often	
	No	%	No	%	No	%
- Making trouble with the instructor	105	52.5	82	41.0	13	6.5
- Worry about going to the institution	154	77.0	41	20.5	5	2.5
- Fighting with other adolescents	97	48.5	92	46.0	11	5.5
- Absent from institution	18	9.0	50	25.0	132	66.0
- Does not listen to rules	39	19.5	132	66.0	29	14.5
- Get headaches when in the institution	166	83.0	14	7.0	20	10.0
- Get low grades on educational substances	125	62.5	37	18.5	38	19.0
- Refuse to share in institution activities as sports, trips, festivals	16	8.0	143	71.5	41	20.5
- Obstacles face students in some scientific substances	18	9.0	50	25.0	132	66.0
- What your opinion in nursing substances?	60	30.0	88	44.0	52	26.0

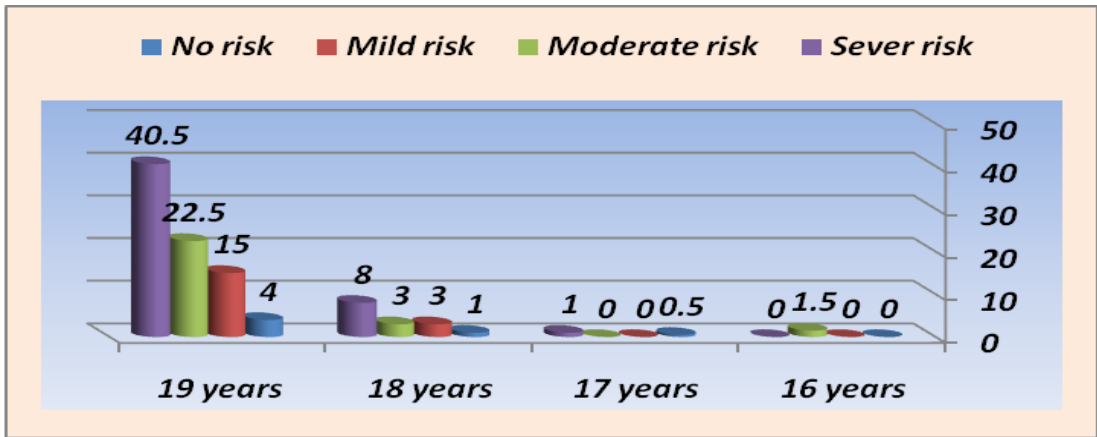


Figure (1): Relation between the studied sample ages and their total risk behaviors score.

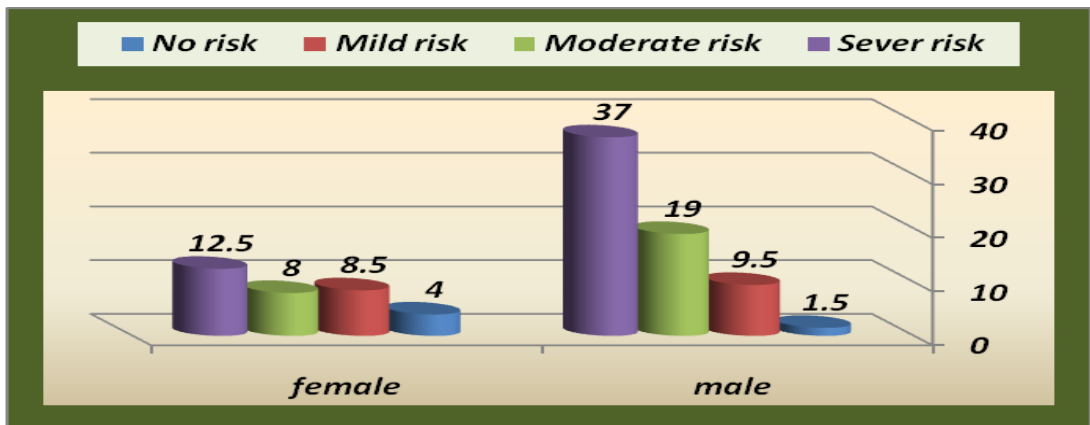


Figure (2): Relation between the studied sample sex and their total risk behavior score.

