Effect of Audio Drama Based Educational Program on Healthy Lifestyle Practices among Visually Impaired Students

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ABSTRACT

Background: The visually impaired students are in need for continuous support in their personal activities. They are extremely vulnerable because of the limitation for accessing the health information. **Aim**: To evaluate the effect of Audio drama based educational program on healthy lifestyle practices among visually impaired students. **Design**: A quasi experimental pre/post-test research design. **Setting**: Al-Nour School for the Blind, Kafr El-Sheikh governorate. **Sample**: A purposive sample of 210 visually impaired students. **Tool I**: Healthy lifestyle reported practices interviewing questionnaire involved 3 parts; 1st: Demographic data. 2nd: Students' medical and family history. 3rd: Visually impaired Students' reported lifestyle practices. **Tool II:** Students' satisfaction questionnaire regarding audio drama sessions. **Results**: Students' mean age was 11.25±3.1, 57.1% of visually impaired students were females, 68.6% live in rural areas. Visual impairment cause was congenital in 59.04% of them, followed by hereditary causes in 28.57%, 67.61% were obese. A statistically significant difference in students' reported lifestyle practices was shown between pre/post audio drama teaching program at ($p < 0.001$) regarding all lifestyle domains of nutrition, physical activity, stress management, interpersonal relations, spiritual growth, personal hygiene, and sleep pattern. **Conclusion**: Using audio drama educational program was effective in improving the students' lifestyle reported practices. **Recommendation**: Generalization of the awareness and training programs regarding healthy lifestyle among the visually impaired students investing the benefits of audio drama.

Keywords: Audio Drama, Educational Program, Healthy Lifestyle, Visually Impaired Students**.**

INTRODUCTION

Visual impairment is defined as; the inability to correct person's eyesight to the normal level. Visual impairment caused mainly by the uncorrected refractive error, vision impairment among students could affect their cognitive, emotional, neurological, and physical abilities. The visual impairment due to infectious diseases has markedly decreased in the last 20 years giving a hope that 80% of visual impairment can be cured. Corneal opacity was the underlined cause for 26% of visual impairment, while congenital anomalies cause represented 25%, retinal causes represented 21%, 12% caused by cataract, 3.6% was due to trachoma, and glaucoma causes accounted about 12.3%. In addition, malnutrition, deficiency of vitamin A, ocular injuries, conjunctivitis, and measles infection were all the cause for the rest 3% of loss of vision **(Samantaray et al., 2017).**

Childhood visual impairment affects the education opportunities and employment, and consequently earning potential. The early onset of visual impairment which children have been obligated to live with has adverse effects

on the psychomotor, social, and emotional development. Children with residual vision (RV) may need some sort of support and care in order to assist and enable them to manage the best for the visual challenge **(DeCarlo, et al., 2018)**

According to the World Health Organization (WHO), there are about 285 million suffering from visual impairment in the world and it can be estimated that there is at least one person develop blindness each 1 minute. Approximately 90% of the visually impaired people are living in the developing countries. The neediest African and Asian regions are involving three quarters of children who suffer blindness in the world. As about 1.4 million blind children stay in Africa **(WHO, 2020).**

Unfortunately, the childhood visual impairment causes depend on the country of birth socioeconomic level and are primarily infective-related and may be due to nutritional corneal opacities, and sometimes because of congenital anomalies cataract, retinopathy of prematurity (ROP), refractive errors, low vision, premature or complicated birth and optic nerve visual impairment as well **(Solebo et al., 2017).**

The visually impaired students are in a crucial need to access an early intervention and rehabilitation service to improve their lifestyle practices such as activities of daily living, social interactions, psychosocial role and interactions, education and gaining knowledge, communication, self-care practices, interpersonal relations, and other different social and civic life areas **(Elsman et al., 2019).**

Audio drama refers to an art which explores the possibility to tell a story solely through sound without need for using any visual effects. Audio drama could be effective mode of teaching, being an auditory form, it could act as a substitute for the visual media regarding its psychological effect for the visually impaired students as they could listen freely without help from others when they need to pause and replay. Such feeling of independency is enough to be a strong motive for them **(Jeyanthi, 2020).**

Community health nurse has a major role in the responsibility of assessing the needs of visually impaired students to help the overcoming health promotion obstacles. CHN role mainly is endless starting with the primary prevention through health education sessions which considered the main step in the aspect of prevention to reach the goal of public health promotion as a whole and reducing the number of disabilities. Another role is improving the visually impaired hygienic measures practice, diet habits, keeping weight within normal, feeling independency, interacting positively with surroundings, which in advance will improve their health and help them having a healthy lifestyle. Thus, the researchers wanted to promote the nutritional habits, interpersonal interactions, ways for stress management and enhancing their feeling of independency, physical activity, and its importance, as well as spiritual practices, which all consequently will improve the healthy lifestyle among the visually impaired students, using an Audio drama **(Wilbur et al., 2019).**

Many studies were conducted to investigate the effect of audio drama on the healthy behaviors of visually challenged adolescent. **(Deepa, 2012)**

reported that audio drama promotes knowledge and practice of personal hygiene among visually challenged adolescent girls.

