Health Needs and Problems of Primary School Students with Hearing Impairment

Thanaa Saad Gad*, Hanan Ibrahim Ahmed, Mona Abo Bakr Abd- Ellatef *****
Head nurse of ICU Department Banisueif Hospital*, Prof of Community Health Nursing Ain Shams University** and Lecturer of Community Health Nursing Ain Shams University***, Faculty of Nursing- Ain Shams University
Phone No.: (+2) 01140487330
***Corresponding Author:** Thanaa Saad Gad

Abstract

Background: Primary school period is one of the most sensitive periods in which children acquire skills that effect their adulthood. **Aim:** assess health needs and problems of primary school student with hearing impairment. **Setting:** The study was conducted at Beni Suief Governorate at four hearing impairment primary schools. **Sample:** A multi stage sampling was used in this study the sample size was (150) student's participant. **Tools:** Fist tool, an interviewing questionnaire to assess socio demographic data and health needs and problems of primary school students with hearing impairment. Second tool to assess health status through medical record for every student from the health unit of school. Third tool, assess of school environment (Noise Worksheet) to assess physical, educational, social, psychological and behavioral environment. **Results:** This study showed that: 66.7% of the studied students had severe health problems. Also, (24%) of them had moderate level. While, (9.3%) of them had mild level. There was highly statistically relation between health problems of the primary school students and hearing impairment. There was highly statistically positive correlation between health needs of the studied primary school students and their total health problems. There was highly statistically positive correlation between health problems of the studied primary school students and their school environment. **Conclusion:** In the light of study finding it was conclude that high percentage of studied students had high level of total health needs. High percentage of studied students had severe health problems. Also, there was highly statistically positive relation between health problems of studied primary school students and their school environment. **Recommendation:** More researches for students with hearing impairment to early detect of any physical, social and psychological health problems, improving cognitive skills for students through educational program for teacher to provide training for students-for example, improving problem –solving skills.

Keywords: Health Needs, problems, primary school student, Hearing impairment.

Introduction

All over the world, people living with disabilities are recognized as a group of vulnerable people. Disability is described as impairment in the human body structure or function, activity limitations and participation restrictions. A significant 15% of the world's population lives with various forms of disability, out of which 360 million persons have hearing impairment of all kinds with a ratio of 91% adults and 9% children **(WHO, 2015).**

Hearing impairment from birth or early infancy may have lifelong consequences for an individual's social adjustment and mental well-being in terms of communication, education, identity and employment. A number of co-morbid conditions that often accompany this sensory impairment might contribute to the development of mental disorders encountered in deaf children.

Specific environmental factors, including familial, social, cultural and educational influences, can be both the direct and the indirect basis for the development of emotional/behavioral problems and psychiatric disorders through a diversion of the child's developmental pathway **(Gentili and Holwell, 2015).**

The provision of education as a social welfare service serves as an effort to ensure that the hearing impaired do not feel limited in terms of privileges and opportunities to become productive, employable and have successful and independent future. Education is a tool to empower the hearing impaired to lead an independent life. Empowerment through education begins at the basic level where skills and essential knowledge are acquired through taught programs in aid of preparing students for a higher level of education. Progress from one level of education to another is dependent on the student's academic performance. As a result, there is a greater need to emphasize the academic performance of all students, including SHIs **(Agyire-Tettey et al., 2017).**

One indicator of successful learning in inclusive classes is the active participation of all students in the class, including students with hearing impairment. One of the main components of academic success is the ability of students with hearing impairment to communicate with teachers and peers. Communication between teachers and students or communication between students and students is the main learning tool in the classroom. Student activeness in class participation depends on communication skills and the atmosphere of the class. But the problem is the hearing impairment experienced by the students with hearing impairment affects the activity of the learning process because one of the impacts of hearing impairment experienced by them is the obstacle in communication **(Musayaroh and Aprilia, 2018).**

