

Healthy Lifestyle practices among Visually Impaired Adolescent Students at El-Noor School in Minia Governorate

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Abstract

Background: individuals with visual impairment are extremely vulnerable because of limiting access to health information and the ability to live a healthy lifestyle. **Aim:** the study aimed to assess healthy lifestyle practices among visually impaired adolescent students at El-Noor School in Minia governorate. **Study design:** a descriptive research design was utilized in the current study. **Subject:** A cluster random sample of 60 adolescent students. **Setting:** this study was carried out at Al-Noor School in Minia city. **Tools:** **questioner I** Socio-demographic characteristics, **questioner II** healthy lifestyle practices, **questioner III** female students' practices during menstruation. **Results:** the results showed that 81.7% of visually impaired students have poor healthy lifestyle practices; the mean lifestyle total score among students was (38.61 ± 5.73) . There is a statistically significant difference between student's gender and healthy lifestyle practices. Also, 56.5 % of visually impaired female students have poor practices during menstruation with mean practices (15.52 ± 2.66) . **Conclusion:** the study has demonstrated that the majority of visually impaired students had poor healthy lifestyle practices. **Recommendations:** apply health education programs for visually impaired students with emphasis on different dimensions of lifestyle behaviors.

Keywords: Adolescence, Lifestyle, Practices, Visual impairment.

Introduction

Health is one of the main human rights. Therefore, it is important in today's human life that individuals seek to increase their quality of life and prevent chronic diseases and premature death. The persons' lifestyles and daily habits are crucial for the achievement of optimal health (**Solhi et al., 2020**). General well-being and a high level of physical, mental, social, emotional, and spiritual wholeness are all part of optimal health (**Dhiman & Chawla., 2017**).

The lifestyle is directly associated with health, it implies that if an individual follows a healthy lifestyle, it will enhance the person's health promotion (**Moghaddam et al., 2017**). Healthy living' means keeping up a sound way of life and presenting practices that improve health (**Sane Australa-Healthy living, 2018**). Globally, Lifestyle-related diseases are rising worldwide representing 63% of all deaths (**Baral & Tamrakar., 2020**). Healthy lifestyles are regarded as a cornerstone in the prevention and control of non-communicable diseases (NCDs) in people of all ages (**Joseph-Shehu et al., 2019**).

Adolescence is a vital period in the course of human development that is marked by a large number of uncontrollable changing circumstances (**López Castedo et al., 2018**). Adolescents with disabilities are among the most disregarded and neediest youth all over the world. According to the United Nations, approximately, a third of the world's disabled people are youth and more than 80% live in developing countries (**International online resource center on disability, 2020**).

Community health promotion has become a keystone of efforts planned to prevent and decrease morbidity and mortality across the world. Many countries have adopted public health promotion as an important strategy for adjusting health risk behaviors and lowering the population-level burden of both communicable diseases and infectious diseases (**Diclemente et al., 2019**). The community health nurse can

advocate for visually impaired children by assessing their needs and developing health education programs to protect them from risks such as smoking, substance abuse, and the dangers of sexually transmitted disease transmission. Improving a healthy lifestyle and sharing information in teaching programs focusing on diet, activity level, stress management, reproductive health, and injury avoidance are of crucial importance (**Mahmoud & Ibrahim., 2020**). Also,, they may support students with vision impairment to live and work in the community. Also, works with their teacher and their families which aid in the prevention of social, physical, and psychological problem to those children as early as possible (**Shenouda et al., 2018**).

Significance of the study

Visual impairment is an important health issue that affects people all around the world. About 2.2 billion individuals worldwide suffer from vision impairment or blindness, with more than 1 billion cases preventable. Those individuals around the world are living with vision disabilities since they don't get the care they require for conditions like short and farsightedness, glaucoma, and cataract, according to the World Health Organization's report on vision, the yearly global costs of productivity losses related with vision impairment from untreated myopia and presbyopia alone are estimated to be US\$ 244 billion and US\$ 25.4 billion (**WHO., 2021**). According to the World Health Organization, Egypt has over 1 million blind persons and 3 million visually impaired people (**WHO. 2019**). The incidence of visual impairment remains high in Egypt, specifically among women (**Mousa et al., 2014**).

Aim of the study

The study aimed to assess healthy lifestyle practices among visually impaired adolescent students at El-Noor School at Minia governorate.

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Research questions

- What are the levels of healthy lifestyle practices among visually impaired adolescent students?
- Is there a relationship between healthy lifestyle practices and selective demographic variables among visually impaired adolescent students?

Subjects and Methods

Study design: A descriptive research design was utilized to achieve the aim of the current study

Setting:

The study was carried out at Al-Noor School in Minia city, which is part of the western school compound(Kafr El Mansoura), and serves the entire Minia Governorate, it is considered the only school for visually impaired students at Minia governorate. The school consists of two buildings, and each building contains three floors and provides numerous services such as educational, cultural, sports, and entertainment services for visually impaired students. Also, there is a restaurant providing hot meals for the students. the students attended the school are boys and girls visual problems(blindness and weak vision) from Kindergarten to secondary levels of education. The school has a living and bedrooms for students who come from long distances.

Study sample:

A Cluster random sample was used as El-Noor school is the only institution for different localities of Minia governorate also, the investigator studied all of the participant without any exception, it consisted of 60 adolescent students at the preparatory and secondary stage, (24 females and 36 males) aged 13-20 years old. The participant's students who had partial visual impairment were 34 students and 26 for those who had complete visual impairment.