Also, **(El-Kurdy et al., 2020),** reported that the audio educational sessions were effective in enhancement of the visually challenges adolescent schoolgirls' knowledge and practices regarding menstruation

Significance of the study:

There are many challenges and barriers for the visually impaired students from living healthy lifestyles due to their disability characteristics. It was found that they significantly had lower levels of fitness and high obesity rates compared to the sighted adolescents and could be less engaged in physical activities. Research have found limited VI knowledge or training among parents, educators, or program organizers regarding engagement of these groups, and a lack of accessibility chances to physical activity, BMI is increased (65%) among them due to their eating habits which had a significant effect also on the prevalence of high typical level of LDL cholesterol **(Smith, et al., 2019).**

According to WHO, the number of people with visual impairment in Egypt exceeds 2.2 million; about 900,000 of them are totally blind, although causes can be avoided in 80 % of them.

The current study researchers believed that if education was early delivered giving sufficient knowledge on students' healthy lifestyle skills to assist them to maintain health and feel independency. Thus, this study tends to investigate the effect of audio drama on the healthy lifestyle practices among visually challenged students.

AIM OF THE STUDY

To evaluate the effect of Audio drama based educational program on healthy lifestyle practices among visually impaired students through:

1- Assess the healthy lifestyle reported practices pre/post audio drama program among the visually impaired students
2- Design and implement the audio drama based educational program to promote lifestyle reported practices among visually impaired students.
3- Evaluate the effect of the Audio drama educational program on the visually impaired students reported lifestyle practice.

Research hypothesis: Audio drama based educational program will improve the healthy lifestyle reported practices among the visually impaired students compared to their pre-intervention level.

Operational Definition

1- **Audio Drama**: Refers to a recorded sound format for duration of 20 minutes which is a conversation between two students on how to apply and maintain healthy lifestyle practices.
2- **Lifestyle practices**: Refers in this study to the student reported practices regarding seven domains (nutritional status, stress management, physical activity, sleep patterns, personal hygiene interpersonal relations and spiritual growth,).

SUBJECTS AND METHODS

1- <u>Technical design:</u>

Research design: Quasi Experimental pre-/post-test. Like a true experiment, a quasi-experimental design aims to establish a cause-and-effect

relationship between an independent and dependent variable.

However, unlike a true experiment, a quasi-experiment does not rely on random assignment. Instead, subjects are assigned to groups based on non-random criteria **(Thomas, 2021).**

Setting: The study was conducted at El-Nour school for blind students at Kafr El- Sheikh, it involves 186 students in primary school, 24 students in preparatory school and 24 students in secondary school.

Sample type: Purposive sample was taken.

Sample size: Based on data from literature **(Fares et al., 2018)**, considering 5% level of significance, and 80% power of study, the sample size calculated using the following formula:

$n = \frac{(Z\alpha/2 + Z\beta)^2 \times 2(SD)^2}{d^2}$ where, SD = standard deviation obtained from previous study; $Z_{\alpha/2}$, for 5% this is 1.96; Z_{β}, for 80% this is 0.84 and d, for the expected difference.

$$n = \frac{(1.96 + 0.84)^2 \times 2(5.73)^2}{(1.567)^2} = 209.7$$

Based on this formula, the required sample size is 210.

Inclusion criteria include schools age children (from 6-18), both males and females, regardless of their academic grades or residence. Exclusion criteria include students with physical disability, psychological or mental problems, or speech problems.

Tools for data collection:

Tool I: Healthy lifestyle reported practices interviewing questionnaire involved three sections.

Section 1: Demographic profile: It was concerned with age, gender, school grade, residence, last year school achievement. it used once before the program intervention.

Section 2: Students' medical and family history. It used once before the program intervention. It was concerned with age of visual impairment discovery, causes, treatment of visual impairment, consanguinity between parents, family history of visual impairment, students' BMI, and last year school achievement).

Section 3: Healthy lifestyle reported practices questionnaire. It used twice at pre and post intervention. The questionnaire was used to assess the healthy lifestyle reported practices of students with visual impairment. It was developed by the researcher in Arabic language.

