Iraqi National Journal of Nursing Specialties

Journal homepage: https://injns.uobaghdad.edu.iq/index.php/INJNS

Health Behaviors among High School Students in Baqubah City/Iraq

Azal Mohammed Awad MSc.*; Arkan B. Naji, Ph.D.**.

* Diyala Health Directorate, Diyala. Iraq.

E-mail: azal.awad2106m@conursing.uobaghdad.edu.iq

**Professor, Community Health Nursing Department, University of Baghdad, College of Nursing, Baghdad. Iraq.

E-mail: arkan_nagi_web2009@conursing.uobaghdad.edu.iq

ARTICLE INFO

Article history:

Received :24/5/2023

Accepted: 21/6/2023

Published:

Keywords:

Health Behaviors,

High Schools Students,

Students Age,

Socio-economic Status,

Nursing.

ABSTRACT

Objective(s): This study aims to assess the health behaviors among secondary school students and their associated age and socio-economic status in Baquba City / Diyala.

Methods: A descriptive cross-sectional study conducted during the period from October 1st, 2022 to March 5th, 2023. The study sample consisted of 400 high school students who were selected on a simple random sample. The study instrument, a 49-item questionnaire was designed and adopted to assess health behaviors; and validated by experts and its reliability was achieved by a pilot study. Data were collected through interviews and analyzed by applying descriptive and inferential statistical analysis.

Results: The results indicate that the health behavior profiles of high school students show several worrisome trends. Notably, 43% reported acceptable physical care behaviors, while 63.8% showed poor exercise habits. Sleep and rest were acceptable for 34.8% of students, and eating habits were acceptable for 44.3%. Additionally, 69% had poor medication management behaviors, and 71% reported poor smoking behaviors. Psychosocial health was acceptable for 44% of students. The study also identified age and family socioeconomic status as significant predictors of students' health behaviors ($p = 0.001$).

Conclusion: The study results indicate that health behaviors among secondary school students in Baquba City are below the ideal level, and that the students' ages and economic status were predictors of improving their health behaviors.

Recommendations: The study adds knowledge related to health education for all segments of society towards healthy behavior. Further studies are needed to explore strategies for adopting healthy behaviors among different school stages like school health policies and practices study, guide to community preventive services and striving to reduce youth violence everywhere.

*Corresponding author at: Diyala Health Directorate, Diyala. Iraq. E-mail: azal.awad2106m@conursing.uobaghdad.edu.iq (A.M. Awad). ORCID: https://orcid.org/0009-0006-9902-0109, **https://doi.org/10.58897/ht49mt81**

السلوكيات الصحية بين طلبة المدارس الثانوية في مدينة بعقوبة/العراق

المستخلص

الأهداف: هدفت هذه الدراسة إلى تقييم السلوكيات الصحية بين طلاب المدارس الثانوية وما يرتبط بها من العمر والحالة الاجتماعية والاقتصادية في مدينة بعقوبة / ديالى.
المنهجية: دراسة مقطعية وصفية أجريت خلال الفترة من 1 أكتوبر 2022 إلى 5 مارس 2023. تكونت عينة الدراسة من 400 طالب في المدارس الثانوية تم اختيارهم على عينة عشوائية بسيطة. تم التحقق من صحة الاستبيان من قبل الخبراء وتم التحقق من موثوقيتها من خلال دراسة تجريبية. كان العدد الإجمالي الفقرات المدرجة في الاستبيان 49 فقرة لتقييم السلوكيات الصحية. جمعت البيانات من خلال المقابلات وحللت من خلال تطبيق التحليل الإحصائي الوصفي والاستدلالي.
النتائج: تشير النتائج إلى أن ملفات تعريف السلوك الصحي لطلاب المدارس الثانوية تشير إلى العديد من الاتجاهات المثيرة للقلق. والجدير بالذكر أن 43% أفادوا بسلوكيات رعاية بدنية مقبولة، بينما أظهر 63.8% منهم عادات تمرين سيئة. وكان النوم والراحة مقبولين لدى 34.8% من الطلاب، وأظهرت العادات الغذائية مقبولة لدى 44.3%. بالإضافة إلى ذلك، كان لدى 69% سلوكيات سيئة في إدارة الأدوية، وأبلغ 71% عن سلوكيات تدخين سيئة. كانت الصحة النفسية الاجتماعية مقبولة لدى 44% من الطلاب. كما حددت الدراسة العمر والوضع الاجتماعي والاقتصادي للأسرة كمؤشرات مهمة لسلوكيات الطلاب الصحية (p= .000).
الاستنتاجات: تشير النتائج إلى أن السلوكيات الصحية بين طلاب المرحلة الثانوية في مدينة بعقوبة دون المستوى المثالي وأن أعمار الطلاب وحالتهم الاقتصادية كانت منبئات في تحسين سلوكياتهم الصحية.
التوصيات: تضيف الدراسة المعرفة المتعلقة بالتثقيف الصحي لجميع شرائح المجتمع تجاه السلوك الصحي. هناك حاجة إلى مزيد من الدراسة لاستكشاف استراتيجيات لتبني السلوكيات الصحية بين مراحل المدارس المختلفة.