Data collection tool:-

A structured interview questionnaire was used to gather data (Montero., 2005; Yampolsky.,2008; Salleh., 2011; Ali and Abd-El Aal., 2015; Shu-Ling et al.,2018) it was adjusted and modified to fit the study sample. The tool was organized into four sections as the following :

Questioner I- The questions in this section were closed-ended and structured, and it was divided into two parts as the following:

I- Socio-demographic characteristics: it was consisted of 10 questions which included age, gender, residence, mother education, father education, mother occupation, father occupation, monthly family income, staying at the institute, and needs a helper.

II-Female student's menstrual history: it included 4 questions such as the age of menarche, duration, rhythm, and amount.

Questionnaire II- Healthy lifestyle practices:

The questionnaire was used to assess the healthy lifestyle of visually impaired students (males and females), it was developed by the investigator based on the previous literature. The questionnaire included 44 multiple choice questions with 3 responses (never, sometimes, or regular) and consisted of five parts: nutritional status assessment was adapted from Montero,(2005) 10 items; physical activity assessment 12 items; stress management assessment 9 items,

was adapted from Shu-Ling et al.,(2018); assessment of interpersonal relations was adapted from Salleh, (2011) 7 items; and spiritual growth assessment was adapted from Yampolsky,(2008) 6 items.

Scoring System: -

The students' lifestyle practices were scored for each item as follows: regular practices received a score as (two), sometimes practices received a score as (one), and never practices received a score as (zero). The overall score ranged from 44 to 88. The items of the questionnaire (44) were classified and scored as poor lifestyle practices: 0-44 ($\leq 50\%$) of the total score and good lifestyle practices 45- 88 ($> 50\%$) of the total score.

Questionnaire III- Female students' practices during menstruation:

The questionnaire was adapted from Ali and Abd-El Aal,(2015) to assess female students' practices during menstruation only for girls, it consisted of 3 parts as following: Nutrition during menstruation (9 items), hygienic practices during menstruation (6 items), and exercise during menstruation (1 item). The questionnaire included 16 multiple-choice questions with 3 responses (never, sometimes, or regular).

Scoring System: -

The female students' practices during menstruation were scored for each item as follows: regular practices received a score as (two), sometimes practices received a score as (one), and never practices received a score as (zero). The overall score ranged from 16 to 32 calculated as poor practice: 0-16 ($\leq 50\%$) of the total score and good practice was ranged from 17-32 ($> 50\%$) of the total score.

Content Validity and Reliability:

The questionnaire was translated into Arabic and assessed by a jury panel of five experts in the field of Community Health Nursing, who evaluated it for clarity, relevance, comprehensiveness, understanding, and applicability. Minor changes, such as rephrasing and reordering of some sentences, were made in response to expert comments and recommendations. Internal consistency of the interviewing questionnaire was assessed with the cronbach's alpha coefficient after the pilot study done; the cronbach's alpha of healthy lifestyle practices questionnaire was 0.75 and of female students' practices during menstruation questionnaire was 0.71.

Pilot Study:

A pilot study was done on 10% of the sample (6) that was included in the study due to the small number of students and there were no modifications by deletion in the data. The clarity, reliability, and application of the study tool were examined. The tool was accomplished without difficulty, increasing support to the validity of the instrument. According to the needed description, the time taken to complete the tool was about 15-25 minutes.. Based on the pilot study, the necessary changes to the study tool were made.

Study procedure:

Agreement to conduct the study was taken from the Dean of Faculty of Nursing, Minia University. An official letter was issued from the Dean of the Faculty of Nursing to

the director of El-Noor school including a brief clarification of the aim of the study. After taking the approval, the purpose of the study was clarified to the headmaster, the teachers, and the social workers to gain their cooperation. The students were interviewed by the investigator after taking their oral consents to participate in the study.

Each student was interviewed individually at the psychologist's office or a social worker's office. The investigator followed the preventive precautions for covid-19 including wearing mask, gloves, washing hands and using alcohol between each student when performing anthropometric measurements. Open windows and maintain ventilation. The questionnaire was filled with the investigator's assistance. At the starting of the interview, the investigator greeted each student, clarified the purpose of the study, interprets the questions to the student, and marked exactly their answers.

The investigator attended to the study setting two days per week; Saturday and Monday from 8.00 Am to 2.00 Pm at school official time. Students were permitted to inquire questions and get informative answers. Data collection was conducted over a period of three months extending from September 2020 to December 2020, in each

interview; the investigator interviewed 2-3 students maximum daily.

Ethical consideration:

A written initial approval was obtained from the research ethics committee of the Faculty of Nursing, Minia University. The students were reassured that their participation is voluntary and they have the right to withdraw from the study at any time. The confidentiality of student's data was assured during the collection, as the investigator kept the student's collected information anonymous.

Statistical Analysis:

The collected data were coded, categorized, tabulated, and analyzed using the Statistical Package for Social Science (SPSS) 20 version. Qualitative data were expressed as numbers and percentages. Quantitative data were presented by the mean and standard deviation. The significant statistically differences was calculated between healthy lifestyle practices and students' socio-demographic data using the Chi-square test and fisher test for female students practices due to small number. P-value equal to or less than 0.05 was considered significant in tests of relationships

Results:

Table (1). Socio Demographic Characteristics of the Study Sample (N =60).

