Assessment of Risk-health Related Behaviors of Female Adolescents and Their Determinants

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المستخلص :

الأهداف :تهدف الدراسه الى تقييم السلوكيات الخطرة ذات العلاقة بالصحة لدى اليافعات و بيان محددات تلك السلوكيات وتحديد العلاقة مابين هذه السلوكيات ومرحلة المراهقة كمتغير ديموغرافي لليافعات.

المنهجية : تم اختيار عينة غرضيه من(٢٦٨) يافعة من المدارس المتوسطة والثانوية في مدينة بغداد ،هؤلاء المراهقات الحوامل كُنّ يمثلن الفئة العمرية من (١٤-١٩) سنة. حيث قسمن إلى مجموعتين من (١٤-١٦) سنة و(١٧-١٩) سنة. تم بناء إستمارة إستبيان لغرض تحقيق أهداف الدراسة. تكونت الاستمارة من (١٠) أجزاء رئيسية وكان المجموع الكلي للفقرات المتضمنة للاستمارة (١٠٦) فقره . تم تحديد الثبات والمصداقية للاستمارة من خلال الدراسة التجريبية التي أجريت للفترة من ١٥شباط ٢٠١٢ إلى ١٥ آذار ٢٠١٢. استخدمت أداة الدراسة كوسيلة لجمع البيانات. تم تحْلِيل البيانات من خلال تطبيق تحليلِ البيانات الإحصائي الوصفَي (التكرارات والنسبة المئوية) وتحليل البيانات الإحصائي الإستنتاجي (اختبار مربع كاي).

النتائج: أشارتَ النتائج إلى أن اليافعات لديهن سلوكيات غير صحية ذات علاقة بإستهلاك الطعام والعادات الغذائية.لم يكن لديهن نشاط بدني ولم يبدين إهتماما حول السيطرة على الوزن، وبشكل خاص اليافعات الأكبر سنا. التدخين كانت له نسبة مهمة وخصوصا" بين اليافعات الكبار. ولكنهن كن يمارسن سلوكيات صحية متعلقة بإستخدام العقاقير. ومن خلال تفسير السلوكيات ذات العلاقة بصحتهن النفسية، حيث كان بعضهن يشعر بالحزن والوحدة مع أفكار إنتحارية. وبالرغم من هذا كان أغلبهن ممن يهتم بسلامته ونظافته الشخصية ونظافة الفم . أظهرت الدراسة أن العائلة هي من أكثر العوامل تأثيرا " على السلوكيات المتعلقة بصحة اليافعات، والسبب في ذلك يعود إلى أن ثقافتنا تركز على دور العائلة، وبالتالي يأتي تأثير المدرسة والإعلام فيما بعد.

التوصيات: أوصت الدراسة إلى إمكانية تصميم وبناء وتقديم برامج صحية تثقيفية حول تعزيز وحماية الصحة لليافعات لغرض تحفيزهن وتمكينهن من التوجه نحو أفضل السلوكيات الصحية والقيام بدراسة أوسع على مستوى البلد لتحديد مختلف السلوكيات المتعلقة بصحة اليافعات والتي يمكن إستخدامها كقاعدة معلومات لبحوث أخرى في هذا المجال .

Abstract:

Objectives: The study aims to assess the female adolescents' risk-health behaviors, to identify their determinants, to determine the association between the risk health behaviors and the stage of adolescence for these females' demographic variable.

Methodology: A purposive sample of (268) female adolescents is selected from intermediate and secondary schools in Baghdad City. These adolescents have presented the age of (14-19) year old and divided into two groups of (14-16) year and (17-19) year. A questionnaire is constructed for the purpose of the study, it is composed of (10) major parts, and the overall items, which are included in the questionnaire, are (106) item. Reliability and validity of the questionnaire were determined through a pilot study which is carried out during the period of February 15th 2012 through March 15th 2012. The study instrument is used as mean of data collection. The data are analyzed through the application of the descriptive statistical data analysis approach (Frequency and Percentage) and the inferential statistical data analysis (Chi-squared test).