الكلمات المفتاحية: السلوكيات الصحية، طلاب المدارس الثانوية، عمر الطلاب، الحالة الاقتصادية والاجتماعية.

Introduction

Health behavior refers to any action or pattern of behavior that impacts an individual's physical or mental health, or that a person perceives as potentially affecting their health. Health behavior has a close connection to individuals' culture and significantly influences all health- and illness-related behavior [(1)]. The World Health Organization views health as more than just the absence of disease and views it as a resource for daily life [(2)]. Hence, research on the health of young people must take into account both the benefits of health and the risk factors for future illness and disease [(3)].

Lifestyle choices made by young people may have an immediate or long-term negative impact on their health; as a result, a wide range of behavioral variables should be monitored. Both health-damaging and risky behavior, as well as advantageous or health-promoting behavior, need to be researched [(4)]. All health-related behaviors should be adopted during the adolescent and young years because they will last into adulthood. If their associated health risk behaviors are recognized and altered early in life, many health issues and impairments in maturity can be prevented [(5)].

It is crucial to research lifestyle behaviors and their associated components in order to encourage healthy lifestyle behaviors at younger ages because it can be very difficult for people to change bad behaviors [(6)]. Many secondary school students have more options for healthy behaviors and are more likely to lead unhealthy lifestyles, such as smoking, eating poorly, experiencing more stress, and engaging in sedentary activities. Unhealthy lifestyles can be developed as a result of socialization and are shaped by a number of individual traits and social norms in the household, peer group, neighborhood, media, and advertising [(7)]. Therefore, this study aimed to assess health behaviors

among high school students and its related students age and socio-economic status as predictors for developing healthy behaviors.

Methods

Study Design and Setting

A descriptive cross-sectional study design was conducted during the period from October 1st 2022 to March 5th 2023. The study was carried out in Diyala Education Directorate in the high schools. Diyala Education Directorate includes 48 high schools. A total of 12 high schools were selected for the purpose of the study by probability sampling approach (systematic sample).

Study Sample and Sampling

The study sample included high school students who were approximately 10% from the total population of selected high schools with a total of 400 is selected according to probability sampling approach (simple random sample). These sample was chosen based on a set of criteria include: 1) Those who were selected by lottery, 2) who are different of selected school, and 3) volunteer to participate in the study after his consent

Data Collection and Study Instrument

The study questionnaires was distributed to the students, explained the instructions, answered their questions regarding the form, urged them to participate and thanked them for the cooperation. The self-report techniques were used on individual bases, and each report (15-20) minutes after taking the important steps that must be included in the study design.

This questionnaire consists of students' socio-economic characteristics such as: age, sex, class grade, residents, parents' education, family monthly income and head of family occupation.

Part II: A constructed health behaviors questionnaire with a total of (49) items of measured on 3-level type of Likert Scale (1=Never, 2=rarely, 3=mostly and 4=always). Accordingly, points can be taken range from 49-196.