Personal data of the studied students	No.	%
Age / years		
13-15years	٢٨	٤٦.٧
16-20years	٣٢	٥٣.٣
Mean ± SD	15.2 ± 1.616	
Gender		
Male	36	60
Female	24	40
Residence		
Rural	27	45
Urban	33	55
Staying at institute		
Yes	23	38.3
Needs helper		
Yes	14	23.3
Sometimes	28	46.7
Mother education		
Illiterate	5	8.2
Read and write	4	6.7
Basic education	10	16.7
Secondary	37	61.7
High education	4	6.7
Father education		
Illiterate	6	10.0
Read and write	4	6.7
Basic education	3	5.0
Secondary	41	68.3
High education	6	10.0
Mother employment status		
Employed	1	1.7
Housewife	59	98.3
Father employment status		
Employed	34	56.7
Not employed	26	43.3
Family income		
Low	16	26.6
Moderate	40	66.7
Enough	4	6.7

Table 1 shows that 53.3% of the students are in the age group from 16-20 years with a mean age 15.2 ± 1.6 . Also, this table shows that 60% of the students are males. Also, 55% of the study sample lives in an urban area. Regarding staying at the institute, 61.7% of the students not staying at the institute and 46.7% of them sometimes need a helper. Concerning to their parents education, 61.7% of the student's mothers have secondary education and 68.3% of fathers have secondary education. Regarding employment status, 98.3% of the mothers are housewives while 56.7% of the fathers are employed. 66.7% of them have moderate income.

Table (2). Distribution of female students according to their menstrual history (N=23).

Menstrual history	(N=23)	%
Age of menarche		
< 13 years	8	34.8
13-16 years	15	65.2
Mean ± SD = 12.8±1.11405.		
Duration		
2-3 days	12	52.2
4-5 days	8	34.8
> 5 days	3	13.0
Rhythm		
Regular	16	69.6
Irregular	7	30.4
Amount		
Mild	6	26.1
Moderate	13	56.5
Heavy	4	17.4

Table (2): shows that 65.2% of the female students their ages of menarche ranged from 13-16 years with a mean age of 12.8±1.11405. Duration of menstruation revealed that 52.2% of them their menstrual period ranged from 2-3 days. Regarding the rhythm of a menstrual period, 69.6% of the female students have regular menstruation. Besides, 56.5% of female students have a moderate amount of menstrual blood.

Table (3). Distribution of students regarding nutrition (N=60).

Nutrition	Never		Sometimes		Regular	
	No	%	No	%	No	%
1-Eat breakfast.	13	21.7	36	60.0	11	18.3
2-Eats uncooked vegetables (salads) or prepared vegetables once: 3times a day.	4	6.7	53	88.3	3	5.0
3-Eats fish, meat, or poultry (at least 2 or 3 times a week).	0	0	30	50.0	30	50.0
4-Consumes a low-fat diet.	43	71.7	15	25.0	2	3.3
5-Eats pasta or rice almost daily.	7	11.7	48	86.0	5	8.3
6-Eats a dairy product (milk, yogurt, etc.) every day.	22	36.7	38	63.3	0	0
7-Eats fresh fruit or drink fruit juice daily	0	0	48	80.0	12	20.0
8-Eats grains or derivatives (bread, etc.) for breakfast	30	50.0	28	46.7	2	3.3
9-Consume nuts regularly	26	43.3	33	55.0	1	1.7
10-Eats sweets several times a day	19	31.7	32	53.3	9	15.0

Table 3 represents that regarding nutrition; 60.0% of visually impaired students sometimes eat breakfast. While 50% of them never eat grains or derivatives in breakfast. Also, 88.3% of the students sometimes eat fresh or cooked vegetables once a day. Besides, 80.0% of them sometimes eat fruit or have fresh juice every day. Also, 50.0% of the students regularly eat fish, meat, or poultry at least 2 to 3 times a week. 63.3% of the students sometimes eat dairy products (milk, yogurt, etc.) every day.

Table (4). Distribution of students regarding physical activity(N=60).

Physical activity	Never		Sometimes		Regular	
	No	%	No	%	No	%
1-Follow a structured exercise plan	59	98.3	1	1.7	0	0
2- Participate in light to moderate physical activity (e.g., 15-30 minutes of walking more than times a week)	17	28.3	43	71.7	0	0
3- Perform stretching exercises at minimum 3 times per week	42	70.0	17	28.3	1	1.7
4-Get some exercise during daily activities (such as walking)	4	6.7	54	90.0	3	5.0
5-Practice sports or physical exercises during leisure hours	42	70.0	53	88.3	0	0
6-Follow a structured (teacher-led)physical activities	58	96.7	2	3.3	0	0
7-Walk to school with my parents	47	78.3	12	20.0	1	1.7
8-Climb up and down the stairs several times a day	3	5.0	38	63.3	19	31.7
9-Bathing or dressing by my self	0	0	3	5.0	57	95.0
10-Practice sports or physical exercises at home	32	53.3	28	46.7	0	0
11- Listen to TV, or videos while doing exercises	49	81.7	11	18.3	0	0
12-My teacher encourages me to practice physical activity.	53	88.3	6	10.0	1	1.7

Table 4 demonstrates that 98.3% of the students never follow a planned exercise program, while 71.7% of them sometimes participate in light to moderate physical activity 15-30 minutes more times a week without a plan. In addition, 70.0% of the studied sample never does stretching exercises at least 3 times per week. Also, 70% of the students never Practice sports or physical exercises during leisure hours.