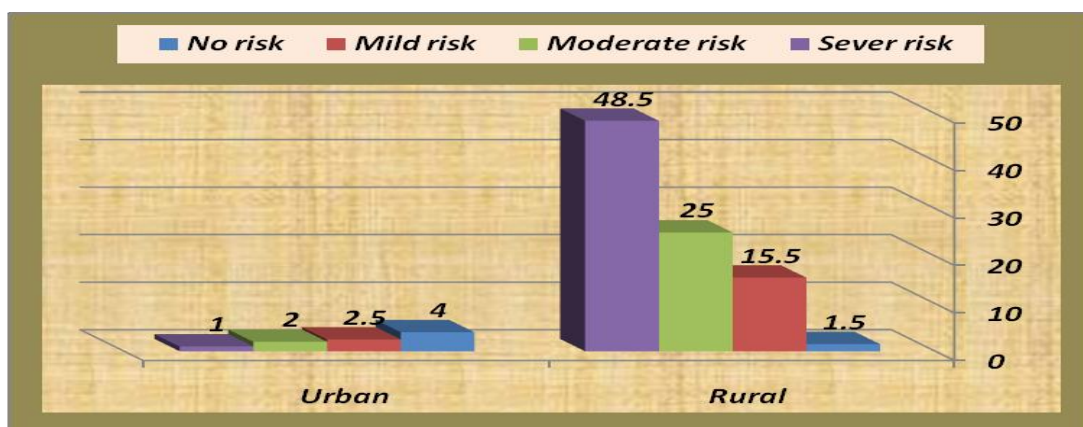


Figure (3): Relation between studied adolescent students' residence and their total risk behavior score

Discussion:

The study of adolescence has always been an interesting subject to explore. Adolescence is the vulnerable age group in the society. Growing up as a teenager is usually pretty stressful and exciting at the same time. It is because socially, the adolescents are no longer children, yet not adults. In fact, it is considered that adolescence is a time of discovery, a time to try new things whether it is about self identity or about choosing peers (**Prinstein and Dodge, 2014**).

Nurses have an important role towards adolescents to help them in dealing with risk behavior and prepare them for a future without any problems. Nurses teach students to provide a healthy behavior and good issue. Building a relationship is a very important part of caring for adolescents (**British Medical Association, 2011**).

The aim of the current study was to assess unhealthy risk behavior among adolescent students at the technical health institute. Thus, the discussion of the study findings will be presented in the following sequence; the first part will be concerned with socio-demographic data, the second part will be concerned with gathering data about the family characteristics and past history, the

third part will focus on the unhealthy risk behaviors which the adolescent students face using anxiety symptoms scale, sleep problem scale, emotional disturbances scale and educational problem scale, the fourth part will elaborate the relationship between adolescent students' socio-demographic data and total risk score behaviors

Regarding the socio-demographic characteristics of the studied sample, in table (1), the current study revealed that males are exceeding females, where more than two thirds of the studied sample were males, while females were more than a quarter of the studied sample. This may be due to the fact that most of the department participants in the sample were males.

This result is supported by **Foulger et al., (2013)**, their study was entitled "health risk behaviors in urban and rural Guatemalan adolescents" and it involved schools in the United States with a studied sample of 2000 students. They asserted that most of the participants were males and they were more likely than girls to be involved in risk behaviors.

Although the current findings of the study contradicted with **Hill et al., (2014)** in their study, entitled "gaps between adolescent risk behaviors and disclosure during outpatient visit in California City". The

studied sample was 540 students; they asserted that the majority of them were females.

Regarding adolescent students' nutritional habits, table (2), and the present study revealed that more than two fifth of the studied sample sometimes ate a balanced diet or practiced nutritive eating. This may be due to absence of knowledge about the benefits of a balanced diet, lack of information on healthy food habits, lack of motivation to eat health, and not having time to prepare or eat healthy foods due to school commitments, which were found to be the main barrier to healthy foods.