Validity and Reliability

The questionnaire was validated by experts in the field of nursing. The pilot study was conducted on 10% of the study sample, which consisted of 40 respondents, to test the reliability of the study tool. Cronbach alpha in current = 0.87 which indicated acceptable level. Such selection is employed of pool of subjects.

Ethical Considerations

Official approvals were obtained to conduct this study from the College of Nursing/University of Baghdad, and official permission was obtained from the Diyala Education Directorate. After explaining the main purpose and importance of this study to the participants, they were asked to provide their consent agreement. The strict confidentiality of the data taken from the study population. Before starting gathering data from participate, they were given a brief explanation about the scientific background of the research and the purpose of conducting it.

Data Analysis

The IBM SPSS version 20.0 program was used for all the analyses that follow. Numbers and percentages were used to categorize the variables (school violence and health behavior). Simple liner regression test to predict study variables was used. Statistical significance was defined as a two-tailed p= .05.

Results

Table 1. Socio-demographic Characteristics of the students (number = 400)

Socio-Demographic Variables	Classification	No.	%
Age/years	15	8	2.0
	16	137	34.3
	17	113	28.3
	18	91	22.8
	>18	51	12.8
	M±SD= 17.1 ± 1.073		
Sex	Male	187	46.8
	Female	213	53.2
Class Grade	Fourth	144	36.0
	Fifth	91	22.8
	Sixth	165	41.3
Residency areas	Urban	324	81.0
	Rural	76	19.0
Socio-economic Status	Upper lower class	135	33.8
	Lower middle class	172	43.0
	Upper middle class	93	23.3

No.= Number**; %=** Percentage, **M±SD= M=** Mean**; SD=**Standard Deviation.

Table 1 indicates that the mean age of the students was 17.1. Regarding sex, over half of the students were female, accounting for 53.2% of the total participants. In terms of academic performance, the majority of students were in year six, making up 41.3% of them. Additionally, most students resided in urban areas, with 81% reporting living in the urban area. Finally, 43% of students were classified as belonging to the lower to middle economic class.

Table 2. Health Behavior among High School Students

Health Behavior	Level	No.	%	M±SD
Health behavior related to physical care	Poor (*5-10*)	156	39.0	11.88 ± 3.750
	Fair (*10.1-15*)	172	43.0	
	Good (*15.1-20*)	72	18.0	
Health behavior related to Exercise	Poor (*3-6*)	255	63.8	5.87 ± 2.514
	Fair (*6.1-9*)	113	28.3	
	Good (*9.1-12*)	32	8.0	
Health behavior related to sleep and rest	Poor (*3-6*)	130	32.5	8.15 ± 2.962
	Fair (*6.1-9*)	139	34.8	
	Good (*9.1-12*)	131	32.8	
Health behavior related to Diet	Poor (*13-26*)	156	39.0	31.41 ± 11.228
	Fair (*26.1-39*)	177	44.3	
	Good (*39.1-52*)	67	16.8	
Health behavior related to dealing with medicines and drugs	Poor (*7-14*)	236	59.0	13.99 ± 7.230
	Fair (*14.1-21*)	94	23.5	
	Good (*21.1-28*)	70	17.5	
Health behavior related to Smoking	Poor (*4-8*)	284	71.0	7.16 ± 4.563
	Fair (*8.1-12*)	52	13.0	
	Good (*12.1-16*)	64	16.0	
Health behavior related to	Poor (*14*-28)	143	35.8	32.79 ± 13.612

Psychosocial Aspects	Fair (*28.1-42*)	176	44.0	
	Good (*42.1-56*)	81	20.3	

No.= Number**; %**= Percentage**; M**= Mean for total score**; SD**=Standard Deviation.

Table 2 highlighted, in the category of physical care, 43% of students reported a fair level of health behaviors, with a mean score of 11.88 (±3.750). Regarding exercise, 63.8% exhibited a poor level of activity, reflected by a mean score of 5.87 (±2.514). For sleep and rest, 34.8% indicated a fair level, achieving a mean score of 8.15 (±2.962). In terms of diet, 44.3% reported a fair level of dietary habits, with a mean score of 31.41 (±11.228). Concerning the management of medicines and drugs, a significant 69% demonstrated a poor level of health behaviors, with a mean score of 13.99 (±7.230). Additionally, 71% of students reported a poor level of smoking behaviors, with a mean score of 7.16 (±4.563). Lastly, in the psychosocial aspect, 44% of students expressed a fair level, achieving a mean score of 32.79 (±13.612).