Results: The results indicate that the female adolescents have risk-taking behaviors with respect to food consumption and dietary habits. They are physically inactive, and some of them unfortunately is not concerned with the control of their weight, especially, those who are among the late adolescence females. Smoking has a considerable rate among older female adolescents. But most of them is experiencing healthy behaviors relative to drug use. Through the interpretation of their psychological state related behaviors, some of them has presented feelings of sadness and loneliness with suicidal ideas. Even though, they do care about their personal safety, and personal and oral hygiene properly. The most influential determinant of female adolescents' health related behaviors, that the present study has identified, is the family for the reason that our culture is considered as family-centered ones. Then, the school and the media have become to be less influential determinants.

Recommendations: The study recommends that health promotion and protection oriented education programs that address these risk- health behaviors can be designed, structured and presented to the female adolescents for the purpose of motivating and enabling them for better orientation toward healthy behaviors. A nation-wide study can be done to determine variety of health-related behaviors that can be used as data base for further research in this area.

Key Words: Risk-health Related Behaviors, Female Adolescents, Determinants

Introduction:

Adolescence is one of the most dynamic stages of a human development. It is accompanied by dramatic physical, cognitive, social and emotional changes that present both opportunities and changes for them, their families and their communities [(1)].

The United Nations Population Fund (UNFPA) defines adolescence as being between the age of 10 and 19, which is similar to the definition of the World Health Organization that adheres [(2)]. A critical period for development of healthy behavior and lifestyles [(3)].

One in every five people in the world is an adolescent, and 85% of them live in developing countries. Nearly two thirds of premature deaths and one third of the total disease burden in adults are associated with conditions or behaviors that began in youth, including tobacco use, a lack of physical activity, unprotected sex or exposure to violence [(4)].It is a time of exploring a variety of new behaviors and a tendency to experimentation. While this experimentation is essential for development, it may lead to an increase in risky behaviors. The potentially negative health consequences of such behaviors (for example, smoking) are likely to be underestimated by the adolescent [(5)].

The term health behavior or health-related behavior is any behavior that may affect an individual's health or any behavior that an individual believes may affect the health [(5)]. Health behaviors may be influenced by numerous biological, psychological, and social factors. They are extremely diverse. Positive, healthy, healthful or health-enhancing health behaviors are taking regular exercise, going for annual health checks, healthy eating, and using safe sex. In contrast, negative, unhealthy, risky, health-compromising, or health-impairing health behaviors would include smoking, drinking, driving too fast, and eating a diet high in saturated fat. Determinants of behavior are factors that are assumed to be most proximal to the behavior [(5)(6)].

High-risk behaviors can adverse effects on the overall development and well-being of adolescents, or might prevent them from future successes and development. This includes behaviors that cause immediate physical injury (e.g., fighting), as well as behaviors with cumulative negative effects (e.g., drug use). Risk behaviors also can affect adolescents by disrupting their normal development or prevent them from participating in typical experiences for their age group [(7)].

Adolescents may face many pressures and challenges, including growing academic expectations, changing social relationships with family and peers and the physical and emotional changes associated with maturation. This stage of life marks a period of increased autonomy in which independent decision-making that may influence their health and health-related behaviors. Behaviors, which can be established during this transition period, can continue into adulthood, affecting issues, such as mental health, the development of health complaints, diet, and physical activity level. Research findings also show how young people's health changes as they move from childhood through adolescence and into adulthood. These can be used to monitor adolescents' health and determine effective health improvement interventions [(8)].

Many adolescents engage in risk–taking behaviors that threaten their health, such as substance abuse [(9)]. The relation between health behaviors and health protection is not clearly understood. Understanding of how specific health behaviors are associated with health may have implications for designing effective health promotion programs, so far, understanding the underlying motivations in order to practice healthy behaviors in general [(10)].