Although most students with hearing impairment have no intellectual barriers but still communication barriers will hamper their learning in inclusive classes. This leads to significant differences in ability between students with hearing impairment and regular students in inclusive classes. Some studies indicate that students with hearing impairment in inclusive classes have difficulty following and understanding the learning materials. Although their social interaction is good, but the participation of students in inclusive classes is not as good as their social interactions beyond the classroom **(Rekkedal, 2016).**

The participation of students with hearing impairment in the same class as regular students has been done by Stinson and Liu. What distinguishes this research from previous research lies in the subject of the study. Subjects in Stinson and Liu's research are 40 staff members who provide support to students with hearing impairment in primary and secondary classes in regular classes such as special teachers and interpreters, along with a few paid note takers. While in this study, the subject of research is students with hearing impairment and some subject teachers who have hours of teaching 2-3 meetings a week in inclusive classes **(Musayaroh and Aprilia, 2018).**

Significance of the study:

Hearing impairment effect of millions of people around the world and is estimated to be the fourth leading cause of disability globally **(WHO) GHE, 2015)** who estimated in 2008 found that 360 million people worldwide live with disabling hearing impairment/loss including 32 million children and 180 million older adult (WHO)in 2012 our most recent estimation place this figure are over 466 million people with hearing impairment are the South Asia the world population continuous to grow with current research estimating globally population increase from 7 billion now to almost 10 billion in 2050 **(McGarrigle et al., 2014).**

The hearing impairment has become major health problem, all over the world in Egypt and international impairment of hearing influence of the activity dialing living of the children of school age hearing impairment affect millions of people around the world and is estimated to be fourth leading cause of disability globally **(WHO, 2015)** and in 2018 found 360 million people with disabled hearing

impairment include 32 million children and 180 million older adult (WHO) 2018 and its estimated at each year the cost of hearing impairment 750billion dollar international globally **(WHO, 2017).**The aim of this study require to prevent hearing impairment as possible.

Aim of the work

The study aims to assess health need and problem of primary school students with hearing impairment through:

- Assessing health status of primary school students with hearing impairment.
- Assessing health needs of primary school student regarding hearing impairment.
- Assessing the health problems of primary school students with hearing impairment.
- Assessing school environment of students (physical-educational-social and psychological).

Research questions:

1.Is a relation between school environment and health problem of primary school students with hearing impairment?

2.Is a relation between hearing impairment and health status of primary school students with hearing impairment?

Subjects and methods

The subject and methods of the current study were designed under the following main four designs:

I. Technical Design

It included research design, study settings, subject and tools of data collection.

Research Design

A descriptive design was used to conduct this study.

Study Settings

The study was carried out at Bani Sueif governorate at four school of hearing impairment students which serve the whole students with hearing impairment each student are available as daily school. Four school, one of them at Elwasta center, school in Ehnasia, one in Beba Center and finally school at Elfashn center. Each school consisted of four floors.the governorate of Banisuief cosist of one educational administration in the east of Bani suief and four center of the special education need for the student of hearing impairment.

Sample type: A purposive sample was obtained and including all students of primary school with hearing impairment their student attending at special school of Elfashn, Ehnasia, Elwasta, Beba center.

Subject:

All available students was (187) attending to the previous four school, but actually sample size included at the study was 150 students, due to 17 of them were absent, in addition to 20 students who refused to participate in the study, so the final number became 150 students, divided as Special Education School in El-Wasta Center (43 students), Special Education School in Ehnasia center (42 students), Special Education School in Beba Center (73 students) and Special Education School in El-Fashn Center (29 students).

Tools of data collection:

Three tools were used in this study and classified as the following:

1. An Interview Questionnaire Sheet:

It was written in an Arabic language by the researcher after reviewing the related literature. It was consisted of three parts to assess the following data:

First part: Socio-demographic data for primary school students with hearing impairment; as regards name, age, intelligence quotient, with whom the child lives, child ranking, mothers' age, mothers' education level, fathers' age, fathers' education level, number of family members, responsible for child care and family income.