The results in figure (1) demonstrated that (44.8%) of high school students expressed a fair level of health behavior.

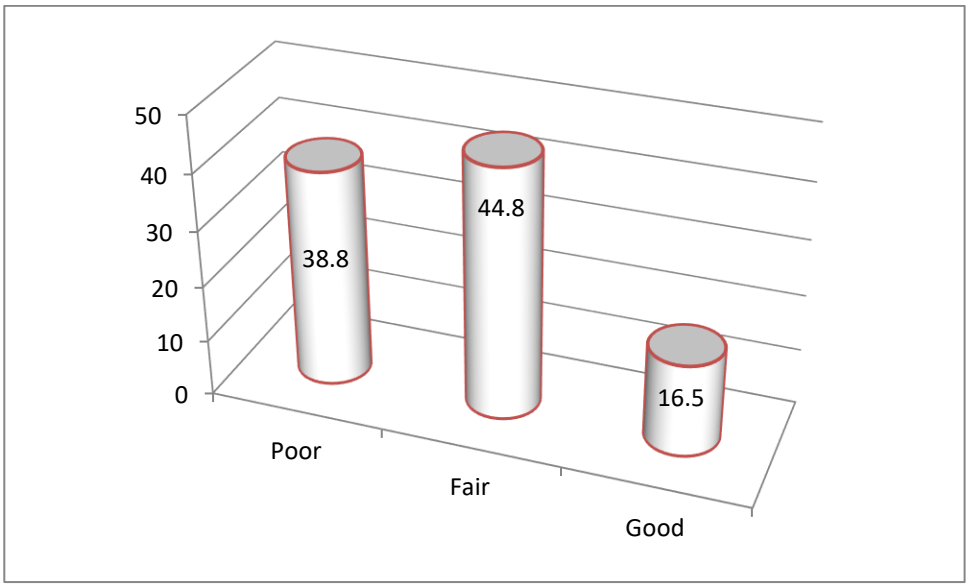

Figure 1. Overall Health Behavior among High School Students

Table 3. Liner Regression among the Study Variables in Predict the Health Behavior

Variables	Unstandardized Coefficients		Standardized Coefficients	*t*	*P-value*
	B	Std. Error	Beta		
Age	.238	.029	.359	8.223	0.001
Socioeconomic Status (SES)	.204	.041	.215	4.932	0.001

Dependent Variable: Health Behavior

The findings confirmed that students' age (p = 0.001) and their family socio-economic status (p = 0.001) significantly predicted their health behaviors.

Discussion

Socio-demographic Characteristics

In current study findings, the most of participants were female at mean age equal to 17.1 (SD=1.073). This finding is supported by findings from Secondary Schools in Third Al-Rusafa Education Directorate in three studies which records the same age groups (7-9) and preparatory school students in Baghdad [10], the mean age 17.2 years, 16.7 years, 17.81 years and 17 years respectively due to those age group are common in Iraq high schools [11]. Respect to the grade, the sixth grade were predominated (41.3%), and residents in the urban areas. This finding in agreement with findings from Baghdad city, the most of participants were urban residents [12-15]. Because most of the schools included in the study were located in urban areas. Socioeconomic status associated findings, one-third of participants from lower middle class (43%). This finding in agreement with findings from Al-Resafa district schools in Baghdad [16].

Health Behaviors among High School Students

Current study results demonstrated that the high school students expressed a fair level of health behavior. These results come due to the students' lack of awareness of healthy behaviors. This in agreement with findings from Indonesia [16], where the results indicated that the health behaviors among high school students were suboptimal due to lack of awareness campaigns in schools towards health aspects. Measures like health education and knowledge of puberty should exactly be provided to help them grow-up smoothly throughout their future life [17]. The psychological aspects were significant impact of health behaviors among school aged student [18]. Moreover, mental health plays an important role in determining participation in risk behaviors among ethnic minority students in Malaysia [19]. Public health administrators and schools have to be aware that students who suffer from mental health disorders are likely to indulge in risk behaviors. Schools should be a place to adopt healthy behaviors, therefore school officials should advertise healthy environments to conduct the educational learning process smoothly in order to increase the academic performance rates of the students. Otherwise, as a result of unhealthy effects, female students tend to drop out of school lack of healthy behaviors. Therefore, there must be cooperation between the school administration and parents to control these problems and put an end to them.