There are many behaviors that might be considered risky, the Centers for Disease Control and Prevention (CDC) has identified six health risk behaviors as being particularly salient for the development of optimal health. These six risk behaviors include: (1) behaviors that contribute to

unintentional injuries and violence; (2) tobacco use; (3) alcohol and other drug use; (4) sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases; (5) unhealthy dietary behaviors; and (6) physical inactivity (11).

Because high-risk behaviors can significantly impact the lives of adolescents and those around them, the health of adolescents has become a priority for every nation. In addition, research in this area finds that female adolescents are at greater risk of negative health outcomes [(1)].

In Iraq, female adolescents constitute (24%) of total population [(12)]. They are considered as the future to safeguard our developing society. They have gained little attention within the health sector. Furthermore, little information is available on their health-related behaviors, therefore, such information are needed to highlight areas where there is lack of data that makes it difficult to assess the importance of a potentially crucial issue related to the health and development of this age group.

So, there is a large-scale necessity to carry out research based on the study of risk behaviors among Iraqi female adolescents. As the first attempt, the present study is designed to assess these females' risk-health behaviors, to identify their determinants, and to determine the association between the risk-health behaviors and the stage of adolescence for these females as demographic variable.

Methodology:

A descriptive study is conducted to assess the female adolescents' risky-health behaviors, their determinants, and the association between these behaviors and their age levels of middle and late ones through application of an assessment approach for the period of January 20th, 2012 to November 10th, 2012.

Non-probability sampling is performed. A purposive sample of (268) unmarried female adolescents is selected from intermediate and secondary schools in Baghdad City. These female adolescents represent those who are between the ages of (14-19) years old. and they are divided into two groups of middle adolescence (14-16) year and late adolescence (17-19) year(2). These two age groups are preferably selected because they are anticipated to be vulnerable groups for risk-health behaviors. The Body Mass Index(BMI) is measured as weight(kg)/ height(m)^2 relative to each stage of adolescence as middle and late ones[(13)]. Anonymous self-report questionnaire, or an assessment tool, is constructed for the purpose of the study. It is comprised of (10) major parts; personal safety (17) item, personal and oral hygiene (8) items, smoking (5) items, drug use (5) item, food consumption (13) item, dietary habits (6) items, physical activity (10) items, weight control (5) items, psychological health and school achievement (6) items, and health-related behavior determinants (21) item. The overall items, as being included in the questionnaire, are (106) item. All items are rated as YES and NO, and scored as 2 for YES and 1 for NO. Maximum and minimum of total scores for subjects' responses are calculated for the determination of risk-health behaviors as: risky behavior and healthy ones. Reliability is determined through a pilot study which is carried (50) female adolescents throughout the period of February 15th 2012 through March 15th 2012. Alpha correlation coefficient of (r=0.86) is computed for the split-half reliability. The sample of the pilot study is excluded out of the original sample of the study. Panel of (10) experts is used for determining the content validity of the instrument. So far, the anonymous self-report questionnaire is utilized as mean of data collection. The data are analyzed through the application of the descriptive statistical data analysis approach (Frequency and Percentage) and the inferential statistical data analysis (Chi-squared test). All statistical procedures are computed at probability level of p=0.05.

Results:

The findings of data analysis are presented as follows:

Table 1. Distribution of Adolescents ' Female by Demographic Characteristics of Age and Body Mass Index

Demographic Characteristics		
Age (Years)	**Frequency**	**Percent**
Middle Adolescence (14-16)	**154**	**57.46**
Late Adolescence (17-19)	**114**	**42.53**
Body Mass Index	**Frequency**	**Percent**
Underweight **14-16** **17-19**	**6** **2**	**4.13** **1.75**
Normal weight **14-16** **17-19**	**115** **75**	**74.67** **65.78**
Overweight **14-16** **17-19**	**24** **32**	**15.58** **28.07**
Obese **14-16** **17-19**	**9** **6**	**5.84** **5.26**