Table (5). Distribution of students regarding stress management (N=60).

Stress management	Never		Sometimes		Regular	
	No	%	No	%	No	%
1. Use specific stress-reduction techniques.	48	80.0	11	18.3	1	1.7
2. Tell people you don't know about your visual problem.	2	3.3	20	33.3	38	63.3
3. Deal with misunderstandings caused by your visual impairment	7	11.7	32	53.3	21	35.0

Stress management	Never		Sometimes		Regular	
	No	%	No	%	No	%
from others.						
4. Get enough sleep(6-8 hours per day)	4	6.7	21	35.0	35	58.3
5. Set aside some time each day for relaxing.	4	6.7	47	78.3	9	15.0
6. Accept the aspects of my life that I cannot change.	12	20.0	41	68.3	7	11.7
7. Prioritize pleasant thoughts before going to bed.	17	28.3	32	53.3	11	18.3
8. Maintain a healthy balance of study and leisure time.	1	1.7	32	53.3	27	45.0
9. Pace myself to prevent tiredness	3	5.0	28	46.7	29	48.3

Table 5 illustrates that 80.0 % of visually impaired students never using specific methods to control their stress. In addition, 63.3% of them regularly are open about their visual impairment with strangers. 53.3% of the students sometimes can deal with misunderstandings from others because of their visual impairment. Also, 58.3% of the students were regularly getting enough sleep .

Table(6). Distribution of students regarding interpersonal relations and spiritual growth (N=60).

Interpersonal relations	Never		Sometimes		Regular	
	No	%	No	%	No	%
1-Enjoy shared/ group activities.	31	51.7	22	36.7	7	11.7
2-Ask for assistance from people you know.	30	50.0	28	46.7	2	3.3
3-Talk to those close to me about my troubles and concerns.	7	11.7	29	48.3	24	40.0
4-Spend time with friends that are close to me.	1	1.7	13	21.7	46	76.7
5-Interacts with peers outside of school	4	6.7	49	81.7	7	11.7
6-Enlist the support of caring people	8	13.3	36	60.0	16	26.7
7-Can participate in social events	40	66.7	16	26.7	4	6.7
Spiritual growth						
1. Fulfilled and satisfied with my life	2	3.3	14	23.3	44	73.3
2. Strive to achieve long-term objectives in my life	6	10.0	26	43.3	28	46.7
3. Find every day interesting and challenging	46	76.7	11	18.3	3	5.0
4. Feel pleased and at peace with myself	2	3.3	38	63.3	20	33.3
5. Doing things that are considered important to me in my life	43	71.7	14	23.3	3	5.0
6. Look forward to the future	1	1.7	19	31.7	40	66.7

Table 6 shows interpersonal relations and spiritual growth as 51.7% of visually impaired students never enjoy shared/group activities. Also, 50.0% of them never ask for help from people they know. In addition, 48.3% of the students sometimes discuss their problems and concerns with people close to them. 76.7% of the students spending time with close friends regularly. Also, 66.7% of the students never participate in social events. Regarding spiritual growth, 73.3% of visually impaired students are regularly fulfilled and satisfied with their life, While 46.7% of them regularly work toward long-term goals in their life. Likewise, 76.7% of the students never find each day interesting and challenging.

Table (7): The mean score of lifestyle subscales.

Items	Maximum	Mean± SD	Range
Total lifestyle score	51.00	38.61± 5.737	18-32
Nutrition	13.00	8.50 ± 1.712	5-16
Physical Activity	12.00	6.55 ± 1.845	21-35
Stress management	16.00	10.43± 2.800	13-21
Interpersonal Relations	12.00	6.68± 2.095	6-11
Spiritual growth	10.00	6.45± 1.943	5-14

Table 7 shows that the mean lifestyle total score among students was 38.61 ± 5.737 out of 44. The highest mean (10.43 out of 11) was for stress management, followed by nutrition, interpersonal relations, physical activity, and spiritual growth. Physical activity and spiritual growth subscale mean scores were found to be lower in proportion to the other subscale mean scores.

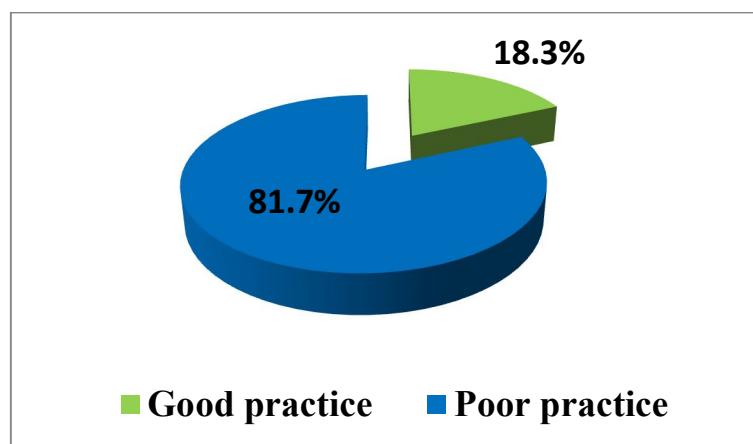


Figure (1) Percentage distribution of the total score of lifestyle practices among the study sample (N=60).