Influencing Factors of Health Behaviors among High School Students

It is observed within the study findings that students age was predicted health behavior. The older the age, the better the result in healthy behavior, and this means that awareness of health-related behaviors increases. Findings from Australia is in agreement with the current findings revealed a positive correlation between students age and their health behavior. The Australian study reported across a range of health-related behaviors including (1) screening behaviors (2) health beliefs and disease prevention strategies, influences and perceived responsibility and, (3) future needs for wellbeing [20]. Also, the greater the age, the better the health behavior among school students, taking into account the school class stage [21]. Moreover, the adolescents age was predicted variables in preventive health problems in the schools [22]. So, age plays an important role among adolescents in adopting healthy behaviors. The above studies confirmed that age is a predictive factor in improving healthy behaviors. Thus, consideration should be given to healthy behaviors among the

younger age groups in primary and middle schools.

An interesting result was observed in the current study that the economic status plays a major role in healthy behaviors among high school students. There was positive associated between healthy behavior, and high monthly income, and this more adopt healthy behaviors compared to those with limited income. Similar findings from Canada, argued that the health behavior related to school-day dietary intake were dependent on their socio-economic status [(22)]. Similarly, socio-economic status has been shown to significantly impact health-related quality of life among secondary school students [(23)]. These results are logical, given that economic factors are a crucial component of healthy behaviors [(24)]. Most students in this study have limited income. Those schools should be taken into consideration by providing and enhancing the health qualifications in those schools in cooperation with the Ministry of Health. In agreement with previous studies confirmed that the life style is better among school students who have high income than those who are low income. Monthly income plays an important role in maintaining health aspects in most societies on the physical, psychological and social levels.

Conclusion

The results indicate that health behaviors among secondary school students in the Baquba city are below the ideal level, and that the students' ages and economic status were predictors of improving their health behaviors.

Recommendations

The study adds knowledge related to health education for all segments of society towards healthy behavior. Further study is needed to explore strategies for adopting healthy behaviors among different school stages.

References

1. Lesińska-Sawicka M, Pisarek E, Nagórska M. The health behaviours of students from selected countries—a comparative study. Nursing Reports. 2021 May 31;11(2):404-17.
2. Currie C, Nic Gabhainn S, Godeau E, International HBSC Network Coordinating Committee. The Health Behaviour in School-aged Children: WHO Collaborative Cross-National (HBSC) study: origins, concept, history and development 1982–2008. International journal of public health. 2009 Sep;54(Suppl 2):131-9.
3. Tran BX, Huong LT, Hinh ND, Nguyen LH, Le BN, Nong VM, Thuc VT, Tho TD, Latkin C, Zhang MW, Ho R. A study on the influence of internet addiction and online interpersonal influences on health-related quality of life in young Vietnamese. BMC public health. 2017 Dec;17(1):1-8.
4. Martins J, Marques A, Gouveia ÉR, Carvalho F, Sarmento H, Valeiro MG. Participation in physical education classes and health-related behaviours among adolescents from 67 countries. International journal of environmental research and public health. 2022 Jan 15;19(2):955.
5. López-Bueno R, López-Sánchez GF, Casajús JA, Calatayud J, Gil-Salmerón A, Grabovac I, Tully MA, Smith L. Health-related behaviors among school-aged children and adolescents during the Spanish Covid-19 confinement. Frontiers in pediatrics. 2020 Sep 11;8:573.
6. Alzahrani SH, Malik AA, Bashawri J, Shaheen SA, Shaheen MM, Alsaib AA, Mubarak MA, Adam YS, Abdulwassi HK. Health-promoting lifestyle profile and associated factors among medical students in a Saudi university. SAGE open medicine. 2019 Mar;7:2050312119838426.