It included 74 multiple choice questions with 3 responses (never, sometimes and regular) assessing the following seven domains: nutritional status domain (10 questions) adapted from **Montero (2005)**, physical activity domain (12 questions), sleep patterns domain (9 questions), personal hygiene domain (21 questions), stress management domain (9 questions) adapted from **Shu-Ling et al. (2018)**; interpersonal relations domain (7 questions) adapted from **Salleh (2011)**; and spiritual growth domain (6 questions) adapted from **Yampolsky (2008)**.

In relation to scoring system of section 3: The students' lifestyle practices were scored as follows: practiced regularly was given (2), sometimes was given (1), and never practiced was given (zero). The subtotal score for each domain is represented as means and SD. The total score ranged (0 to 148) which

categorized into two categories poor lifestyle practices ≤ 60% = 0 - 89 and good lifestyle practices (> 60% = 90-148).

Tool II: Students' satisfaction questionnaire. It was used to assess satisfaction level regarding use of audio drama teaching program. It included (10 statements) with 3 responses; highly satisfied, satisfied, and unsatisfied. It included statements as; adequacy of content, clearance of content, content meet your expectations, clearance of recorded voice, the duration of audio recording, this method directed to change in knowledge and practices, the method of recording was interesting, it is practical, it was motivating, effective method in teaching.

Regarding tool II scoring system: Each statement responses were scored as follows; highly satisfied scored (3), satisfied scored (2), while unsatisfied scored (1). The total score was calculated. It ranged from 10 to 30, and this total score was used to correlate with the student's lifestyle total score.

2- **Operational design:**

a. Preparatory phase:

Research setting assessment visits. In this stage, the researchers started gathering information through recurrent visits to the school for identifying target group needs in relation to their healthy nutritional practices, personal self-care, sleep pattern, physical activities, stress management, social relations, and spiritual life. The recurrent visits included meeting students, teachers, school manager, social workers and psychologists, food workers, accommodation supervisors, security members, and cleaning workers, to form a comprehensive view about students' life within the school regarding to the lifestyle dimensions.

These visits were the baseline assessment for the study setting before any data collection process to design the study plan. The students' visits were characterized by a friendly conversation in order to gain students' trust and to collect data about their healthy lifestyle needs and also to portray a complete image in relation to the cultural background of each group of students as they were heterogeneous, some of them were from rural and other from urban areas.

Reviewing the related literature using books, articles, internet, and periodicals to prepare the related data collection tools and the needed contents about the intended program.

Tools Validity and Reliability:

Testing validity: The developed tools were identified if it can measure what should be measured**.** This step was achieved by five experts (jury); two professors from public health medicine, and two lecturers from community health nursing and one professor from psychiatric and mental health nursing at Kafr-Elsheikh University. The experts have reviewed the clarity, relevance, comprehensiveness, and simplicity of the developed tools.

Testing reliability:

The reliability of health-related lifestyle questionnaire was evaluated as Cronbach alpha and intra-class correlation was >0.8 for all domains, except for Interpersonal relations domain was = 0.70.

Ethical Considerations:

Written approval was taken from Faculty of Nursing Dean; Kafr El-Sheikh University to the director of the

Al-Nour school and during the official pre-arranged meetings, the researchers discussed the study purpose, steps, and took the manager permission and determined the visits' schedule. All data about objectives, importance and procedures of the current study were explained to pertinent school employees to gain cooperation and agreement to give the needed information for the sake of such group of students.

The study aim was explained to students before using the tools to gain their trust and cooperation. Students' verbal consent was obtained after doing all needed explanation, assuring that collected data will be only used for research purpose. Assuring that participation was completely voluntary and they have the right to withdraw at any time with expecting no harm.

Pilot Study: It was done on 21 students (10% of the studied sample) who were recruited to test the objectivity, applicability of research tools and the research process feasibility. There was no need for modifications, so the participants were included to the entire sample.

Program Development:

The overall goal of the audio drama program: The audio drama program was aiming to improve the lifestyle practices among the visually impaired students.

The collected data in the baseline assessment visits was analyzed, discussed among researchers, grouped in separate topics for example the nutritional status domain involved; (nutritional habits, balanced meal contents, number of meals per day, best food types for snacks, how to keep weight within normal, likes and dislikes). These data were put in a script made for an audio drama play in which it can introduce a conversation between two to five persons. The script was validated by five experts from community health nursing, psychiatric nursing, pediatric health nursing specialties and nutritionist.

The actors selected for recording the audio drama sessions were 5 visually impaired students who looked smart, have cheerful personality, high acting talent, proper language skills, clear voice, and proper communication skills.

The researchers described the purpose and mechanism of the recordings, discussed the script with them to understand, trained them firstly on the lifestyle practices and ensure that they already able to master them to behave in a normal way during description and to transfer their experience when needed because they were prescribing to their colleagues who are in their same conditions through highlighting all reactions and behaviors seemed as the radio series they follow.

