



## Perception of Deaf and mute Pubertal Girls' Regarding Puberty, and Healthy Promoting Lifestyle

<sup>1</sup> Manal Salah Abd El-Halim, <sup>2</sup>Shaimaa Hassan Mohamady. Neama  
Abd El-Fattah Abd Gwad <sup>3</sup>.

<sup>1</sup> Assistant lecture of Maternity , and Newborn Health Nursing, Faculty of Nursing, Helwan University  
Egypt

<sup>2</sup>Professor of Maternity , and Newborn Health Nursing, Faculty of Nursing, Helwan University Egypt

<sup>3</sup> Professor of Maternity , and Newborn Health Nursing, Faculty of Nursing, Helwan University Egypt

---

### Abstract

• **Background:** Puberty is an important period of Deaf and mute life girls associated with marked physical, emotional, , and psychological changes. **Aim of study:** Assessment of the pubertal Deaf and mute girl's perception regarding puberty , and healthy promoting lifestyle. **Design:** A descriptive research design was used to achieve the aim of the study. **Setting:** El Amal School for the Deaf and mute in Helwan city-Egypt. **Sample:** A purposive sample consists of thirty Deaf and mute girls at puberty **Tools:** four main tools were used; tool I interviewing questionnaire regarding personal characteristics, tool II knowledge assessment sheets about puberty , and healthy lifestyle, tool III attitude assessment sheet regarding puberty , and tool VI health promoting lifestyle assessment sheet. **Results:** the result of the current study showed that most Deaf and mute studied girls have poor knowledge , and attitudes regarding puberty , and a healthy promoting lifestyle. **Conclusion:** The present study concluded that the perception of most Deaf and mute pubertal girls' is poor regarding puberty , and health promoting lifestyle. **Recommendations:** Apply PRECEED PROCEED model to promote a healthy lifestyle for Deaf and mute girls at puberty.

---

**Keyword:** Deaf and mute -Lifestyle- , and puberty,

---

### Introduction

Puberty is a major maturational event in Deaf and mute life girls, through which reproductive competence is achieved as well as comprises of gonadarche , and adrenarche. Puberty also is a gradual development process of secondary sexual characteristics , and reproductive capability as well as the developmental stage. During puberty, a growth spurt occurs , and final adult stature is ultimately achieved. The completion of puberty is determined by the reactivation of the hypothalamus-pituitary gonad axis which completion of puberty is determined {1}.

Healthy lifestyles are defined as a collective pattern of health-related behavior based on choices from available options to girls according to life chances. The term life chances are defined as the structurally determined chances girls have in life to achieve satisfaction , and refers to a girl probability or likelihood of obtaining satisfaction for desires , and needs {2}.

Deaf and mute girls at puberty are an integral part of society. Deafness means inability to hear, while mute means the inability to speak. Deafness is one of the disabilities seen in all age groups , and is an emerging health problem in the country as well as one of the sensory nervous system defects in clinical practice. According to **WHO 2023** more than 5%



of the world's population suffers from some degree of hearing loss. Deafness is one of the common causes of disability, more than 360 million people around the world every year, with potential impact on people's psychology, physiology, , and society {3}

Deaf and mute girl's attitude regarding puberty is consisting of three levels according to the level of adequacy , and inadequacy. The cognitive level includes the level of knowledge , and orientation of Deaf and mute girls in the field of health also awareness of significant risk factors, , and underst, anding the importance of health as a guarantee of full , and long life Furthermore, the emotional level, an acceptable level of anxiety in matters of health during puberty, the possibility of a value attitude toward the state of health, while the behavioral level includes the organization of Deaf and mute girls' actions concerning the requirements of a health promoting lifestyle during puberty (4).

Nurses as professional health workers can collaborate with schools. , and carry out the roles as counselors for Deaf and mute girls, parents, teachers, , and other communities related to puberty changes, as well as healthy lifestyle, also can work together in developing educational programs , and conducting interventions related to puberty , and healthy lifestyle to ensuring that Deaf and mute girls pass puberty safely{5}.