Table 2. Assessment of Female Adolescents' Health-related Behaviors by Age

Age (Years)	**Health-related Behaviors**	
	Risky (85-127)	**Healthy (128-170)**
Middle Adolescence (14-16)	**93(60.4%)**	**61(39.6%)**
Late Adolescence (17-19)	**69(60.5%)**	**45(39.5%)**
Total	**162**	**106**
$X^2_{Observed=}$ **0.19**	$X^2_{Critical=}$ **3.841**	**df=1** **P= 0.05**

Table 3. Assessment of Personal Safety as Health-related Behaviors for Female Adolescents' by Age

Personal Safety / **Age (Years)**	**Health-related Behaviors**	
	Healthy (17-25)	**Risky (26-34)**
Middle Adolescence (14-16)	**106(96.1%)**	**6(3.9%)**
Late Adolescence (17-19)	**148(93.0%)**	**8(7.0%)**
Total	**254**	**14**
$X^2_{Observed=}$ **1.266**	$X^2_{Critical=}$ **3.841**	**df=1** **P= 0.05**

Table 4. Assessment of Personal and Oral Hygiene as Health-related Behaviors for Female Adolescents' by Age

Personal and Oral Hygiene / Age (Years)	Health-related Behaviors	
	Healthy (12-16)	Risky (8-11)
Middle Adolescence (14-16)	137(89.9%)	17(11.1%)
Late Adolescence (17-19)	105(92.1%)	9(7.9%)
Total	242	26
$X^2_{Observed=}$ 1.12	$X^2_{Critical=}$ 3.841	df=1 P= 0.05

Table 5. Assessment of Smoking as Health-related Behaviors for Female Adolescents' by Age

Smoking / Age (Years)	Health-related Behaviors	
	Healthy (5-7)	Risky (8-11)
Middle Adolescence (14-16)	135(87.7%)	19(12.3%)
Late Adolescence (17-19)	91(79.8%)	23(20.2%)
Total	226	42
$X^2_{Observed=}$ 10.81	$X^2_{Critical=}$ 3.841	df=1 P= 0.05

Table 6. Assessment of Drug Use as Health-related Behaviors for Female Adolescents' by Age

Drug Use / Age (Years)	Health-related Behaviors	
	Healthy (5-7)	Risky (8-10)
Middle Adolescence (14-16)	145(94.2%)	9(5.8%)
Late Adolescence (17-19)	109(95.6%)	5(4.4%)
Total	254	14
$X^2_{Observed=}$ 10.83	$X^2_{Critical=}$ 3.841	df=1 P= 0.05

Table 7. Assessment of Food Consumption as Health-related Behaviors for Female Adolescents' by Age

Food Consumption / Age (Years)	Health-related Behaviors	
	Healthy (20-26)	Risky (13-19)
Middle Adolescence (14-16)	34(22.1%)	120(77.9%)
Late Adolescence (17-19)	48(42.1%)	66(57.9%)
Total	82	186
$X^2_{Observed=}$ 13.03	$X^2_{Critical=}$ 3.841	df=1 P= 0.05

Table 8. Assessment of Dietary Habits as Health-related Behaviors for Female Adolescents' for by Age

Dietary Habits / Age (Years)	Health-related Behaviors	
	Healthy (9-12)	Risky (6-8)
Middle Adolescence (14-16)	67(43.5%)	87(56.5%)
Late Adolescence (17-19)	47(41.2%)	67(58.8%)
Total	114	154
$X^2_{Observed=}$ 0.18	$X^2_{Critical=}$ 3.841	df=1 P= 0.05

Table 9. Assessment of Physical Activity as Health-related Behaviors for Female Adolescents' by Age

Physical Activity / Age (Years)	Health-related Behaviors	
	Healthy (15-20)	Risky (10-14)
Middle Adolescence (14-16)	39(25.3%)	115(74.7%)
Late Adolescence (17-19)	29(25.4%)	85(74.6%)
Total	68	200
$X^2_{Observed=}$ 0.05	$X^2_{Critical=}$ 3.841	df=1 P= 0.05

Table 10. Assessment of Weight Control as Health-related Behaviors for Female Adolescents' by Age