Figure 1 illustrated that 18.3% visually impaired students have good healthy lifestyle practices while 81.7% of them have poor healthy lifestyle practices.

Table(8). Distribution of female students regarding practices during menstruation (N=23).

Nutrition during menstruation	Never		Sometimes		Regular	
	No	%	No	%	No	%
1- Taking breakfast.	13	56.5	10	43.5	0	0
2-Taking vegetables and fruits	3	13.0	20	87.0	0	0
3-Drinking milk	17	73.9	5	21.7	1	4.3
4-Decrease fast food	1	4.3	4	17.4	18	78.3
5-Consume food rich in iron such as red meat and liver	2	8.7	18	78.3	3	13.0
6-Increasing hot fluid during menstruation	1	4.3	7	30.4	15	65.2
7-Taking three meals daily and snacks	13	56.5	9	39.1	1	4.3
8-Decrease tea and coffee	1	4.3	5	21.7	17	73.9
9-Decreasing taking soft drinks	0	0	11	47.8	12	52.2
Hygienic practices	0	0	1	4.3	22	95.7
1- Bathing at least three times per week	3	13.0	14	60.9	6	26.1
2-Increasing bathing during menstruation	11	47.8	10	43.5	2	8.7
3-Changing menstrual pad three times or more daily	20	87.0	3	13.0	0	0
4-Using cleansing solution for cleanliness	1	4.3	8	34.7	14	60.9
5-Using cotton underwear	15	65.2	6	26.1	2	8.7
Exercise during menstruation	18	78.3	4	17.4	1	4.3
1-Practicing sports during menstruation						

Table 8 represents nutrition during menstruation as, 56.5% of female students never take breakfast, and while 87.0% of them sometimes take vegetables and fruits. In addition, 73.9% of the participants never drink milk. Also, 78.3% of female students regularly decrease fast food. 78.3% of the female students sometimes consume food rich in iron. Also, 65.2% of students regularly increase hot fluids during menstruation. Regarding hygienic practices during menstruation, 60.9% of female students sometimes increase bathing during menstruation. Also, 47.8% of female students never change menstrual pad three times or more daily. in addition, 60.9% of female students regularly use cotton underwear and 82.6% of the participants never remove pubic and axillary hair. Regarding exercise during menstruation, 78.3% of female students never practice sports during menstruation.

Table (9): The mean score of practices during menstruation

Items	Maximum	Mean \pm SD	Rang
Total scores	20.00	15.52 \pm 2.661	9-12
Nutrition	13.00	9.60 \pm 1.802	6-10
Hygienic practices	15.00	5.95 \pm 2.671	5-10
Exercise	1.00	0.173 \pm .3875	1-5

Table 9 shows the mean practices during menstruation as the total mean score among female students is 15.52 ± 2.661 out of 16. The highest mean (9.60 out of 9) for nutrition, followed by hygienic practices, and exercise.

**Figure 2: Percentage distribution of the total score of female practices during menstruation(N=23).**

Figure 2 illustrated that 56.5 % of visually impaired female students have poor practices during menstruation while 34.5 % have good practices during menstruation.

Table (10). Relation between students' demographic characteristics and their scores of healthy lifestyle practices (N=60)

Personal data of the studied students	Healthy lifestyle practices				Fisher test	P		
	Poor practice		Good practice					
	No	%	No	%				
Age / years								
13-15years	22	78.6	6	21.4	336	.562		
16-20years	27	84.4	5	15.6				
Gender								
Male	26	72.2	10	27.8	5.362	.021*		
Female	23	95.8	1	4.2				
Residence								
Rural	21	77.8	6	22.2	.496	.481		
Urban	28	84.8	5	15.2				
Staying at institute								
Yes	13	56.5	10	43.5	15.75	.000**		
No	36	97.3	1	2.7				
Needs helper								
Yes	14	100	0	0.0	4.394	.111		
No	13	72.2	5	27.8				
Sometimes	22	78.6	6	21.4				

N.B- Fisher test (there are cells with frequencies 5 or fewer)

Table 10 illustrated that there is a statistically significant relation between gender and healthy lifestyle practices. Also, there is a highly statistically significant relation between staying at the institute and healthy lifestyle practices.

Table (11) Relation between female students socio-demographic characteristics and their score of practices during menstruation (N=23).

Personal data of the studied students	Practices during menstruation				Fisher test	P		
	Poor practice		Good practice					
	No	%	No	%				
Age / years								
13-15years	6	100	0	0.0	6.244	.012*		
16-20years	7	41.2	10	58.8				
Residence								
Rural	6	54.5	5	45.5	.034	.855		
Urban	7	58.3	5	41.7				
Staying at institute								
Yes	1	20.0	5	80.0	3.468	.063		
No	12	66.7	5	33.3				
Needs helper								
Yes	5	55.6	4	44.4	.147	.929		
No	2	66.7	1	33.3				
Sometimes	6	54.5	5	45.5				
Mother education								
Illiterate	2	66.7	1	33.3	9.678	.046*		
read and write	3	75.0	1	25.0				
basic education	6	85.7	1	14.3				
Secondary	2	50.0	2	50.0				
High education	0	0.0	5	100				
Father education								
Illiterate	2	66.7	1	33.3	.237	.971		
read and write	0	0.0	0	0.0				
basic education	3	60.0	2	40.0				
Secondary	6	54.5	5	45.5				
High education	2	50.0	2	50.0				
Mother employment status								
Employed	1	50.0	1	50.0	.038	.846		
Housewife	12	57.1	9	42.9				
Father employment status								
Employed	1	50.0	1	50.0	0.038	.846		
Not employed	12	57.1	9	42.9				
Family income								
Low	2	50.0	2	50.0	6.149	.046*		
Moderate	10	76.9	3	23.1				
Enough	1	16.7	5	83.3				