This result is congruent with **Musaiger et al., (2013)**; they based their study entitled on perceived barriers to healthy eating and physical activity among adolescents in seven Arab countries. The studied sample was 4698 students. They indicated that there are several personal, social, and environmental barriers to healthy eating and physical activity among adolescents in Arab countries. Seven Arab countries were included in the study, Algeria, Jordan, Kuwait, Libya, Palestine, Syria, and the United Arab Emirates

In relation to eating breakfast, table (2), the outcomes of the study revealed that more than one half of adolescent students were usually eating breakfast while the rest missed taking breakfast daily. This may due to that the adolescent students didn't have time for taking breakfast daily. They didn't know benefit of breakfast daily and in weight control

This result is in disagreement with **Alavi et al., (2014)**, their study was entitled "the dietary habits among adolescent girls and their association with parental educational levels", they reported that one half of the participant students didn't eat breakfast at Canadian schools, with a studied sample 500 students. They stated that there was no significant difference between

nutritional knowledge scores and the rate of physical activities in various groups. They recommended that this study warrants the necessity of paying attention to promote healthy life-style and weight control.

Concerning the distribution of the studied adolescent students regarding sleep habits problem, the present study, table (3), showed that more than quarter of studied sample had often sleeping habit problems while, more than half sometimes had unusual movements during sleep, snoring, periodic limp movement, shaking. It may due to environmental influences, such as homework, jobs, extracurricular activities, and use of technology, drinking caffeine. Also, due to the lack of supporting the educational programs on good sleep hygiene habits.

These finding are proved by the study conducted by **Merdad et al., (2014)** entitled "sleep habits in adolescents of Saudi Arabia, distinct patterns and extreme sleep schedules". Studied sample was 1035 high school students in Jeddah, Saudi Arabia. They asserted that adolescents in Saudi Arabia showed a high percentage of poor sleep quality. Compared with adolescents from other countries, they had a larger delay in weekend sleep and rise times. An alarming reversed sleep cycle on weekdays was present.

However, present results are contradictory with **Urrila et al., (2014)** in their study entitled "sleep complaints in adolescent depression, one year naturalistic follow-up study". They revealed that 90% of adolescents in the sample, 166, had severe sleep disturbances (insomnia, hypersomnia, sleep-wake rhythm disturbance) at Helsinki university central hospital and Peijas medical health care district.

In relation to distribution of the studied adolescent students in regards to their educational problems, the present study, table (4), shows that more than quarter of the

studied sample often had problems in nursing substances.

This finding is supported by **Jackson, (2010)**; he based his study entitled on understanding links between adolescent health and educational attainment demography. The studied sample was 9,000 U.S. children and adolescents. He assured that the link between adolescent health and educational attainment was explained by academic factors related to educational participation most importantly, and academic performance, rather than reduced educational expectations. He suggested that poorer health in adolescence is strongly negatively related to educational attainment. Both of them observed confounders and unobserved, time-invariant characteristics within households.

In regards to the relation between studied adolescent students age and their total risk score behavior, the present study revealed that there was no statistically significant relation ($p > 0.05$) between total risk behaviors and their ages. It may be that the behavior is not relevant to the ages. This finding was supported by **Wong et al., (2013)** that based their study entitled "sex and age differences in the risk threshold for delinquency" and found that there was a negative relation between students' age and their risk behaviors. The studied sample was 2000 students at Chinese schools.

However **Lazzeri et al., (2014)** in their study entitled "factors associated with unhealthy behaviors and health outcomes, a cross-sectional study among Tuscan adolescents (Italy)". The total sample comprised 3291 school students in Italian schools. They asserted that unhealthy behaviors are strongly related to the school environment and peer group. A negative school environment proved to have the strongest relation with poor health outcomes.

Concerning the relation between studied adolescent students' sex and their total risk score behavior. The present study

proved that there was a statistically significant relation ($p < 0.05$) between total risk behaviors and their sex. Males had severe risk behavior from total risk score more than females. These may be due to the males having aggressive behaviors for taking risk more than females and need to explore different life events.