The included roles in the play were mainly two persons' conversation one describing and the other is receiving as if being a trainer and trainee. The researcher was acting as the third role in the play who was the one who demonstrates the complete image like a supervisor, colleague or friend, a doctor or a mentor in the training process in fact during the recording process. For example; in the recorded sessions for physical activity there was a need for the sports' coach or specialist, in the domain of stress management there was a third role for the near or favorite person to whom we can ventilate freely, in the domain of interpersonal relations there were three and four roles' conversation

to show the social relations, proper communication skills displaying the healthy psychosocial behaviors, while in the spiritual growth domain there was a need for Quran, Hadith, also for some religious talks.

There were also sound effects to show the play as a real situation. The actors were asked to talk in a simple, clear, quite way in order to discuss clearly and clarify the actual steps should be practiced or the content should be taken into consideration for those students.

The audio drama recording costs were totally on the researchers, in form of the used tools and equipment, and also the appreciation gifts for the students who shared in the play.

The play was revised and produced by the researchers with a help and consultation of the university play producer and editor who were academic students.

b. Implementation phase:

The next step was explanation of questionnaire components and the designed research plan. After that, each researcher began to fill the pretest by interviewing students one by one through reading the questions and then mark his/her responses.

The pretest assessment was done through a scheduled one to one interview among the students. Each student was assessed by identifying his/her demographic data firstly; including their last year achievement, student's grade, medical and family history, and then they were asked to report their lifestyle practices in form of frequency of the doing regularly, sometimes or never using (Tool I sections 1, 2&3).

All researchers were present and introduced themselves to the students and gave them a brief idea about the study aim. The researcher explained the audio drama records as a method of teaching to give them motivation, reinforcing them that they can learn from this way of teaching through audio drama recordings and later they can record their advice or experiences for other colleagues who lost vision.

Students were divided into small groups to facilitate control over them. Each small group involved 20 to 30 students in the room to prevent over crowdedness. Playing the audio drama recordings lasted for 20 minutes two times per day for each group.

While starting each session, the researchers were used to ask the students about their expectations from audio drama recordings and discuss the intended learning outcomes. The content of audio drama sessions also was clarified before playing each record.

Each audio drama playing was in a period of 15-20 minutes. As two audio drama records for each healthy lifestyle practice with a total 14 audio drama, as each lifestyle domain took 2 records. Each record period was 15-20 minutes with a total recording hour was 8 hours approximately. The sessions of playing records for each small group were 7 as each domain included 2 recordings, and each session was covering one theme.

During playing of the audio drama recording paused was done after each similar group of steps, as the researcher used to ask the students if they need to repeat or discuss the content. Then the group was asked to re-demonstrate what they got from the conversation until they

feel confident, prefect, and express learning.

The researchers were sitting in the main room in the school with students who were seated and arranged in groups, and the speakers were connected properly. Also, the recordings were in the form of mp3 audios which had the accessibility to be transferred to the students' smart phones as some of them asked.

Researchers discussed the students' doubts with them and make it clear in all aspects, as feeling that it will be hard to maintain these activities or like that.

Appreciation for the group of 5 students who shared in the recordings also has been stressed by the researchers. The study was carried out from October 2021 till the end of December 2021 along three months. The study setting was visited by the researcher 2 times/week from 10 am to 1 pm, and once per week from 3 pm to 5 pm until the pre-determined goals were achieved.

c. Evaluation phase:

The researchers interviewed the students after end of audio drama sessions and filled in the post-test to assess their lifestyle practices which included (7 domains) immediately by reading questions to each student and marking responses on their sheets.

Statistical analysis:

Data entry to statistical package for social science (SPSS version 22) was done; categorized, organized, tabulated, and calculated using numbers, percentages, mean and standard deviation, Chi-square (x^2) test used to compare observed results with expected results. Person correlation coefficient (r) is the test statistics that measures the statistical relationship, or association, between two continuous variables. Statistical significance was considered at $P < 0.05$.

RESULTS

Table (1): Shows; 40% of students were in the age 10-18 years, with mean score 11.2±3.1, 57.1% were females, 53.8% in preparatory school, and 68.6% live in rural areas.

Table (2): Shows; 52.4 % of students were diagnosed with visual impairment at the age (3-<6 years), Congenital causes were among 59.04% of vision impairment followed by 28.57% as a hereditary causes, 96.2% of them were wearing glasses as a treatment, 83.3% had consanguinity between parent and 80.5% of them had a positive family history of visual impairment. 67.61% of them were obese.