N.B- Fisher test (total N less than 30)

Table 11 illustrates that there are statistically significant difference between female student's age and their score of practices during menstruation. Regarding parents characteristics, there are statistically significant differences between female student's mother's education and their score of practices during menstruation. Also, there are statistically significant differences between female student's scores of practices during menstruation and their family income

Discussion

Health is significantly affected by an individual's lifestyle behaviors. Healthy habits include a set of domains, such as nutrition, physical activity, stress management, spiritual growth, and interpersonal relationships (Al-Qahtani., 2019).

Regarding personal data of the participant's students, the current study demonstrates that more than half of the students are in the age group from 16-20 years with a mean age 15.2 ± 1.616 . Also, the present study shows that two-thirds of the students are males. Also, the current study revealed that more than half of the study sample lives in an urban area. Regarding staying at the institute, more than two-thirds of the students not staying at the institute. Less than a quarter of the students need a helper.

The current study results are in agreement with (Ali1&Abd-EIAal., 2015) who found that the mean age of students was 15.07 ± 1.17 , while these findings are in contrast with(Farouk Mahmoud., 2016) who stated that students mean age was 18.16 ± 1.89 years. Also, the present study represented that two-thirds of the students were males. The current findings are supported by (Shenouda et al., 2018) who found that more than half of the students were male. Also, the present results are in agreement with (Gür et al., 2020) who stated that gender distribution among the student was more than half of them were boys.

As regards the residence, the current study results are supported by (Ali1&Abd-EIAal., 2015) who found that about two-thirds live in urban areas. Also, the current findings are in line with (Sathya Deepa., 2012) who found that more than two-thirds of the students are from urban areas. While the current results are contradicted with (Mahmoud& Elmahdy., 2014) who found that the vast majority of the students were from rural areas. Also, the current results disagree with (Farouk Mahmoud., 2016) who stated that the rural areas where the majority of the students reside.

Regarding staying at the institute the current study results are similar to (Ali1&Abd-EIAal., 2015) who found that more than half of students not staying at EL-Noor and EL Amal institute. Contrary to the current findings (Mahmoud& Elmahdy., 2014) who found that the vast majority of the students were residents in school. Also, (El-Kurdy et al ., 2020) found that about two-thirds of the visually impaired students have an internal residence. Regarding needs for the helper, conversely to the current findings (Ali1&Abd-EIAal., 2015) and (sabra et al., 2019) who found that more than two-thirds of the study sample needs a helper to perform certain tasks.

Regarding characteristics of parents, the current study revealed that two-thirds of parents have secondary education. Regarding employment status, the vast majority of the mothers are housewives while more than half of the fathers are employed. The present findings are disagreement with (Mahmoud& Elmahdy., 2014) who found that more than half of fathers and more than one-third of mothers were illiterate and (Farouk., 2016) who stated that students had a high proportion of illiterate fathers about nearly half and mothers coming to nearly one-third.

According to parents' employment status, the current study results are in the same line with (Rajendran.,2020; Kitesa et al., 2016; sabra et al., 2019) who found that the majority of the mothers were housewives. The current findings are different from the results reported by (Mahmoud& Elmahdy., 2014) who showed that nearly half

of fathers were farmers. Also, (Kitesa et al., 2016) who demonstrated that the majority of fathers were farmers, in addition, (Farouk., 2016) who found that the highest proportion of the student's fathers were manual workers.

Related to the menstrual history of visually impaired female students, the current study results are in agreement with (Farouk. 2016) Who found that the mean age at menarche was 13.6 ± 0.97 years. Also, the current findings are similar to (El-Kurdy et al., 2020) who found the mean age at menarche was to be 13.9 ± 1.5 . On the other line, the present results are Conversely to(Mahmoud& Elmahdy.,2014) who stated that more than half of the sample; their menstruation started at age 12-13 years. The present study results disagree with (Mahmoud& Elmahdy., 2014) who reported that all of the students their normal menstrual period ranging from 3-7 days. Also, (El-Kurdy et al., 2020) who found that two-thirds of the students their menstruation lasts from 3-5 days.

Student's healthy lifestyle practices:

Regarding nutrition, the current study represents that two-thirds of students sometimes eat breakfast. While half of them never eat cereals or derivatives in breakfast. Also, the majority of the students sometimes eat fresh or cooked vegetables once a day. The majority of them sometimes eat fruit or have fresh juice every day. Also, half of the students regularly eat fish, meat, or poultry at least 2 to 3 times a week. Two-thirds of the students sometimes eat dairy products every day. The current study demonstrated that less than three-quarters of the participants never eat a diet low in fat, saturated fat, and cholesterol. More than half of them sometimes consume nuts and eat sweets several times a day

The current study results disagree with (Montero., 2005) who found that small amounts of carbohydrates and large amounts of fats and proteins are eaten with a low level of consumption of vegetables and fruits. Also, the current study results are conversely to (Shu-Ling et al.,2018) who found that the participants earned low scores for eating 2-3 servings of dairy products every day. In addition, the present findings disagree with (Pinho et al., 2014) who found that low consumption of skim dairy products, cereals, leafy vegetables, fruits, and natural juices. From the researcher's points of view, the noticed consumption of food differences are attributed to the introduced and balanced daily nutritional meals by the institute.