This finding is explained by **Pitel et al., (2014)**. They based their study entitled "differences in adolescent health-related behavior differ by gender". The studied sample was 353 students in different schools in south United States; they showed that the males were more having risky behavior than females.

This finding in contrary with **Sweeting and Hunt, (2014)** in their study entitled "adolescent socio-economic and school-based social status, health and well-being". The studied sample comprised 2937 pupils in Scottish secondary schools. Associations did not differ by gender. They asserted that objective and subjective socio-economic status had weaker associations with health/well-being. School-based social status may be of greater relevance

Regarding the relation between studied adolescent students' residence and their total risk score behavior, (table 3), the present study indicated that there was a highly statistically significant relation ($p < 0.001$) between the adolescent students' residence and their total risk score. This study showed that the majority of adolescent student having severe risk scores were from rural areas. It is may due to lack of awareness in rural regions. Also, the rural adolescents try to imitate urbanized adolescents in their negative actions through the mass media.

This study is congruent by **Lisa et al., (2014)**, their study was entitled "physical activity and sedentary behavior among adolescents in rural South Africa", the studied sample was 3511 adolescents in the Agincourt sub-district of Mpumalanga

Province in rural north-east South Africa. They proved that there was a relation between both behavior (physical activity and sedentary behavior) and rural regions.

These are in contradiction with **Mohanan et al., (2014)**, they based their study entitled "the prevalence of alcohol consumption, tobacco use and sexual behaviors among adolescents in urban areas", the studied sample was 376 adolescents studying in different schools and colleges in Udupi, India. They reported that there was a relation between risk behaviors and urban areas

Conclusion:

In the light of the study findings, it might be concluded that students have shown inadequate knowledge about risk behavior which surrounded them. The study also concluded that all students having risk behaviors namely, smoking behavior, unhealthy hygienic behavior, behaviors leading to injury, disturbed dietary behaviors, and physical inactivity behaviors.

Recommendations:

- Adopting programs for early case finding of at risk behavior among adolescents.
- Empower peer educators and advocates. It is well known that adolescents are highly influenced by peers than older educators.
- Continuous evaluation of adolescent knowledge and practices is essential to identify the needs of and at risk students.
- Emphasize the importance of raising health awareness about possible risk behavior during adolescents

References

- Alavi, M.S.; Eftekhari, M.B.; Noot, R.O.; Rafinejad, J.A. and Chinekesh, A.C (2014). Dietary habits among adolescent girls and their association with parental educational levels. *Global Journal of Health Science*, 5(5): 202- 208.
- British Medical Association (2011). *Consent, rights and choices in health care for children and young people*, London: BMJ Books. Pp. 7-8.
- Bulm, R.W.; Kelly, A.T. and Ireland, M.W (2013). Health risk behavior and protective factor among adolescents with mobility impairments and learning and emotional disabilities. *Journal of Adolescent Health*, 28(6): 481.
- CDC (2014). *Mortality and morbidity weekly report MMWR. Recommended Report*, 50(22): 1–73.
- Foulger, L.D.; Page, R.M.; Hall, P.C.; Crookston, B.T. and West, J.H (2013). Health risk behaviors in urban and rural Guatemalan adolescents. *International Journal of Adolescent Medicine and Health*, 25(1): 97-105.
- Gupta, M.D.; Engelman, R.U.; Levy, J.; Luchsinger, G.; Merrick, M.A. and Rosen, G.E (2014). *The state of world population publication design and production (3rd ed.)*. Prographics, Inc. United Nations Population Fund 605, Avenue New York, NY. Pp. 85-111.
- Haye, M.K.; Amico, E.R.; Miles, J.U.; Ewing, B.L. and Joan, S (2014). Covariance among multiple health risk behaviors in adolescents. *PLoS Medicine*, 9(5): 981.
- Hill, L.E.; Hovell, M.R.; Blumberg, E.F.; Kelley, N.L.; Baird, S.A.; Sipan, C.R.; Schmitz, K.A. and Friedman, L.H (2014). Gaps between adolescent risk behaviours and disclosure during outpatient visits. *International Journal of Family Medicine*, 2(13): 1-6.