Figure (1): Reflects the last year school achievements; 16.7% of students had poor scores, 35.7% passed, 27.6% were in good level, 11% very good and only 9% had excellent scores.

Table (3): Illustrates; statistically significant differences in students' reported lifestyle practices pre/post audio drama teaching program at ($p < 0.001$) regarding all lifestyle 7 domains.

Figure (2): Shows; 74.3 % of students had good level of lifestyle practices post program as compared to 19.5 % preprogram.

Table (4): Illustrates 73.8% of students were highly satisfied with the audio drama program, 21.4% were satisfied.

Figure (3): Portrays a statistical significant positive correlation between lifestyle levels and students' satisfaction score ($r= 0.153$) at ($p < 0.001$).

Table (1): Visually impaired students' demographic characteristics (n=210)

Items	N	%
Age in years		
6 -< 8	68	32.4
8 -< 10	58	27.6
10 – 18	84	40.0
Mean± SD 11.2±3.1		
Gender		
Male	90	42.9
Female	120	57.1
Academic level		
Primary	24	11.4
Preparatory	113	53.8
Secondary	73	34.8
Residence		
Urban	66	31.4
Rural	144	68.6

Table (2): Visually impaired students' medical and family history (n=210).

Items	N	%
Age of visual impairment discovery		
< 1	8	3.8
1 - < 3	20	9.5
3 - < 6	110	52.4
6 - < 12	72	34.3
Causes		
- Congenital causes	124	59.04
- Hereditary	60	28.57
- Acquired causes (trauma, optic nerve atrophy, lack of vitamin A and eye allergy)	26	12.38
Treatment of visual impairment by:		
-Wear glasses	202	96.2
-Surgical operation	5	2.4
-None	3	1.4
Consanguinity between parents	175	83.3
Positive Family history of visual impairment	169	80.5
BMI		
- Underweight	29	13.8
- Normal weight	39	18.57
- Obesity	142	67.61

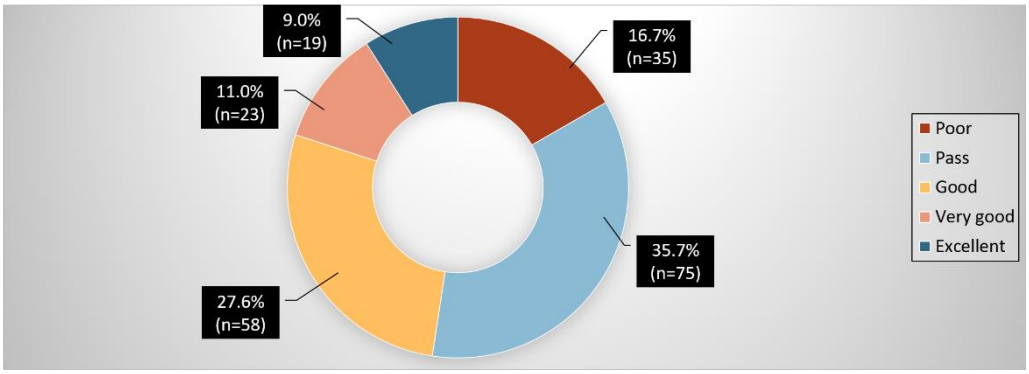

Figure (1): Visually impaired students' last year school achievement (n=210).

Table (3): Comparison between reported lifestyle practices pre/post audio drama program among the visually impaired students (n=210).

Items	No of items	Pre	Post	Student T – Test (T, p-value)
		Mean ±SD	Mean ±SD	
Nutritional status	10	6.0 ±2.8	13.9 ±3.5	T=25.541, P<0.001**
Physical activity	12	7.3 ±2.7	16.4 ±4.3	T=25.972, P<0.001**
Stress management	9	4.8 ±2.1	12.9 ±3.4	T=29.372, P<0.001**
Interpersonal relations	7	4.2 ±1.9	10.7 ±2.3	T=28.659, P<0.001**
Spiritual growth	6	3.5 ±1.3	9.1 ±2.0	T=34.020, P<0.001**
Personal Hygiene	21	4.9 ±0.7	13.5 ±3.6	T=33.981, P<0.001**
Sleep patterns	9	3.1 ±1.1	12.5 ±3.3	T=39.160, P<0.001**
Total Life Style Practice Score	74	33.8 ±7.9	88.9 ±7.0	T=75.648, P<0.001**