Regarding physical activity, the current study revealed that demonstrates that the vast majority of the students never follow a planned exercise program, while less than three-quarters of them sometimes take part in light to moderate physical activity 15-30 minutes more times a week without a plan. Also, more than three-quarters never walk to school with their parents.

The current study results are in agreement with (Gür et al., 2020) who stated that near half of the students never engage in physical activity for more than 20 minutes 3 days a week. Also, one-third of the students never participated in sports or recreational activities. In addition, less than half of the students never took a walk or did something active in their leisure time. About three-quarters of students reported that their families never took an active walk. Also, the current findings are in the same line with (Shu-Ling et al., 2018) who found that the participants had low scores in the items "exercise vigorously for 20 minutes or more at least three times a week and take part in leisure-time physical activities.

The current results are conversely to (**Montero. 2005**) who found that all the study sample practice some types of sport.

Regarding stress management, the current study results illustrate that the majority of visually impaired students never use specific methods to control their stress. In addition, two-thirds of them regularly are open about their visual impairment with strangers. More than half of the students sometimes can deal with misunderstandings from others because of their visual impairment. Also, more than half of the students are regularly getting enough sleep. More than three-quarters of the students sometimes take relaxation time each day, while two-thirds of them sometimes accept those things in their life which they cannot change.

The current study findings are consistent with (**Hallemani et al., 2012**) who reported that the majority of the study sample had moderately coping strategies, the minority of participants had adequate coping strategies and none of them had inadequate coping strategies. Also, the present study results are in agreement with (**Esere et al., 2016**) who found that the preferred coping strategies used by students with visual impairment are considered inadequate because only one-third of the items were highly favored coping strategies while more than two-thirds of the items were not highly favored coping strategies. Regarding sleeping patterns, the current study results are similar to (**Ali1&Abd-ElAal, 2015**) who found that visually impaired students had a normal sleeping pattern.

Regarding interpersonal relations, the current study results revealed that more than half of visually impaired students never enjoy shared/ group activities. Also, half of them never ask for help from people they know. In addition, less than half of the students sometimes discuss their problems and concerns with people close to them. Three-quarters of the students spend time with close friends regularly. While the majority of them sometimes interact with peers outside of the school. Also, two-thirds of the students sometimes get support from a network of caring people. More than two-thirds of the students never participate in social events.

The current study results are approved by (**Alencar& Gasparetto., 2019**) who found that adolescents with low vision on interpersonal relations in the family and school facing difficulties in identifying themselves in such environments and feeling part of a group. Also, the present study findings are consistent with (**Gudonis& Klopota., 2017**) who reported that blind and visually impaired students don't feel a high degree of comfort in the student group. In the other line, the present results disagree with (**Shu-Ling et al., 2018**) who reported that items such as "find it easy to show concern, love, and warmth to others"; "spend time with close friends "; "maintaining a meaningful and fulfilling relationship with others" had high scores in the domain of the interpersonal relation.

From the investigator's point of view, the over-protection from parents might be an obstacle to social life outside the home because of fear of social stigma and potential dangers that their children may face especially for girls.

Regarding spiritual growth, the current study results demonstrated that three-quarters of visually impaired students are regularly fulfilled and satisfied with their life, while less than half of them regularly work toward long-term goals in their life. Likewise, three-quarters of the students never find each day interesting and challenging. Also, two-thirds of students sometimes feel content and at peace with

themselves. less than three-quarters of the students never do things considered important in life. More than two-thirds of the students are regularly looking forward to the future.

The present results disagree with (**Shu-Ling et al., 2018**) who found that students recognize the importance of Working toward long-term goals in their lives, Look forward to the future had high scores in the spiritual growth domain.

The present study results revealed that the majority of visually impaired students have poor healthy lifestyle practices, with a mean lifestyle total score among students 38.61 ± 5.73 out of 44. The highest mean is for stress management, followed by nutrition, interpersonal relations, physical activity, and spiritual growth. The mean scores for physical activity and spiritual growth subscales are found to be lower than the mean score of the other subscales.

The current results are contradicted with (**Shu-Ling et al., 2018**) who found that the highest and second-highest subscale scores were for spiritual growth and interpersonal relations and the lowest subscale scores were for nutrition followed by physical activity.

According to female Student's practices during menstruation:

Regarding nutrition during menstruation, the current study results illustrated that more than half of female students never take breakfast, and while the majority of them sometimes take vegetables and fruits. In addition, three-quarters of the participants never drink milk. Also, more than three-quarters of female students regularly decrease fast food. More than three-quarters of the female students sometimes consume food rich in iron. Also, more than two-thirds of students regularly increase hot fluids during menstruation. More than half of female students never take three meals daily and snacks.

The current findings are in agreement with (**Ali1& Abd-El Aal, 2015**) who reported that visually impaired female adolescent students didn't consume a sufficient amount of their nutritional needs and their diet doesn't often reflect their requirements during menstruation.

Regarding hygienic practices during menstruation, the current study results revealed that the vast majority of female students regularly bathe one or more weekly, while two-thirds of them sometimes increase bathing during menstruation. Also, less than of female students never changing menstrual pad three times or more daily. Likewise, two-thirds of female students regularly use cotton underwear and the majority of the participants never remove pubic and axillaries hair.