7. Mansoor S. Effectiveness of an Educational Program on Female Students' Knowledge toward Premenstrual Syndrome in Secondary Schools in Third Al-Rusafa Education Directorate, Iraq. Iraqi National Journal of Nursing Specialties. 2020;33(2):66-75.
8. Mahdi SM, Khairi SH. Effectiveness of an Educational Program on Female Students' Practices Toward Premenstrual Syndrome at Secondary Schools in Third Al-Rusafa Education Directorate. Iraqi National Journal of Nursing Specialties. 2021;34(2):39-58.
9. Raa'd K F. Effectiveness of the Health Action Process Approach on Promoting the Health Behaviors of Male High School Students in Al-Rusafa District. Iraqi National Journal of Nursing Specialties. 2022;35(1).
10. AL-jubouri SM. Assessment of Psychological Adjustment among Preparatory School Students. Iraqi National Journal of Nursing Specialties. 2022;35(1).
11. Khalifa MF. Effect of Obesity and Socioeconomic Status on Adolescents' High School Students' Intelligence Quotient in Baghdad City. Iraqi National Journal of Nursing Specialties. 2017;30(1).
12. Saadoon NY. Evaluation of Adolescents' Quality of life in Hilla City. Iraqi National Journal of Nursing Specialties. 2017;30(1).
13. Riyadh A, Hikmat S. Effectiveness of Education Program on Secondary Schools Students Knowledge about Dysmenorrhea in Alnasiriya City Schools. Iraqi National Journal of Nursing Specialties. 2018;31(2):33-42.
14. Raja H, Sajit K. Self-Esteem and its Relationship with the Age, Gender and academic Achievement among the students of the south Iraq Colleges of Nursing. Iraqi National Journal of Nursing Specialties. 2018;31(2):139-48.
15. Jasim B, Khalifa M. Evaluation of Students' Communication Skills and Academic Performance in the University of Baghdad. Iraqi National Journal of Nursing Specialties. 2019;32(2):1-0.
16. Alkhazrajy LA, Abdulmajeed SN. Factors Influencing Health and Risk Behaviors among Sample of Iraqi Adolescents. Clinical Schizophrenia & Related Psychoses. 2021 Nov 29;16(1).
17. Prihanto JB, Nurhayati F, Wahjuni ES, Matsuyama R, Tsunematsu M, Kakehashi M. Health Literacy and Health Behavior: Associated Factors in Surabaya High School Students, Indonesia. International Journal of Environmental Research and Public Health. 2021 Jul 30;18(15):8111.
18. Rahman MM. Health Behaviour of Adolescents: A Study on High School Students. Bangladesh Journal of Public Administration. 2018;26(2).
19. Busch V, Laninga-Wijnen L, Schrijvers AJ, De Leeuw JR. Associations of health behaviors, school performance and psychosocial problems in adolescents in The Netherlands. Health promotion international. 2017 Apr 1;32(2):280-91.
20. Deeks A, Lombard C, Michelmore J, Teede H. The effects of gender and age on health related behaviors. BMC Public Health. 2009 Dec;9(1):1-8.
21. Assefa M, Kumie A. Assessment of factors influencing hygiene behaviour among school children in Mereb-Leke District, Northern Ethiopia: a cross-sectional study. BMC public health. 2014 Dec;14:1-8.
22. Assefa M, Kumie A. Assessment of factors influencing hygiene behaviour among school children in Mereb-Leke District, Northern Ethiopia: a cross-

sectional study. BMC public health. 2014 Dec;14:1-8.

23. Ahmadi N, Black JL, Velazquez CE, Chapman GE, Veenstra G. Associations between socio-economic status and school-day dietary intake in a sample of grade 5–8 students in Vancouver, Canada. Public health nutrition. 2015 Apr;18(5):764-73.
24. Xiang B, Wong HM, Perfecto AP, McGrath CP. The association of socio-economic status, dental anxiety, and behavioral and clinical variables with adolescents' oral health-related quality of life. Quality of life research. 2020 Sep;29:2455-64.