N.B: I.Q classifications:

40-54 moderate, 55-69 mild, 70-79 border line, 80-89 low average, 90-109 normal, 110 -119 high average, 120-129 superior, 130 and above very superior **(Elbeltagy et al., 2019).**

Second part: It was adapted from **(Coombe, 2018).** Assessment of health needs of primary school students with hearing impairment related to communication needs, audio logical rehabilitation needs, social and emotional needs, personal needs, behavioral needs, academic needs and learning style needs which categorized as the following strongly agree, agree, uncertain, disagree and strongly disagree (62 items).

Scoring system:

Each statement was assigned a score according to student response, responses were strongly agree, agree, uncertain, disagree and strongly disagree and were scored 5, 4, 3, 2 and 1

respectively. Items were summed up and were converted into a percentage score.

It was classified into 3 categories:

- High needs if total score > 60%.
- Moderate needs if total score 40– 60%
- Low needs if total score <40%

Third part: It was adapted from **Stevenson et al. (2015).** Assessment of health problems among primary school students with hearing impairment related to physical problems, emotional problems, social problems, schooling commitment, behavioral problems and personal problems which categorized as the following never, almost never, sometimes, often and almost always (34 items).

Scoring system:

It was classified into 3 categories:

- Severe if total score > 60%.
- Moderate if total score 40 – 60%
- Mild if total score <40%

2. Assessment health status through medical record for every students.

It was adapted from **(Mealings, 2016).** Assessment health status through medical record for every student in the health unit of school environment mainly concerned with general appearance, head & neck, hair, eyes, ears, nose, mouth &throat, skin, nails, chest & respiratory system, the circulatory system and the heart, abdomen & back, muscle skeletal system and nervous system.

3. Environment noise work sheet):

It was developed by **(Mealings et al., 2016).** Assessment of school environment mainly concerned with physical aspects & noise, education aspects, education aspect, and psychological aspects MCQ (24 items).

II. Operational Designed

It included operational design for this study consisted of four phases, namely preparatory phase, ethical considerations, pilot study and fieldwork.

Preparatory Phase

This phase included reviewing of literature related to healthy need and problem of primary school student with hearing impairment. This served to develop the study tools for data collection. During this phase, the researcher also visited the selected places to get acquainted with the personnel and the study settings. Development of the tools was under supervisors' guidance and experts' opinions were considered.

Ethical Considerations

Ethical approval letter will be obtained from the Scientific Research Ethical Committee of faculty of Nursing / Ain Shams University before starting the study. The investigator was clarified the objectives and aim of the study to students included in the study before starting. Verbal approval consent that will be obtained from primary school students with hearing impairment to participant in this study; a clear and simple explanation was given according to their level of understanding. They secured that all the gathered data was confidential and used for research purpose only. The researcher was assuring maintaining anonymity and confidentiality of subjects' data included in the study. The students were informed that they are allowed to choose to participate or not in the study and they have the right to withdrawal from the study at any time.

Pilot Study

The pilot study was carried out on10% those represent(15) of primary school students with hearing impairment at previous mentioned setting in order to test the applicability of the constructed tools and the clarity of the questions. The pilot has also served to estimate the time needed for each student to fill in the questionnaire. According to the results of the pilot, no corrections and omissions of items were performed, so the students were included in the study sample.

Content, Face Validity and Reliability:

- Validity: It was ascertained by a group of experts in community health nursing (3) professor. Their opinions elicited regarding the format, layout, consistency, accuracy and relevancy of the tools.
- Reliability analysis by measuring of internal consistency of the tool through Cronbach's Alpha test.

Items	Cronbach alpha
Interview Questionnaire Sheet	**0.751**
Assessment health status through medical record	**0.811**
Assessment of School environment	**0.736**

Fieldwork

Data were collected in six months, from the beginning of May2019 to the end of October 2019.The researcher firstly met with the director of the schools worked at the previously mentioned settings, explained the purpose of the study after introducing herself. Then, individual interviewing was done after obtaining student consent to participate. The researcher was visiting the study

setting 2days / weekat morning (8a.m-2p.m) collect data.