The current study results are in the same line with (**Gultie. 2014**) who found that three-quarters of the students take baths or showers during menstruation and the remainder of them didn't take baths or showers. The current findings are similar to (**Kitesa et al., 2016**) who reported that more than half of the students take baths or wash their genital areas daily while the minority don't take baths at all during the menstrual period.

Also, the present results are supported by (**Gultie., 2014**) who found that one-third of students changed pads two times per day and the minority changed only once per day. Also, (**Kites et al., 2016**) who found that more than half of the students changed pads only once per day.

The present study revealed that more than half of visually impaired female students have poor practices during

menstruation, with a mean total score among female students being 15.52 ± 2.556 out of 16. The highest mean is for nutrition, followed by hygienic practices, and exercise. From the researcher's point of view, this might be due to socio-cultural restrictions in Egypt that lead to the refusal of the mothers to discuss and educate their daughters about menstruation especially in rural areas.

The present study results are consistent with (**El-Kurdy et al., 2020**) who reported that most visually impaired adolescent girls have poor practices regarding menstrual hygiene before provision of audio-educational programs regarding menstruation. On the other line, the current findings disagree with (**Rajendran. 2020**) and (**Gultie. 2014**) who found that majority of students had good menstrual hygienic practices. Also, the current results are contradicted (**Kitesa et al., 2016**). In Ethiopia, who reported that more than two-thirds of students have good practice regards menstrual hygiene.

Relations between healthy lifestyle practices and certain demographic variables among visually impaired adolescent students

The current study results revealed that there is a statistically significant difference between gender and healthy lifestyle practices. As the majority of students who have good practice are males. The current results disagree with (**Shu-Ling et al., 2018**) who found that the mean health-promoting lifestyle scores were not significantly associated with gender.

The current research reveals that there is a statistically significant difference ($p\text{-value}.023^*$) between students' gender and nutrition by comparing the mean of healthy lifestyle practice subscales with gender; female students have a higher mean than male students. The current findings disagree with (**Jones, & Bartlett. 2018**) who found that some studies suggested that under nutrition and low weight were reported in females. Also, the present results disagree with (**Montero. 2005**) who reported that no differences in dietary quality were found between the sexes.

Regarding staying at the institute, The present study illustrated that there is a highly statistically significant difference between staying at the institute and healthy lifestyle practices. As the majority of students who have good practice are staying at the institute. The current results disagree with (**Montero. 2005**) who found that the dietary quality of the students in educational resources centers was very poor. From the researcher's point of view, this may be due to students of the present study who live at the school having a better nutritional balance in their daily meals in addition, a large number of interesting activities offered during their residence and the support systems in the study.

Relation between female students' socio-demographic characteristics and their scores of practices during menstruation:

The present study illustrates that there are statistically significant differences between student age, study grade, and their practices during menstruation. The current results are in agreement with (**Gultie-T et al., 2014**) who reported that the majority of the high school students' respondents had good knowledge about menstrual hygiene management. Also, the present results are consistent with (**Sabra Abd Elmegaly et al., 2019**) who found that more than half of the students had complete & correct knowledge regarding menstrual hygiene. From the researcher's point of view, the older female students have good practices than

younger students because they are unaware of menstruation before and most of them were worried, ashamed, and distressed due to a lack of knowledge about such a natural process.

Also, the present study demonstrates that there are statistically significant differences between practices during menstruation and mother education. The students whose mothers are highly educated were more good practice than those whose mothers are less educational level. The current study results are similar to (**Shenouda et al., 2018**) who found that there was a statistically significant difference between studied students' practical knowledge and their parent's educational levels. Conversely to (**Gultie. 2014**) who reported that the study didn't show a significant relationship between maternal education and the practice of menstruation. From the researcher's point of view, educated mothers can positively affect girls' practices to deal with menstrual hygiene in a better way. Also, these mothers are more liable to be healthier than uneducated mothers, which certainly provide more health and education for their daughters. Also, family income is another important factor that had its effect on female's practices during menstruation because sufficient income allows the purchase of disposable sanitary pads and provides money for such costly products

Conclusion:

Based on the results of the current study, it can be concluded that, the majority of visually impaired students had poor healthy lifestyle practices. The highest mean scores were for stress management, followed by nutrition, interpersonal relations, physical exercises, and spirituality. The mean scores for the subscales of physical activity and spiritual practices were found to be lower than those for the other subscales. Student's gender, staying at the institute, mother's education, and mother's employment status as socio-demographic variables associated significantly with lifestyle practices. Regarding female Students' practices during menstruation, more than half of visually impaired female students had poor practices during menstruation. The highest means were for nutrition, followed by hygienic practices, and exercise. There are statistically significant relations between practices during menstruation and participant's age, mother's education.

Recommendations:

Based on the finding of the current study, the following points are suggested:

- Implement health education and promotion programs for visually impaired adolescents with an emphasis on different dimensions of lifestyle behaviors, particularly physical activity, and nutritional practices.
- Implement health education programs for teachers and school administrators for enhancing awareness about healthy lifestyle practices.
- Implement health education programs about healthy practices during menstruation for visually impaired female students and their mothers to increase awareness.
- Perform further studies about the impact of different degrees of vision loss on lifestyle practices among different age groups along life

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