- Jackson, M.O (2010). Understanding links between adolescent health and educational attainment. *Demography*, 46(4): 671–694.
- Lazzeri, G. K.; Azzolini, E.O.; Pammolli, A.K.; Simi, R.E.; Meoni, V.L. and Giacchi, M.V (2014). Factors associated with unhealthy behaviors and health outcomes: a cross-sectional study among Tuscan adolescents (Italy). *International Journal for Equity in Health*, 13(2): 83.
- Lisa, K.F., Micklesfield, L.K., Pedro, T.G., Kahn, K.L., Kinsman, J.H., Pettifor, M.F., Tollman, S.A. & Norris, A. S (2014): Physical activity and sedentary behavior among adolescents in rural South Africa: levels, patterns and correlates. *BMC Public Health*, 14(40): 234.
- Mclenry, T.H (2009). Textbook of pediatric care tools for practice, American academy of pediatrics (2nd ed.). Printed in United States American academy department marketing and publication. Pp. 1156-1294.
- Merded, R.O.; Nassif, R.A.; El-Dewri, D.N. and Wali, S.R (2014). Sleep habits in adolescents of Saudi Arabia; distinct patterns and extreme sleep schedules. *Sleep Medicine and Research Center King Abdul-Aziz University Hospital Jeddah 21589, POBOX 80215, Saudi Arabia* <http://dx.doi.org/doi:10.1016>
- Mohanan, P.A.; Swain, S.H., Sanah, N.K.; Sharma, V.K. and Ghosh, A.H (2014). Study on the prevalence of alcohol consumption, tobacco use and sexual behavior among adolescents in urban areas of the Udipi district, Karnataka, India. *Sultan Qaboos University Medical Journal*, 14(1): 104–112.
- Musaiger, A.H.; Al-Mannai, M.K.; Tayyem, R.D.; Al-Lalla, O.D.; Ali, E.L.; Kalam, F.I.; Benhamed, M.F.; Saghir, S.W.; Halahleh, I.O.; Djoudi, Z.A. and Chirane, M.D (2013). Perceived barriers to healthy eating and physical activity among adolescents in seven Arab Countries: A cross-cultural study. *Scientific World Journal*, 14(10): 1223.
- Pitel, L.A.; Geckova, A.M. and Van, G.D. (2014). Differences in adolescent health-related behaviors differ by gender. *Journal of Epidemiology*, 23(3): 211–218.
- Prinstein, M.L. and Dodge, K.A (2014). Understanding peer influence in children and adolescents (3rd ed.). The Guilford Press, New York London and Sydney. Pp. 600-634.
- Sweeting, H.A. and Hunt, K.L (2014): Adolescent socio-economic and school-based social status, health and well-being. *Social Sciences and Medicine*, 121(2): 39–47.
- U.S. Preventive Services Task Force (2014). Behavioral counseling in primary care to promote adolescents a healthy life: recommendations and rationale. *American Journal of Preventive Medicine*, 24(1): 93-100.
- Urrila, A. S.; Karlsson, L.A.; Kiviruuu, O.C.; Pankakoski, M.C.; Pelkonen, M.V.; Strandholm, T.E.; Marttunen, M.C. and The Adolescent Depression Study Group (2014). Sleep complaints in adolescent depression: one year naturalistic follow-up study. *BMC Psychiatry*, 14(1): 283.
- Wahdan, N.A.; El-Nimr, R.A. and Kotb, A.C. (2014). Risk of aggression and criminal behavior among adolescents living in Alexandria governorate, Egypt. *Eastern Mediterranean Health Journal*, 6(6): 132.
- Wong, T.M.; Loeber, R.L.; Slotboom, A.M.; Bijleveld, C.C.; Hipwell, A.E.; Stepp, S.D. and Koot, H.M (2013): Sex and age differences in the risk threshold for delinquency. *Journal of Abnormal Child Psychology*, 41(4): 641-652.