III. Administrative Design

An official permission was obtained from the dean of faculty of nursing Ain shams university to the director of this schools (Special Education School in El-Wasta Center, Special Education School in Ehnasia Center, Special Education School in Beba Center and Special Education School in El-Fashn Center) for explaining the aim of the study in order to obtain their permission and cooperation.

IV. Statistical Analysis

Data collected from the studied was revised, coded and entered using Personal Computer (PC). Computerized data entry students and statistical analysis were fulfilled using the Statistical Package for Social Sciences (SPSS) version 22. Data were presented using descriptive statistics in the form of frequencies, percentages. Chi-square test (X^2) was used for comparisons between qualitative variables. Spearman correlation measures the strength and direction of association between two ranked variables.

Significance of the results:

- Highly significant at p-value < 0.01.
- Statistically significant was considered at p-value < 0.05
- Non-significant at p-value ≥ 0.05

Results

Part I: Socio-Demographic characteristics of the primary school students with hearing impairment table (1)

Table (1): Number and percentage distribution of the primary school students according to their socio-demographic data (n=150)

Items	N	%
Age (year)		
6-<8	40	26.7
8-<10	62	41.3
10-12	48	32
Mean SD 9.21± 4.73		
Gender		
Male	94	62.7
Female	56	37.3
Intelligence Quotient (IQ)		
Mild (55-69)	44	29.3
Border line (70-79)	70	46.7
Moderate (40-54)	36	24
With whom the child lives		
Mother only	10	6.7
Father only	2	1.3
Mother and father	136	90.7
Grand mother	2	1.3
Child ranking		
First	38	25.3
Second	72	48
Third	26	17.4
Fourth	12	8
Fifth or more	2	1.3

Table (1) Shows that, 41.3% of the studied students their age ranged between 8-<10years, the mean SD of age of them was 9.21 ± 4.73year. As regard to gender, 62.7% of them were male.46.7% of them had70 point. Also, 90.7% of the studied them live with their mother and father. Related child ranking, 48% of them were the second child.

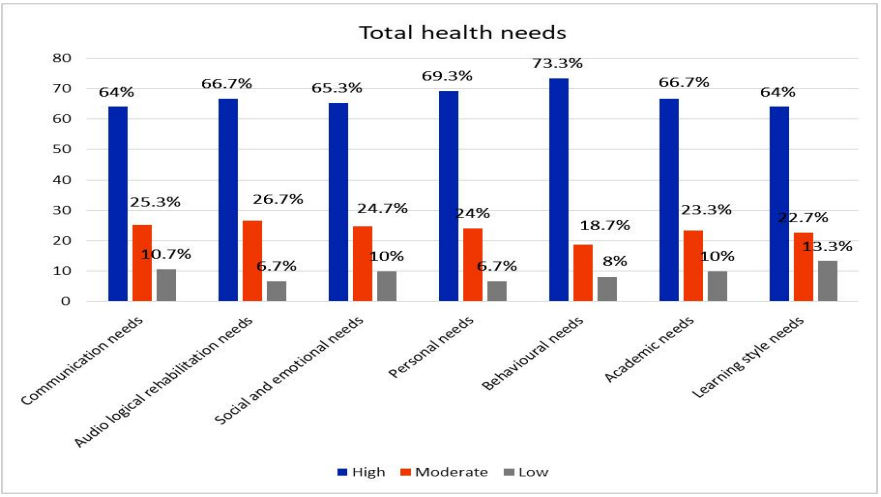
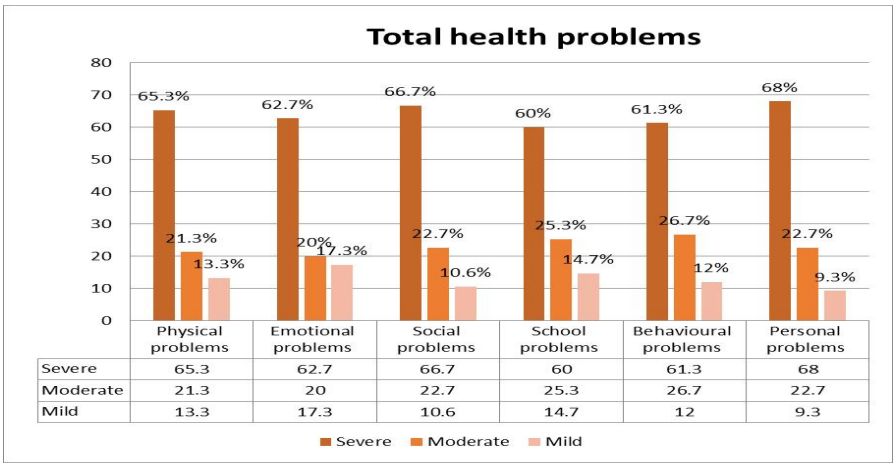