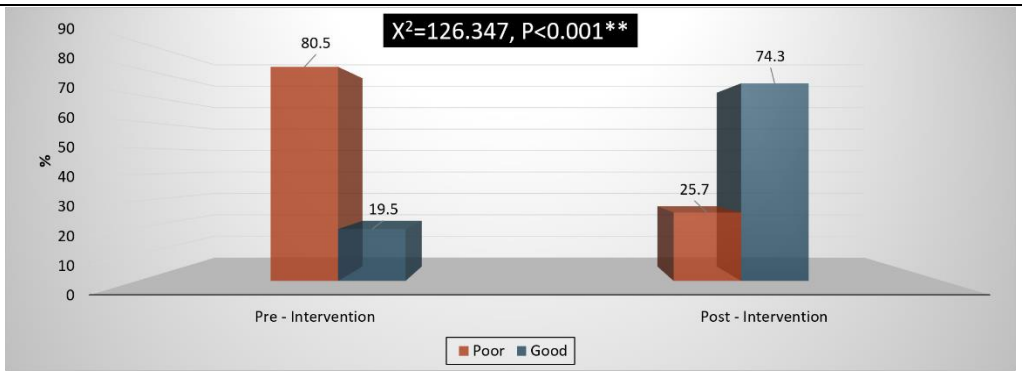

Figure (2): Comparison of lifestyle practices levels among students pre and post Audio drama program (n=210)

Table (4): Students' satisfaction levels regarding audio drama program (n=210).

Items	Unsatisfied		Satisfied		Highly Satisfied	
	n	%	n	%	n	%
Adequacy of content	13	6.2	42	20.0	155	73.8
Clearance of content	13	6.2	41	19.5	156	74.3
Content meets your expectations	8	3.8	45	21.4	157	74.8
Clearance of recorded voice	13	6.2	47	22.4	150	71.4
The duration of audio recording	13	6.2	47	22.4	150	71.4
This method directed to change in knowledge and practices	9	4.3	43	20.5	158	75.2
The recording method was interesting	10	4.8	43	20.5	157	74.8
It is practical	11	5.2	45	21.4	154	73.3
It was motivating	6	2.9	44	21.0	160	76.2
Effective method in teaching	10	4.8	46	21.9	154	73.3
Total Satisfaction Level	10	4.8	45	21.4	155	73.8

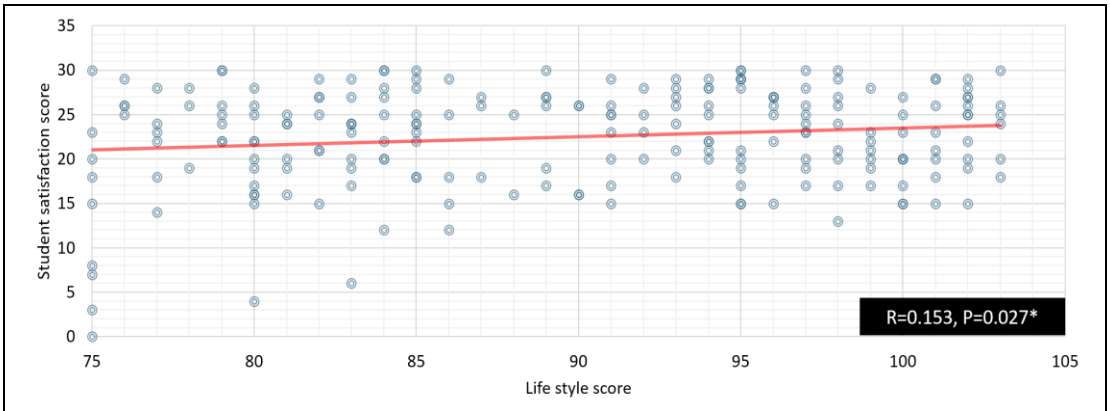

Figure (3): Correlation between Lifestyle score and student satisfaction score

DISCUSSION

Vision impairment in children affects their learning and school achievements and can later affect adversely their occupation, and socioeconomic status. There is no doubt that visually impaired students suffer many physical and social consequences. It is important to perform at least an annual screening and vision testing for children and school students to detect problems as early as possible to reduce the risk of blindness **Woldeamanuel et al., (2020).**

Regarding the demographic characteristics of students with visual impairment, the current study shows; mean age of students was 11.2±3.1, more than one third of them were in the age category (10-18 years), more than half of them were in preparatory school. From the researcher's point of view, this is the age in which they be in the preparatory school because of the late discovery of vision impairment may be due to neglecting vision problems' treatment. Also, joining school decision requires a disability approval document as a governmental document to give the child the right to join such type of education on the cost and responsibility of the government.

These results agreed with **Jamil & Atta, (2017),** in the study entitled "Screening for Visual Impairment (VI) among Primary School Students in Baghdad Al-Karkh Iraqi" which found that; the highest rate of VI (62.4%) was detected among students in age group (10-12) years and in grade 4^{th} and 5^{th} students.