### Significance of the study

According to WHO (2023), more than 5% of the world's population 430 million people require rehabilitation to treat disabling hearing loss 432 million adults , and 34 million children. World Health Organization estimates that by 2050, more than 700 million people, or one in ten people will suffer from hearing loss {6}.

According to the International Federation of the Deaf (2018), there are more than seven , and a half million Deaf and mute people in Egypt, representing nearly ten percent of the number of Deaf and mute people in the world, according to statistics issued by the United Nations. Now (2022) the number of Deaf and mute people in Egypt is approaching 8 million people {7}.

hanging from childhood to adulthood is a complex process in which many changes occur. UN adapts well to changes that can lead to many health, psychological, , and social problems. Globally, one in seven people aged 10-19 years suffers from a mental disorder, which represents 13 percent of the global burden of disease in this age group {8}.

**Aim of the study:** the current study aimed to assess the perception of Deaf and mute pubertal girls regarding puberty , and the healthy promoting of lifestyle

**Research question:** -what are the perceptions of Deaf and mute girls regarding puberty , and a healthy lifestyle?

### Subject , and methods

**Research Design:** Descriptive design was used in the Study.

**Settings:** The study was conducted at El Amal School for the Deaf and mute in Helwan city-Egypt

### Study sample:

- **Type of sample:** A purposive sample was used in the current study.
- **Sample size**

30 Deaf and mute student's girls at puberty in the academic year 2023-2024, primary grade (2 students), preparatory grade (23 students) secondary grade (5 students).



### Tool for data collection

**Tool I:** - Interviewing questionnaire sheet designed by the researcher in the Arabic language to assess the Deaf and mute girls characteristics including age, educational level weight, height, BMI, level of education for Deaf and mute girl's parent , and menstrual history.

**Tool I:** - Interviewing questionnaire sheet designed by the researcher in the Arabic language to assess Deaf and mute girls' characteristics including age, educational level weight, height, BMI, level of education for Deaf and mute girl's parent , and menstrual history.

**Tool II:** Knowledge assessment sheet regarding puberty , and health promoting lifestyle Modified by the researcher from Walker et al 1987, in the Arabic language in the form of an open-ended question to assess the Deaf and mute girls' knowledge regarding puberty , and healthy lifestyle. Consists of three parts:

Part one: -Assess the Deaf and mute girl's knowledge regarding puberty. Consist of (9) items (definition of puberty, normal age, signs of puberty, causes of puberty, the most common factor that affects puberty, , and most common health problems as well as psychological problems).

Part two: - Assess the Deaf and mute pubertal girl's knowledge regarding health promoting lifestyle, consisting of (11) items (definition of lifestyle, dimensions of lifestyle, health screening, important as well as type of physical activity, , and appropriate nutrition).

Part three: - Assess Deaf and mute pubertal girls' knowledge regarding following healthy guidelines for coping well with the changes associated with puberty, consisting of (3) items (menstrual problems, mood swings, , and sleeping disorder).

- **Scoring system for knowledge:**

The questionnaire contained items related to the Deaf and mute girls' personal characteristics as well as knowledge assessment (23) items each item had three points (0 – 2) as (0) for the wrong answer , and don't know, (1) for the correct , and incomplete answer , and (2) for the correct , and complete answer.