Figure (1): Percentage distribution of the studied primary school students according to their total health needs (n=150).

Figure (1) Shows that, 64%, 66.7%&65.3% of the studied students had high level related to communication needs, audio logical rehabilitation needs and social and emotional needs, respectively. Also, 69.3%, 73.3%, 66.7%& 64% of the studied students had high level related to personal needs, behavioural needs, academic needs and learning style needs, respectively.



	Physical problems	Emotional problems	Social problems	School problems	Behavioural problems	Personal problems
Severe	65.3	62.7	66.7	60	61.3	68
Moderate	21.3	20	22.7	25.3	26.7	22.7
Mild	13.3	17.3	10.6	14.7	12	9.3

Figure (2): Percentage distribution of the studied primary school students according to their total health problems (n=150).

This Figure (2) demonstrated that, 65.3%, 62.7% & 66.7% of the studied students had severe physical problems, emotional problems and social problems, respectively. Also, 60%, 61.3% & 68% of the studied students had severe school problems, behavioral problems, academic needs and personal problems, respectively.

Table (2): Relation between level of health problems of the studied primary school students and their environment regarding physical aspects (n=150)

Physical aspects	Level health problems						Chi-square test	
	Severe (n=100)		Moderate (n=36)		Mild (n=14)			
	No.	%	No.	%	No.	%	x2	p-value
Walls								
Plaster	83	83.0%	27	75.0%	12	85.7%	1.311	0.519
Wood	17	17.0%	9	25.0%	2	14.3%		
Flooring								
Cement	12	12.0%	6	16.7%	2	14.3%	0.511	0.775
Tiles	88	88.0%	30	83.3%	12	85.7%		
Lighting								
Adequate	63	63.0%	19	52.8%	8	57.1%	1.205	0.547
In adequate	37	37.0%	17	47.2%	6	42.9%		
Room size								
Suitable for student number	74	74.0%	34	94.4%	12	85.7%	7.23	0.027*
Not suitable for student number	26	26.0%	2	5.6%	2	14.3%		
Type of seating								
Desk	40	40.0%	27	75.0%	13	92.9%	22.72	<0.001**
Table and chair	60	60.0%	9	25.0%	1	7.1%		
Ventilation								
Good	34	34.0%	24	66.7%	11	78.6%	17.966	<0.001**
Poor	66	66.0%	12	33.3%	3	21.4%		
Electricity plug precaution								
Present	22	22.0%	22	61.1%	12	85.7%	32.756	<0.001**
Absent	78	78.0%	14	38.9%	2	14.3%		

Chi-square test; p-value >0.05 NS; *p-value <0.05 S; **p-value <0.001 HS

Table (2) Presented that, there were highly statistically significant relation between level of health problems of the studied primary school students and their physical aspects as Type of seating, Ventilation and Electricity plug precaution at (p-value <0.001). Also, there were statistically significant relation with their room size (P<0.05). While, there were no significant relation with walls, flooring and lighting at (P>0.05).