Weight Control / Age (Years)	Health-related Behaviors	
	Healthy (8-10)	Risky (5-7)
Middle Adolescence (14-16)	39(25.3%)	115(74.7%)
Late Adolescence (17-19)	17(14.9%)	97(85.1%)
Total	56	212
$X^2_{Observed=}$ 3.97	$X^2_{Critical=}$ 3.841	df=1 P= 0.05

Table 11. Assessment of Psychological Health and School Achievement as Health-related Behaviors for Female Adolescents' by Age

Psychological Health and School Achievement / Age (Years)	Health-related Behaviors	
	Healthy (9-12)	Risky (6-8)
Middle Adolescence (14-16)	110(71.4%)	44(28.6%)
Late Adolescence (17-19)	43(37.7%)	71(62.3%)
Total	153	115
$X^2_{Observed=}$ 31.88	$X^2_{Critical=}$ 3.841	df=1 P= 0.05

Table 12. Assessment of Determinants of Health-related Behaviors for Female Adolescents (14-16) Years old

List	Determinant	F	%
	A. Personal Safety, Personal and Oral Hygiene		
1	Learning from the family	84	54.54
2	Learning from the school	45	29.22
3	Learning from both family and school	25	16.24
	B. Smoking		
4	The family has an influence upon their smoking	49	76.56
5	Peers have an influence upon their smoking	15	23.44
	C. Drug use		
6	The family has an influence upon the substance use	22	55
7	Peers have an influence upon the substance use	18	45
	D. Food consumption and dietary habits		
8	The influence of the family	96	63.58
9	The influence of the school	58	38.42
	E. Physical activity		

10	The family has an influence upon the physical activity	72	46.75
11	The media has an influence upon the physical activity	50	32.47
12	The school has an influence upon the physical activity	32	20.78
	F. Weight control		
13	The family has an influence upon the weight control	97	63
14	The school has an influence upon the weight control	57	47
	G. Violence		
15	The family violence	56	66.7
16	The school violence	28	33.3
	H. Problems		
17	Problems within the family	7	41.2
18	Problems within the school	10	58.8

F= Frequency, %= Percent

Table 13. Assessment of Determinants of Health-related Behaviors for Female Adolescents (17-19) Years old

List	Determinant	F	%
	A. Personal Safety, Personal and Oral Hygiene		
1	Learning from the family	28	24.57
2	Learning from the school	59	51.75
3	Learning from both family and school	27	23.68
	B. Smoking		
4	The family has an influence upon their smoking	58	76.32
5	Peers have an influence upon their smoking	18	23.68
	C. Drug use		
6	The family has an influence upon the substance use	29	63
7	Peers have an influence upon the substance use	17	37
	D. Food consumption and dietary habits		
8	The influence of the family	70	61.4
9	The influence of the school	44	38.6
	E. Physical activity		
10	The family has an influence upon the physical activity	28	24.56
11	The media has an influence upon the physical activity	64	56.14
12	The school has an influence upon the physical activity	22	19.30
	F. Weight control		
13	The family has an influence upon the weight control	89	78.07
14	The school has an influence upon the weight control	25	21.93
	G. Violence		
15	The family violence	38	66.7
16	The school violence	19	33.3
	H. Problems		
17	Problems within the family	11	55
18	Problems within the school	9	45

F= Frequency, %= Percent

Discussion:

Discussion of the study findings is organized and presented with respect to its objectives. Such findings are presented with available supportive evidence in the literature.

Part I: Assessment of Female Adolescents' Characteristics of Age and Body Mass Index

Throughout the data analysis, such assessment has required that the subjects of the study has to classified into two main groups; middle adolescence(14-16) years and late adolescence(17-19) years(Table 1). It is believed that the two groups are being of greater risk health exposure than the remaining group of early adolescence as being reported in the literature[14].