- **The total score of knowledge regarding puberty** (9) items was evaluated by giving a score from (0-18). Classified as the following: -

- Satisfactory: - > 50 % (10 - 18 points )
- Unsatisfactory: - ≤ 50% (0 - 9 points)

- **The total score of knowledge regarding lifestyle** (11) items were evaluated by giving a score from (0-11). Classified as the following: -

- Satisfactory: - > 50 % (6 - 11 points )
- Unsatisfactory: - ≤ 50% (0 - 5 points)

- **The total score of knowledge regarding following health guidelines for coping well with the puberty changes** (3) items were evaluated by giving a score from (0-6). Classified as the following: -

- Satisfactory: - > 50 % (4 - 6 points )
- Unsatisfactory: - ≤ 50% (0 - 3 points)

**Tool III:** - **Attitude assessment sheet regarding puberty.** Attitude assessment sheet regarding puberty. Consists of (12) items including positive attitude questions such as feeling free more after puberty, the occurrence of a positive change in lifestyle after puberty, becoming more confident in herself after puberty, Have better relations with her friends , and family. Negative attitude questions include puberty is an unpleasant period, puberty is a mysterious period that most girls don't underst, and , and the change in lifestyle after puberty is a matter of concern.

- **Scoring system for attitude**

- Each item had three points (0 – 2). In to positive attitude, (0) is given for disagree, (1) for sometimes, , and (2) for agree, while in a negative attitude (0) is given for agree, (1) for sometimes, , and (2) for disagree.

- **The total score of attitudes regarding puberty for Deaf and mute girls was evaluated by given a score of (0-24).** Classified as the following: -

- **Positive attitude:** - > 50 % (13 - 24 points)
- **Negative attitude:** - ≤ 50% (0 - 12 points)

**Tool IV:** - Health promoting lifestyle assessment sheet

Adapted by the researcher in the Arabic language, to assess the lifestyle of Deaf and mute girls at puberty. Consist of (37) items divided into six dimensions of lifestyle, which is health responsibility (6) items, physical activity (3) items, nutrition (8) items, spiritual growth (7) items, interpersonal relation (7) items, , and stress management (6) items. Question from (82-118). (Walker et al 1987)

**Scoring system for the health- promoting lifestyle assessment: -**

According to the health promoting lifestyle assessment for the Deaf and mute girls at puberty, each item had three points (0 – 2), (0) giving for the never, (1) for the sometimes, , and (2) for the usually.

- The total score of health promoting lifestyle assessment were evaluated by giving a score of (0-78). Classified as the following: -
  - Good: - > 50 % (40 - 78 points)
  - Poor: - ≤ 50% (0 - 39 points)

### Reliability

The tool was assessed by tool knowledge & attitude. The study tools were subjected to an assessment of internal consistency reliability using the Spearman-Brown Prophecy Formula ( $r_{11} = 2(3)/(1+r)$ ), where  $r_{11}$  estimated the reliability of the entire test and  $r$  estimated the correlation coefficient computed on the split halves. It was 0.896.

### Validity

The study tools were tested for content and face validity by a jury of three experts, experts in maternal and newborn health nursing and community health nursing to evaluate the items as well as the entire instrument as being relevant and appropriate to test what wanted to measure. The face validity of the questionnaire was calculated based on experts' opinions after calculating the content validity index (percentage) of items, and was 94%.

### Ethical Considerations

An official permission to conduct the proposed study was obtained from the Scientific Research Ethics Committee faculty of nursing at Helwan University. Participation in the study is voluntary and subjects were given complete full information regarding the study's aim and the role before signing the informed consent. The ethical considerations included explaining the purpose and nature of the study, stating the possibility to withdraw at any time, and confidentiality of the information where it was not accessed by any other party without taking permission of the participants. Ethics, values, culture, and beliefs were respected.

### Pilot study

A pilot study was conducted on 10% of the study sample, which were three students of the study sample. The pilot study aimed to determine the clarity, feasibility, and applicability of the study tools as well as the estimation of time needed for completing the questionnaires and to test the clarity of questions. Those participants of the pilot study were included in to study sample because there is no modification in the tool done.

### Fieldwork

The fieldwork was carried out over one month starting at the beginning of March 2023 after obtaining all official permissions, and completed in April 2023. The study included three levels of education primary, preparatory, and secondary grade; the primary grade included the seventh and eighth stages (6student), the preparatory grade included the three stages (20) girls and the secondary grade included the first stage only (4) girls.