These finding were not agreed with the study of **Cama et al. (2010)** in Fijiat Melbourne University, Australia, about Childhood visual impairment in Fiji, on one eighty students with visual impairment, in which the authors found that minor group of students were aged from (3-15 years).

Regarding gender, the current study reveals more than half of students were females and more than two thirds were from rural areas. From the researchers' point of view, this may be due to their exposure to infections or trauma in early age during play or housework with parents, as it is followed in rural cultures. Also, it may be due to lack in the advanced healthcare facilities for eye problems in the rural areas.

This study finding was in agreement with **Steinmetz, (2021)** who reported that, blindness is a gender issue; it was approved by recent studies in the lancet global health 2020 that women carry the greater burden of visual impairment. Globally, women are more than men were affected by vision impairment due to cataracts, age-related macular degeneration, and dry eye disease.

This finding disagrees with **Olowoyeye et al. (2018)** study which was conducted about "Pattern of childhood visual impairment and blindness among students in schools for the visually impaired" Lagos State, Nigeria, in which the authors reported that more than half of the studied sample was male and visual impairment occurs more frequently in males than females.

Concerning medical and family history; age of vision impairment discovery was from three to six years in more than half of the sample which could be clarified by the late screening or late seeking medical services, loss of enthusiasm in follow-up, or even the slow progress of losing vision which it

was unapparent for family until the age of three to six years when they were in the school age.

These findings are agreed with **Nobre et al. (2000)** who studied the rehabilitation services for visually impaired children: Early intervention or a long delay?. The study reported the age of the child at the first ophthalmologic consultation; person responsible for identifying the problem; knowledge of mothers concerning the vision problem of their child; and, age of the child at the beginning of the impairment among the factors that delay seeking the treatment of the children with visual problems. The study reported that only 50.0% of mothers had been attended to the ophthalmologist at early stage.

The current study shows; the underlying cause among students was congenital in more than half of them. This finding may be referred to the difficulty of diagnosing the congenital visual defects at early stage. This result was congruent with **Heijthuijsen et al. (2013)** in the study entitled "Causes of severe visual impairment and blindness in children in the Republic of Suriname" in which highlighted; major etiology of severe vision loss or blindness was undetermined or mainly cataract and abnormality since birth in 56.9% and due to perinatal causes in 21.5%, mainly retinopathy of prematurity.

This result was contradicting with **Awan et al. (2018),** who conducted a study about "Prevalence and causes of visual impairment and blindness among school children" Muzaffar Abad, Pakistan, in which found the most leading cause was refractive error in the great majority followed by amblyopia, cataract, corneal disease, strabismus and nystagmus.

The majority of students had consanguinity between parents and had a positive family history of visual impairment, the heredity was the second underlying cause in vision impairment among those children, and they tried to correct through wearing glasses. From the researchers' point of view, this may be due to the most rural societies' culture regarding consanguineous marriage as a preferred marriage and it was logical that hereditary vision impairment was the second ranked cause among those children

These results were contradicted with **Kemmanu et al. (2019),** who carried out a study entitled "Consanguinity and its association with visual impairment" southern India, and reported that consanguinity was present in around only one third of participants.

These results agreed with **Jamil & Atta, (2017)** in the study "Visual impairment among primary school students" Al-Karkh, Baghdad in which highlighted; more than half of visually impaired students had a family history of vision problems and were wearing glasses.

this result was congruent with **Bakkar et al. (2018)** in the study "Clinical characteristics and causes of visual impairment in a low vision clinic" northern Jordan, where reported that more than half of participants had a positive family history of ocular diseases as; albinism and retinitis pigmentosa.

On the other hand, the current result was disagreed with **Vishnuprasad et al. (2017)** study "Visual impairment among 10–14-year school children in Puducherry: A cross-sectional study"

India, as they stated; less than half of students and their parents were using spectacles and suffering from advanced vision problems.

In relation to weight and obesity, the current study found more than two thirds of students have BMI which denotes to obesity. It might be interpreted that visual impairment can affect the nutritional status. This result was in the same line with the systematic review done by **Jones and Bartlett, (2018)** which involved from 9 to 761 studies, stating that; visual impairment affects significantly the nutritional status and most of studies reported abnormal BMI and high obesity and malnutrition prevalence among the visually impaired group.

Regarding students' school achievement, the present study denotes that near two fifths of students had excellent and very good scores. From the researchers' point of view, the vision impairment is a complicated health problem and obstacle in living a healthy lifestyle which lead to developing unhealthy consequences as malnutrition, sedentary activities, loss of interest and that with no doubt affects their school achievements and performance.

The current result agreed with **Papuda-Dolińska, (2017)** "Differences in social and academic functioning among visually impaired children in special, integrated, and inclusive educational settings" Poland, which reported; more than half of students had learning difficulties and one eight of them had difficulties in the teaching materials' adjustment.