Relative to their body mass index, the findings have indicated that most of the female adolescents has normal body mass index; (115)(74.67%) for the middle adolescence group and (75)(65.78%) for the late adolescence group. Late age female adolescents has experienced over-weight more than middle age ones; (32)(28.07%) and (24)(15%) respectively. Few of them are underweight (6)(4.13%) and obese (9)(5.84%) for the middle age group and (2)(1.75%) for underweight and (6)(5.26%) for the obese late age group (Table 1). It is obvious out of these findings that older female adolescents gain more weight than younger ones. It may be due to the fact that they become physically inactive, they do not have control over their weight and they have a desire to consume unhealthy food as being evidenced in the present study.

A prospective cross-sectional study provided supportive evidence to the findings of the phenomenon of body mass index in the present study with higher percentages, except that of normal body weight. It was performed on (221) female adolescents in the Kingdom of Bahrain to identify the most common health risks. The average age range was from (14-19) years old. Results out of the study showed that the prevalence of obesity is (8.3%), over weight is (8.8%), under weight is (11.4%) and the normal weight is (27.3%) [15] .

Part II: Assessment of the female adolescents' risk-health related behaviors

Analysis of such assessment depicts that both middle and late age female adolescents have experienced almost the same risk health-related behaviors (60.4%) for middle age female adolescence (60.5%) for the late ones (Table 2). This is may be due to the nature of the groups and the fact that they become more active and socially involved, and being more opportunistic to risk health-related behaviors than the early age female adolescents.

Early adolescence begins to experi-ment with new ways of behaving, while middle adolescence is considered a time of risk-taking, ending in late stage adolescence, during which assessment of one's own risk-taking occurs [14].

More than 33 percent of the disease burden and almost 60 percent of premature deaths among adults can be associated with behaviors or conditions that began or occurred during adolescence for example, tobacco and alcohol use, poor eating habits, sexual abuse, and risky sex[16].

Part III: Assessment of aspects of health-related behaviors for female adolescents

Throughout the course of the data analysis, the study findings present that greater number of the groups has reported healthy behaviors with respect to the aspects of personal safety (96.1%) for the middle age female adolescents and (93.0%) for the late age ones(Table 3). The existence of such finding is due to that the majority of the female adolescents do not have the opportunity in our culture to drive automobiles. In spite of what has been reported in the literature that road-traffic and unintentional injuries are a leading cause of death and disability in adolesc-ence[4].

Relative to personal and oral hygiene, the greater number of the groups has reported healthy behaviors ((89.9%) for the middle age female adolescents and (92.1%) for the late age ones (Table 4). Such finding is providing evidence that

female adolescents at these age groups have more interest to care about themselves especially through their maintenance of grooming and body image.

Most of the females, in both groups, has presented risky behaviors with regard to food consumption (77.9%) for the middle age female adolescents and (57.9%) for the late age ones(Table 7), physical activity (74.7%) for the middle age female adolescents and (74.6%) for the late age ones(Table 9) and weight control (74.7%) for the middle age female adolescents and (85.1%) for the late age ones(Table 10). This can be interpreted in a way that these adolescents have a desire to consume fast food, rich with saturated fat, and low with vegetables and fruits. They also prefer to drink soda beverages rather than water and fresh juices. They are not engaged in sport activities and physical fitness related activities, and they spend most of their time in watching television and working on the internet. All of the early stated evidences can contribute to the inability of some of them to control over their weight.

Some of the females, in both groups, has demonstrated risky behaviors throughout the assessment relative to dietary habits; (56.5%) for the middle age adolescents and (58.8%) for the late age ones (Table 8). Female adolescents' responses reveal that they, in general, skip the breakfast and they do not take supplementary vitamins. With regard to the psychological health state, (28.6%) for the middle age female adolescents and (62.3%) for late age ones has experienced feelings of sadness and loneliness with suicidal ideas(Table 11). Concerning their school achievement, some of the female adolescents' responses do not present an evidence that they are serious about this issue.

In a prospective cross-sectional study was performed on (221) female adolescents to identify the most common health risks. The study findings reveal that (12.6%) females are feeling lonely. (12.6%) female adolescents have symptoms of depression, suicidal thoughts are significantly more prevalent in female adolescents, 26 (6.6%), females are physically inactive and leading sedentary life style activity and unhealthy diet habits[15].