Table (3): Relation between level of health problems of the studied primary school students and their environment aspects (n=150)

Environmental aspects	Level health problems						Chi-square test	
	Severe (n=100)		Moderate (n=36)		Mild (n=14)			
	No.	%	No.	%	No.	%	x2	p-value
Internal noise level								
Low	9	9.0%	12	33.3%	11	78.6%	50.058	<0.001**
Moderate	64	64.0%	8	22.2%	3	21.4%		
High	27	27.0%	16	44.4%	0	0.0%		
Class room location								
Quiet location	51	51.0%	15	41.7%	6	42.9%	1.087	0.581
Noisy	49	49.0%	21	58.3%	8	57.1%		

Chi-square test; p-value >0.05 NS; **p-value <0.001 HS

Table (3) presented that, there were highly statistically significant relation between level of health problems of the studied primary school students and their environmental aspects at (p-value <0.001). While, there were no significant relation with class room location at (P>0.05).

Table (4): Relation between level of health problems of the studied primary school students and their environment regarding education aspects (n=150)

Education Aspects	Level health problems						Chi-square test	
	Severe (n=100)		Moderate (n=36)		Mild (n=14)			
	No.	%	No.	%	No.	%	x2	p-value
Type of teaching								
Individual work	58	58.0%	7	19.4%	0	0.0%		
Whole class	34	34.0%	11	30.6%	1	7.1%	63.166	<0.001**
Small group	8	8.0%	18	50.0%	13	92.9%		
Recreational activity								
Library	30	30.0%	20	55.6%	12	85.7%		
Television	25	25.0%	9	25.0%	1	7.1%	21.641	0.002*
Computer	45	45.0%	7	19.4%	1	7.1%		
Language level								
Complex	44	44.0%	4	11.1%	2	14.3%		
Appropriate	1	1.0%	11	30.6%	11	78.6%	71.554	<0.001**
Too simple	55	55.0%	21	58.3%	1	7.1%		
Teacher voice								
Louder	36	36.0%	6	16.7%	1	7.1%		
Equal	63	63.0%	9	25.0%	3	21.4%	75.063	<0.001**
Softer	1	1.0%	21	58.3%	10	71.4%		
Speech rate								
too fast	22	22.0%	2	5.6%	0	0.0%		
appropriate	42	42.0%	26	72.2%	12	85.7%	17.503	0.006*
too slow	36	36.0%	8	22.2%	2	14.3%		
Student characteristic								
Social	15	15.0%	28	77.8%	13	92.9%	64.938	<0.001**
Behavioral	85	85.0%	8	22.2%	1	7.1%		
Participation in class room								
volunteers information	3	3.0%	23	63.9%	10	71.4%		
answer direct	38	38.0%	9	25.0%	3	21.4%	76.157	<0.001**
rarely participation	59	59.0%	4	11.1%	1	7.1%		

Chi-square test; p-value >0.05 NS; *p-value <0.05 S; **p-value <0.001 HS

Table (4) Presented that, there were highly statistically significant relation between level of health problems of the studied primary school students and their education aspects as Type of teaching, Language level, Teacher voice, Student characteristic and Participation in class room at (p-value <0.001). Also, there were statistically significant relation with their Recreational activity and Speech rate (P<0.05).

Discussion

The degree of hearing loss affects the access that a person has to sounds but is not necessarily indicative of the learning needs of the child. However, a mild hearing loss can lead to inattention, language delay and speech problems. Mild hearing loss can have implications for language development, particularly in the early years when children are still developing language. Children with moderate hearing loss do not perceive all speech sounds at normal conversational level. These children may show inattention, language delay, speech problems, learning problems and social/emotional difficulties as a result of feeling isolated. They typically respond well to language and educational activities with the help of amplification **(Welsh Government, 2019).** Therefore, this study aimed to assess health need and problem of primary school students with hearing impairment.

Part I. Socio-Demographic characteristics of the primary school students with hearing impairment:

The present study results showed that less than half of studied students their age ranged between 8 - >10 years and more than half of them

were males. This result agree with a study done by **Mulwafu et al. (2019)** entitled "Children with hearing impairment in Malawi " who illustrated that less than half of studied students their age ranged between 8 - 10 years and more than half of them were males. also, this result disagree with a study done by **Musayaroh and Aprilia (2018)** entitled "Participation of Students with Hearing Impairment in Inclusive Classes in Indonesia" who illustrated that the majority of studied students were female and their age ranged between 12-15 years, This result present in table (1).