On the other hand, **Negiloni et al. (2018)** disagreed with the current results as concluded from the study entitled "Are children with a low vision adapted to the visual environment in classrooms of mainstream schools" India that; around half of students had a good school achievement.

Concerning lifestyle practices, the students had an improvement in all domains "Nutrition, physical activity, stress management, interpersonal relations, spiritual growth, personal hygiene, and sleep pattern. Also, the total lifestyle practice reveals more than three quarters of visually impaired students had developed a good level of lifestyle practices post audio drama program with a statistical significant difference between the two study phases. From the researcher point of view, the audio drama program was of a great benefit for children with visual impairment regarding knowledge and proper ways to develop a good level of healthy lifestyle practices post program application compared with the pretest.

These findings may be clarified that these students have lack in the independency which include their deprivation from choices in all life domains, while the audio drama sessions firstly gave them the chance to decide to feel independency and they can change the present by helping their own, also highlighted their abilities to practice physical activity in a safe manner. The audio drama sessions helped them by knowledge which can enable them to overcome problems as malnutrition and obesity through the change in eating habits, physical activities, and to be involved in the society with confidence through sharing conversations confidently using proper interpersonal communication skills with less

psychological stress level. These findings are supporting the research hypothesis.

These findings were supported by the study of **DeCarlo et al., (2018)** entitled "Impact of pediatric vision impairment on daily life" focus groups at the University of Alabama at Birmingham (UAB) United States, in which concluded; more than half of studied sample had difficulty with lifestyle practices as; nutrition, physical activity, stress management, relationship, and spiritual life.

On the other hand, these finding contradicted with **Khadka et al., (2012)** in the study entitled "Listening to voices of children with a visual impairment: A focus group study" in which the results suggested that children and young people with a visual impairment have similar lifestyles to their fully sighted counterparts but are more restricted in some specific activities. The children and young people also reported that sometimes these restrictions were imposed by those supporting them rather than their own abilities **Jeyanthi, (2020)**.

El-Kurdi et al. (2020) reported similar findings, there were an improvement in the total knowledge and practices scores of the participants regarding menstruation after provision of the audio educational sessions with highly statistically significant differences ($P<0.001$) between their pre and post test scores. Also, **Deepa (2012)** reported similar results as there was a statistically significant mean difference between knowledge scores before and after audio drama on personal hygiene.

In the same line, **Chackochan (2022)** studied the "Effectiveness of Audio Drama on Knowledge and Practice regarding Personal Hygiene among Visually Impaired Children." The results showed that the audio drama was statistically significant in improving the knowledge ($t29=2.05$, $p<0.05$) and practice ($t29=2.05$, $p<0.05$) of visually impaired children regarding personal hygiene.

In relation to students' satisfaction level regarding audio drama educational program, the present study shows near three quarters of them had been highly satisfied with the use of audio drama sessions. This satisfaction might be referred to the program domains touches the visually impaired students' needs, was interesting, and comprehensive. Also, because they could use it on their smart phones and repeat the recordings as frequently as they want.

These results were consistent with **Jeyanthi, (2020)** in the study entitled "Effectiveness of audio drama on menstrual hygiene and management of minor ailments of menstruation upon knowledge and practice among visually challenged girls" United Kingdom, which denoted; the majority of the girls had high satisfaction level regarding the audio drama program.

On other hand **El-Kurdy et al., (2020)** who studied "The effect of structured audio educational sessions on visually challenges adolescent school-girls' knowledge and practices regarding menstruation" in Egypt, disagreed the current study results as reported that less than one quarter of blind adolescent girls had highly satisfaction level regarding program.

On investigation, there were a positive correlation between students' total lifestyle practices score post program and their satisfaction using audio drama program with an apparent

statistical significance. This could be clarified as the students enjoyed using audio drama sessions and followed its steps in practices, also started to restate the included knowledge to each other's as it was observed by their teachers and school workers as they stated "this intervention was interesting, competent, economic, and easy to be followed. Also, it gives a strong picture that this disables group of children could get benefit through using of audio drama methods". All of that highlighted the effect of the study program on improving and making change in those children behavior which assure the learning process.

CONCLUSION

In the light of study findings, it could be concluded; using audio drama educational program was effective in improving the students' lifestyle reported practices. This study finding supported the study hypothesis.

RECOMMENDATIONS

1. Conducting further educational programs for students with disability especially the visually impaired in the early age.
2. Activating the role of audio drama educational sessions in raising awareness about visual impairment.
3. Performing a wide range researches on the quality of life for the visually impaired students.
4. Early detection programs of visual impairment and correction trials for preventing progression.

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