The Researcher visited the study setting once /a week from 9:00 Am to 1 pm. On the first visit, met the deaf and mute girls to explain the aim of the study after getting to know each other and then, distributed written consent to obtain the agreement from the guardian to participate in the study. The study was carried out with the help of the school's teacher, psychologists, and sociologist's workers to translate the tool and program into sign language. Then the researcher starts to collect the data.

The questionnaire was collected through four visits, at each visit the data was collected from eight deaf and mute student girls, and the time spent on every questionnaire was half an hour.

### Statistical Analysis

Data was entered and analyzed by using SPSS (Statistical Package for Social Science) statistical package version 22. Graphics were done using the Excel program. Quantitative data were presented by mean (X) and standard deviation (SD). Qualitative data were presented in the form of frequency distribution tables, numbers, and percentages. Data was analyzed by chi-square ( $\chi^2$ ) test. However, if an expected value of any cell in the table was less than 5, the Fisher Exact test was used (if the table was 4 cells), or the Likelihood Ratio (LR) test (if the table was more than 4 cells). The level of significance was set as P value <0.05 for all significant tests.

### Results

**Table (1)** shows that 70% of deaf and mute studied girls age were from 14-16, while only 13.3% was less than 13, 66.7% of them were in preparatory school, while 13.3% were in secondary grade. According to parents who complained same disability, 93.3% of deaf and mute girls didn't have parents who complained same disability while 6.6 % had one mother and one father who were deaf and mute. Also, 40% of deaf and mute girls had siblings who had the same disability.

**Figure (1)** classified that 66.7 of deaf and mute girls in the preparatory grade. while 20 % in primary grade and 13.3% in the first year of secondary grade

**Figure (2)** shows that 23.3% of the deaf and mute girls' fathers were preparatory educated, while 13.3% of them could not read and write. Regarding the mother's level of education, 3.3% of the deaf and mute girls' mothers had intermediate education, while 43.3% of the deaf and mute girls' mothers cannot read and write.

**Table (2)** clarifies that 90% of the deaf and mute studied girls had menarche at the age of 11 to 13 and duration from 3 to 5 days. The color of menstrual blood was dark red for 50%, while 10% had clotted blood. According to the odor

of menstrual blood 36.6 had an offensive odor while 13.3 % did not recognize it, regarding the amount of menstrual blood, 56.7% of the studied girl had a moderate amount of blood, while 6.7% had a severe amount. 36.6% of them didn't use anything for menstrual pain, while 6.7% used warm showers during menstruation. Regarding the intensity of the menstrual pain, a third of deaf and mute girls had mild pain, the other third moderate and the last third was severing pain. The result of the current study shows that methods of dealing with pain for 36% were nothing, while 30% of deaf and mute girls used warm drinks, and 20% used painkillers.

**Table (3)** Indicates that, 93.3% of the studied deaf and mute girls had unsatisfactory levels of knowledge regarding puberty. the majority of studied girls answer incorrect answers regarding all questions about puberty.

**Table (4)** reveals that 93.3% of the deaf and mute studied girls had an unsatisfactory level of lifestyle knowledge, and only 6.7 of deaf and mute girls answered the correct answer about healthy lifestyle items.

**Table (5)** Illustrates that 76% of deaf and mute girls do not recognize how to feel satisfied and self-tolerance while 10 % mention positive thinking and paying attention to appearance.

**Table (6)** shows that regarding establishing social relationships,73 % of deaf and mute girls do not recognize. While 10% answer through presence in social events

**Figure (3,4)** Represents that the most common causes of stress that deaf and mute girls face are family problems 50%, while 10% are stressed due to teenage marriage, and 34% have social stress. According to how deaf and mute girls deal with stress, 10% turn to god, and the other 10% through depression and loneliness.

**Table (7)** shows that regarding overcoming puberty changes such as menstrual disorders, mood swings, and sleep disturbances. 33.3% of deaf and mute answered do nothing.