Regarding intelligence Quotient, the study showed that more than one third of studied students were border line of IQ level. This result in agree with a study done by a study done by **Theunissen et al. (2015)** entitled "Symptoms of psychopathology in hearing-impaired children in Amsterdam, The Netherland" who showed that children with HI have a low score in verbal IQ test. Also, this result disagree with a study done by **Sayed et al. (2018)** entitled "Assessment of psychological disorders in Egyptian children with hearing impairment in Egypt" who illustrated that less than one third of studied students were border line regarding IQ level. From the researcher point of view this result might be due to hearing impairment is associated with impaired cognitive function and incident dementia, which strongly affect the IQ level, this result present in table (1).

Also, the current study results showed that, the majority of the studied students live with their mother and father and less than half of them were the second child in ranking. This result agree with a study done by **Agyire-Tettey et al. (2017)** entitled "Academic Challenges of Students with Hearing Impairment (SHIs) in Ghana" who illustrated that the highest percentage of students lived with both parents.

Also this result disagree with a study done by **Abdelmoaty, (2020)** entitled "Health Problems of Mother Deprivated Toddlers in Egypt" who showed that about more than one third of studied sample were first in ranking. Also, this result disagree with **Akellot and Bangirana, (2019)** entitled "Association between parental involvement and academic achievement of deaf children at Mulago deaf school, Kampala, Uganda" who showed that more than half of participants were in Primary 1 and were separated from either or both of their parents during their lives, This result present in table (1).

The current study results showed that the highest percentage of the studied students' mothers their age ranged between 30-<40years and had basic education. Also, it showed that less than half of their fathers, their age was ≥ 40years and had intermediate education. This result disagree with a study done by **Wanjiru, (2014)** entitled "Parental Involvement and Its Influence in Learning Process: A Case Study of Kambui Primary School for The Deaf, Kiambu County, Kenya" who illustrated that, the highest percentage of studied student's parents, their age ranged from 41-50 and their education secondary educational level.

Also, this result disagree with a study done by **Jaiyeola and Adeyemo, (2018)** entitled **"**Quality of life of deaf and hard of hearing students in Ibadan metropolis, Nigeria" who illustrated that a significantly higher proportion of participants from special school had good social interaction, psychological and physical health. From the researcher point of view this result might be due to lack of parents 'awareness of their role in caring with the studied students with hearing impairment which affect on their health needs such as communication needs, educational needs, social and emotional needs, This result in figure (1).

Concerning to physical problems of the studied primary school students, the results illustrated that the mean SD score of the studied students regarding have aches or pains was 3.36±1.98 and the mean SD score of them regarding feeling tired was 3.28±1.37. This result agree with **Kabasakal et al. (2018)** who showed that moderate level of physical health impairments and problems. Also, this result disagree with **Palmer, (2018)** entitled **"**Creating Successful Experiences for Deaf Children in Physical Education and Athletics in New York" who showed that the average of the deaf students feelings fatigue was 2.9 in deaf schools. From the researcher point of view these results

might be due disability of the studied students to express their physical health problem complain. Regarding emotional problems of the studied primary school students, the results illustrated that the mean SD score of the studied students regarding to feeling afraid or scared was 4.34±1.39 and the mean SD score of them regarding to trouble sleeping was 4.23±1.36. this result agree with **Mulat, (2018)** who showed that Deaf and Hard Hearing students experienced more severe socio-emotional problems across all dimensions, regardless of whether they were in special classes or special schools. Also, this result disagree with **Palmer, (2018)** who showed that the positive dimensions of emotional reactions from deaf students in deaf schools range was 4.9 and deaf students in general schools range was 3.9. From the researcher point of view this result might be due to lack of psychological support for those students and disability to express their feeling.