In a sample of Australians who were (18) year old, cluster analysis revealed that smoking and adverse dietary choices, and physical inactivity were clustering among females more than males. In addition, female teens are 10-20 times more likely than male teens to have disordered eating [17].

There was an evidence that adolescents were not enough physically active and unable to sustain their activity levels into adulthood [18 and 19].

Furthermore, the World Health Organization reports' had indicated that at least (20%) of adolescents may experience some form of mental illness, such as, depression, mood disturbances, substance abuse, suicidal behaviors or eating disorders. Among (15-19) year olds, suicide is the second leading cause of death, followed by violence in the community and family [4].

Considerable rate of the females, in the groups, has presented risky behaviors concerning that of smoking especially among the late adolescence(12.3%) for the middle age adolescents(20.2%) for the late age ones (Table 5), but most of them has healthy behaviors related to substance use(94.2%) for the middle age adolescents(95.6%) for the late age ones (Table 6). It has been evidenced worldwide that the vast majority of tobacco users begin during adolescence. Today more than 150 million adolescents use tobacco, and this number is globally increased[4].

In Asia and the Pacific Region, smoking is gaining a foothold among female teenagers in the Region. In China, about nearly (8%) of female teens smoke, versus (4%) of women smokers in the population. In Japan, the prevalence of smoking has risen to (10%) among women[20].

It has been indicated that (11%) of Norwegian female adolescents has reported current daily smoking, which is found to

be already associated with multiple health problems[21].

In Sudan, a cross-sectional descry-ptive study of a random sample of (1200) adolescents within the age group of (10-19) years (53.2% girls and 46.8% boys) to assess their risk-taking behaviors. Results showed that the prevalence of smoking among adolescents girls was (1.3%), the older girls reported higher rates of (7.9%). Inactivity was significantly higher among older age of girls (58%) they were physically inactive. Adolescent's girls who are 16 years and older reported significantly less consumption of both nutritious and non-nutritious foods [22].

It was reported that youth who participated in organized sports at school or in their communities were less likely to engage in risky behaviors, such as cigarette smoking and drug use, than non-sports participants [23]. They were more likely to eat more healthy, be of lower weight, be less likely to smoke cigarettes[24].

Data analysis for the association between the female adolescents' health risk behaviors and their demographic characteristics of age has presented that there is significant association between the female adolescents' health risk behaviors of smoking, food consumption, weight control and psychological health status and school achievement(Table 5, 6, 7, 10 and 11). These Findings indicate that older female adolescents experience less risky behaviors than middle age ones. The remaining aspects of health behaviors do not depict significant associations, such as personal safety, personal and oral hygiene, substance use, dietary habits, and physical activity (Table 3, 4, 6, 8 and 9). These findings present evidence that the female adolescents experience almost the same level of risky behaviors with respect to their age group difference.

Part IV: Determinants of health-related behaviors for female adolescents (14-16) year old

Analysis of such determinants has indicated that the most predominant ones is the family and the school which have an influence on the health related behaviors of personal safety and personal and oral hygiene, smoking, drug use, physical activity, weight control, violence and problems whether they are healthy or risky ones(Table 12).

As a matter of fact, middle age female adolescents have reported that most of them has learned about personal safety and personal and oral hygiene from the family(84)(54.54%); the family has an influence upon their smoking(49) (74.56%), food consumption and dietary habits(96) (63.58), weight control(97)(63%), substa-nce use (22)(55%), and physical activity(72) (46.75%)(Table 12).

Middle adolescence can present both challenges and rewards for families, Yet the family is still home base in the changing world of middle adolescence, and core family values continue to exert a significant and stabilizing influence. With their increasingly sophisticated cognitive, moral, and social capabilities, adolescents are forming attitudes and values that will have a lasting impact on the quality of their lives, as well as those of their family and the larger community. Sharing the family's love, affection, and support with the adolescent is critical during this stage of development[25].