**Table (8)** shows that only 16.7% of deaf and mute studied girls had a positive attitude toward puberty. While 83.3 had a negative attitude.

**Table (9)** reveals that there was a highly statistically significant difference between deaf and mute studied girls regarding total knowledge, total attitude regarding puberty, and total health promotion lifestyle, 93.3% of deaf and mute girls had unsatisfactory knowledge and only 16.7 % had positive attitudes regarding puberty.

**Table (10)** reveals that there was a highly statistically significant correlation between deaf and mute studied girls' knowledge, attitude regarding puberty, and health promotion lifestyle with p-value (0.000, 0.000, and 0.000).

Items	The studied girls (n = 30)	
	N	%
<b>Age: Mean ± SD</b>	14.33±1.53	
<b>Age group:</b>		
<13years	4	13.3
14-16 years	21	70
>16	5	16.7
<b>The parents have the same disability:</b>		
No	28	93.3
Yes	2	6.7
<b>The answer yes (n=2):</b>		
The mother	1	50
The father	1	50
<b>Siblings have the same disability:</b>		
No	18	60
Yes	12	40

Table (1): Distribution of deaf and mute studied girls according to characteristics (n=30).

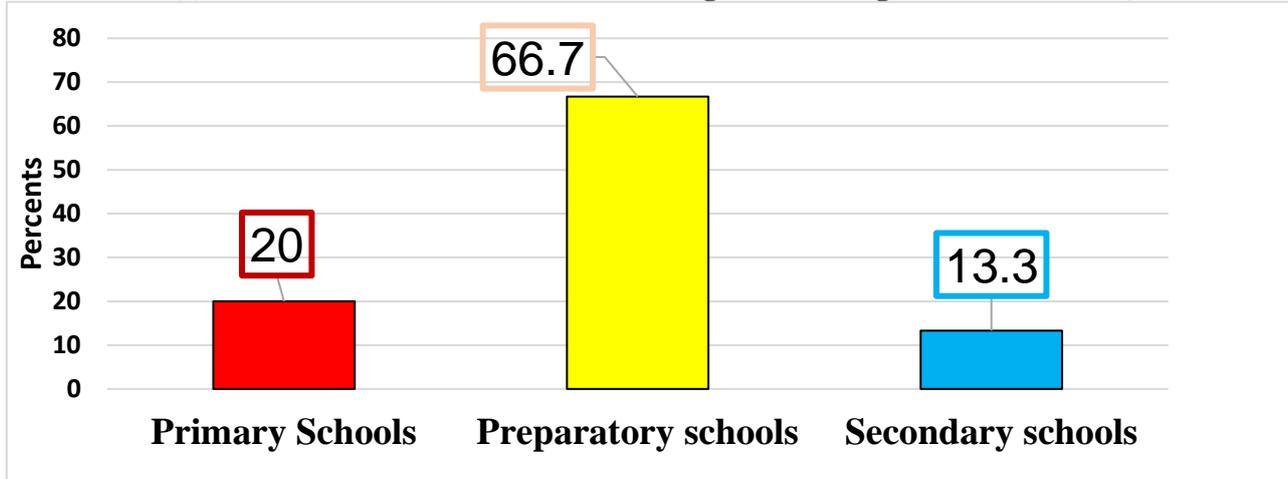


Figure (1) Level of education for Deaf and mute studied girls (N=30)