Regarding behavioral problems of the studied primary school students, the results showed that the mean SD score of the studied students regarding to become uncomfortable with other was 34.13±0.98. Also, the mean SD score of them regarding to prefer solitary than large group was 4.01±0.91. This result in agreement with **Theuniseen et al. (2014)** entitled "the influence of socio-demographic, linguistic and medical factors in Leiden, Netherlands" who mentioned that school-aged deaf hard hearing children who used either hearing Aid were more likely to exhibit behavioral problems and aggression. Also, this result agree with **Fiorillo et al. (2017)** entitled "Assessment of Behavioral Problems in Children with Hearing Loss in Lexington, KY, USA" who mentioned that deaf hard hearing children have more difficulties with language, attention and behaviors, This result in figure (2).

Concerning relation between level of health problems of the studied primary school students and their environment regarding physical aspects, the study results showed that there was highly statistically significant relation between level of health problems of the studied primary school students and their physical aspects as type of seating, ventilation and electricity plug precaution. Also, there were statistically significant relation with their room size. This result agree with **Guardino and Antia, (2015)** entitled "Modifying the Classroom Environment to Increase Engagement and Decrease Disruption with Students Who Are Deaf or Hard of Hearing in Florida" who mentioned that there was highly statistically significant relation between level of health problems of the studied primary school students and their physical aspects as type of seating, ventilation, electricity plug precaution and their room size.

Also, this result disagree with a study done by **Rekkedal, (2017)** entitled "Factors associated with school participation among students with hearing loss" who mentioned that there was no relation between level of health problems of the studied primary school students and their physical aspects as type of seating, ventilation, electricity plug precaution and their room size. From the researcher point of view this result might be attributed to good physical aspects such as good ventilation & good seat promote health status vies versa. This result in table (2).

The present study showed that there was a highly statistically significant relation between level of health problems of the studied primary school students and their environmental aspects. his result agree with **Guardino and Antia, (2015)** who mentioned that there was a highly statistically significant relation between level of health problems of the studied primary school students and their environmental aspects. Also, this result disagree with a study done by **Blake, (2016)** who mentioned there was no relation between level of health problems of the studied primary school students and their environmental aspects. This result in table (3).

The present study showed that there was a highly statistically significant relation between level of health problems of the studied primary school students and their education aspects as type of teaching, language level, lecher voice, student characteristic and participation in class room. This result was in agreement with a study done by **Agyire-Tettey et al. (2017)** who mentioned that there was statistically significant

relation between level of health problems of the studied students with Hearing Impairment and their education aspects.

Also, this result disagree with a study done by **Wezzie et al. (2020)** entitled "Challenges Faced by Learners with Hearing Impairments in A Special School Environment: A Case Study of Embangweni Primary School for The Deaf, Mzimba District, Malawi" who mentioned that there wasn't statistically significant relation between level of health problems of the studied students with Hearing Impairment and their education aspects. From the researcher point of view this result might be attributed to education aspects type of teaching, language level, lecher voice, student characteristic and participation in class room help in increasing awareness of the students which help them to know their health needs and express their health problems. This result in table (4).

Conclusion

In the light of the study findings, it was conclude that, high percentage of the studied students had high level of total health needs high percentage of the studied students had severe health problems. Also, there was highly statistically significant relation between total health needs of the studied primary school students and their demographic characteristics. There were highly statistically significant relation between total health needs of the studied primary school students and their parents' data as mothers' and fathers' education level and family income. There was highly statistically positive correlation between health needs of the studied primary school students and their total health problems. Also, there was highly statistically relation between health problems of the studied primary school students and hearing impairment.

Recommendations

Based upon the results of the current study the following recommendations suggested:

- More researches for children with hearing impairment to early detected of any physical, social and psychological health problems.
- Improving cognitive skills for children with hearing impairment through educational program for teacher to provide training for students - for example, improving problem-solving skills, improving theory of mind, flexible thinking.
- Improving attainment and academic performance for students by teacher in school – for example, school readiness, improved reading skills, improved mathematical skills and reasoning
- Improving social skills and communication for student – with peers, teachers and/or others, improving sign or spoken language, emotional recognition.

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