Some of these adolescents has presented that they have family violence (56)(66.7%) and problems in the school (10)(58.8%)(Table 12). It has been evidenced in the literature that , over time, observation of violence may lead to participation in violence by the adolescents[26].

Part IV: Determinants of health-related behaviors for female adolescents (17-19) year old

Relative to these determinants, most of the late age female adolescents have reported that they have learned about personal safety and personal and oral hygiene from the school(59)(51.75%); the family has an influence upon their weight control(89)(78.07%), smoking(58) (76.32%), drug use(29)(63%), and food consumption and dietary habits(70) (61.4%); and the media has influenced their desire towards physical activity(64) (56.14%)(Table 13).

As older adolescents become more comfortable with themselves and their emotional independence, their relationships with family members become more accepting and harmonious. Families continue to have a major impact in helping older adolescents become healthy young adults by providing a stable and supportive home environment and by maintaining a trusting and open relationship in which the young person feels cared for and comfortable in sharing new challenges and concerns. Parents can exert significant influence on the well-being of older adolescents by consistently modeling preventive and health-promoting practices, such a driving safely, avoiding or moderating the use of alcohol, and scheduling regular health visits [25].

It has been reported by some of the female adolescents that they have family violence (38)(66.7%) and family problems(11)(55%)(Table 13).

The health of adolescents is strongly affected by social factors at personal, family, community, and national levels. Nations present young people with structures of opportunity as they grow up. Since health and health behaviors correspond strongly from adolescence into adult life, the way that these social determinants affect adolescent health care crucial to the health of the whole population and the economic development of nations[8].

It has been noted that families are considered as the primary influence on the development of children, and the World Health Organization Commission on Social Determinants of Health identified supporting parents to improve early childhood development as a crucial step to improving global health. During adolescence, young people transition from dependent children to young adults who function partly autonomously. Although the primacy of the family as the source of environmental influence lessens, there is extensive published work on the protective nature of family level factors for adolescent health, most from the UK, Canada, and the USA, but with increasing evidence that parenting behaviors predict positive outcomes across cultures[25].

Social connections can serve as protective factors for adolescents, and family connectedness seems to be one of the most important factors that protect against poor health outcomes in adolescence. Family norms and attitudes also strongly affect adolescent smoking. Parents' own behaviors can influence adolescent health and behavior directly, through modeling positive behaviors or modeling risk. Young people whose parents smoke, drink alcohol, or engage in violence are more likely to engage in these behaviors, and adolescents who perceive that they have good communication and are bonded with an adult are less likely to engage in risky behaviors[9].

In sum, the study can conclude that these female adolescents are experiencing risk-taking behaviors with respect to food consumption and dietary habits. They are physically inactive, and some of them unfortunately is not concerned with the control of their weight, especially, those who are among the late adolescence females. Smoking has a considerable rate among older female adolescents. But most of them is experiencing healthy behaviors relative to drug use. Through the interpretation of their psychological state related behaviors, some of them has presented feelings of sadness and loneliness with suicidal ideas. Even though, they do care about their personal safety, and personal and oral hygiene properly. The most influential determinant of female adolescents' health related behaviors, that the present study has identified, is the family for the reason that our culture is considered as family-centered ones. Then, the school and the media have become to be less influential determinants.

Recommendations:

1. Health promotion and protection-oriented education programs that address these risk- health behaviors can be designed, structured and presented to the female adolescents for the purpose of motivating and

enabling them for better orientation toward healthy behaviors.

2. School health programs at the Ministry of Health should provide educational sessions that may focus on topics which are relevant to these health behaviors. So, teachers' awareness can be increased towards these issues in order to support female adolescents' health.
3. Coordinated programs of action, that include health education, can be directed toward parents and community level, to increase their involvement in maximizing the health potential of adolescents to initiate healthy behaviors.
4. Mass Media should play a tremendous role to normalize positive adolescents' behaviors.
5. A nation-wide study can be done to determine variety of health behaviors that can be used as data base for further research in this area.

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