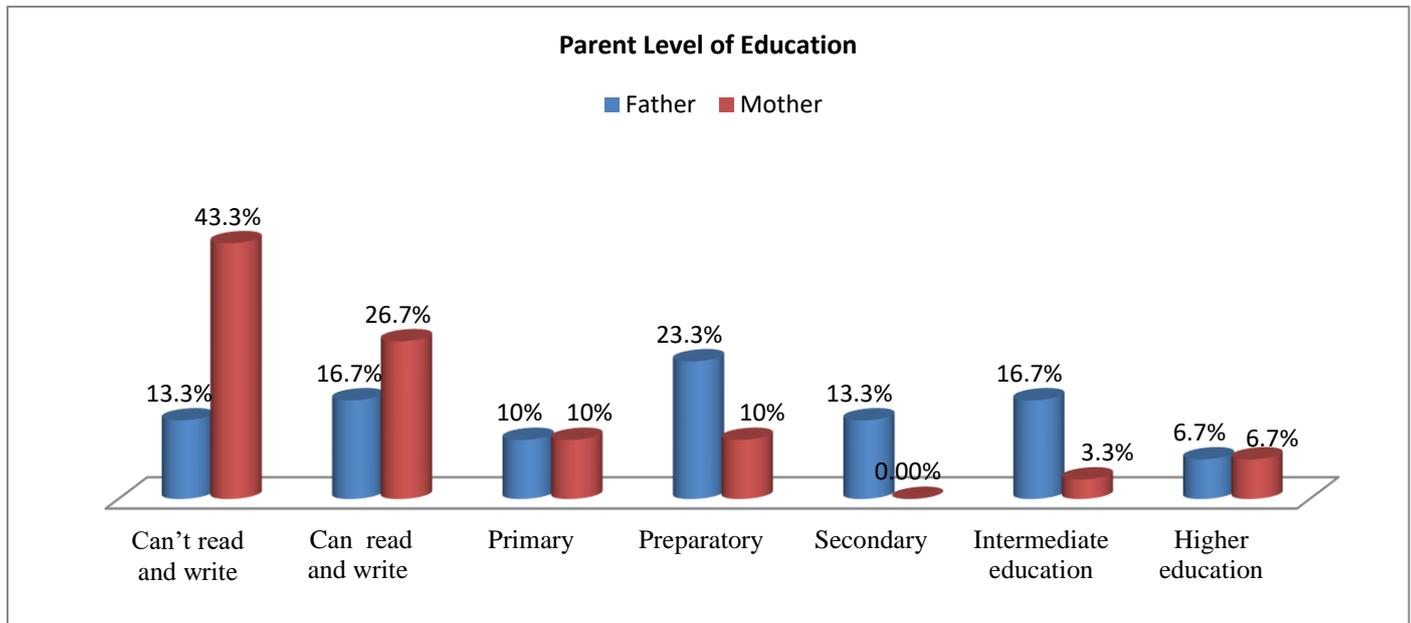


Figure (2) Level of deaf, and mute studied girls parent education for (N=30)

Table (2): Distribution of deaf, and mute studied girls according to menstrual history (n=30).

Items	The studied girls (n = 30)	
	N	%
<b>Age of menarche:</b>		
Less than 10 years old	1	3.3
From 11-13 years old	27	90
More than 13 years old	2	6.7
<b>Interval of menstruation:</b>		
Less than 30 day	15	50
Every 31 to 35 day	13	43.3
More than 35 day	2	6.7

<b>Duration of menstruation:</b>		
3 days	2	6.7
5-7 days	27	90
more than 7 days	1	3.3
<b>Amount of menstrual blood:</b>		
2 pad per day	11	36.6
3-4 pads per day	17	56.7
More than 5 pads per day	2	6.7
<b>Regulatory of menstruation:</b>		
No	10	33.3
Yes	20	66.7
<b>The oder of menstrual blood:</b>		
Not Recognize	4	13.3
No odor	5	16.7
Normal blood odor	10	33.3
Offensive odor	11	36.7
<b>Color of menstrual blood:</b>		
Bright red	12	40
Dark red	15	50
Clotted	3	10
<b>Pain associated with menstruation:</b>		
No	3	10
Yes	27	90
<b>Time of menstrual pain:</b>		
Before menstruation	10	33.3
The first day of menstruation, and through the menstrual period	17	56.7
After menstruation	3	10
<b>The intensity of the menstrual pain:</b>		
Tolerable	10	33.3
Moderate	10	33.3
Sever	10	33.4
<b>Methods used to deal well with menstrual pain:</b>		
Nothing	11	36.6
using hot drinking	9	30
using compresses/hot water bottles	0	0
taking painkillers	6	20
using warm shower	2	6.7
going the hospital	2	6.7

Table (3): Distribution of deaf, and mute studied girls' knowledge regarding puberty

Variable	The studied girls (n = 30)	
	N.o	%
<b>Definition of puberty</b>		
Incorrect answer/ I don't know	21	70
Correct incomplete answer	7	23.3
Correct answer	2	6.7
<b>The normal age of puberty</b>		
Incorrect answer/ I don't know	24	80

Table (4):

Correct incomplete answer	4	13.3
Correct answer	2	6.7
<b>Primary signs of puberty</b>		
Incorrect answer/ I don't know	27	90
Correct incomplete answer	1	3.3
Correct answer	2	6.7
<b>Secondary signs of puberty</b>		
Incorrect answer/ I don't know	24	80
Correct incomplete answer	4	13.3
Correct answer	2	6.7
<b>Causes of puberty</b>		
Incorrect answer/ I don't know	24	80
Correct incomplete answer	3	10
Correct answer	3	10
<b>The most important factors that effect on process of puberty</b>		
Incorrect answer/ I don't know	25	83.3
Correct incomplete answer	3	10
Correct answer	2	6.7
<b>The most common health problem during puberty</b>		
Incorrect answer/ I don't know	26	86.7
Correct incomplete answer	2	6.7
Correct answer	2	6.7
<b>The most common psychological problem during puberty</b>		
Incorrect answer/ I don't know	26	86.7
Correct incomplete answer	2	6.7
Correct answer	2	6.7
<b>Difference between puberty, and adolescence</b>		
Incorrect answer/ I don't know	28	93.3
Incomplete answer	0	0
Correct answer	2	6.7
<b>Total</b>		
Unsatisfactory	28	93.3
Satisfactory	2	6.7

Distribution of deaf, and mute studied girls' knowledge regarding healthy promoting lifestyle

Variable	The studied girls (n = 30)	
	No	%
<b>Definition of a healthy lifestyle</b>		
Incorrect answer/ I don't know	28	93.3
Correct incomplete answer	0	0
Correct answer	2	6.7
<b>Dimensions of health lifestyle</b>		
Incorrect answer/ I don't know	24	80
Correct incomplete answer	4	13.3
Correct answer	2	6.7
<b>Periodic examinations, and investigations during puberty</b>		
Incorrect answer/ I don't know	24	80
Correct incomplete answer	4	13.3

Correct answer	2	6.7
<b>Importance of physical activity for girls during puberty</b>		
Incorrect answer/ I don't know	24	80
Correct incomplete answer	4	13.3
Correct answer	2	6.7
<b>The normal rate of exercise practice</b>		
Incorrect answer/ I don't know	23	76.7
Correct incomplete answer	4	13.3
Correct answer	3	10
<b>Different types of exercises that should be practiced during puberty</b>		
Incorrect answer/ I don't know	25	83.3
Correct incomplete answer	3	10
Correct answer	2	6.7
<b>Healthy, and beneficial nutrition during puberty</b>		
Incorrect answer/ I don't know	25	83.3
Correct incomplete answer	3	10
Correct answer	2	6.7
<b>Total</b>		
Unsatisfactory	28	93.3
Satisfactory	2	6.7

Table 5: Distribution of deaf, and mute studied girls' regarding social assessment (Multiple choices answer

Items	Studied girls n-30	
	No.	%
<b>What a deaf, and mute girl do to feel satisfied, and self-tolerance</b>		
Un recognize	23	76
Paying attention regarding outward appearance	3	10
Positive thinking	3	10
Not harming others	1	3
Help others	0	0
<b>What a deaf, and mute girl doe to establishing social relationships</b>		
Un recognize	20	66.7
Participation in social activities	1	3.3
Presence in social events	<b>3</b>	<b>10</b>

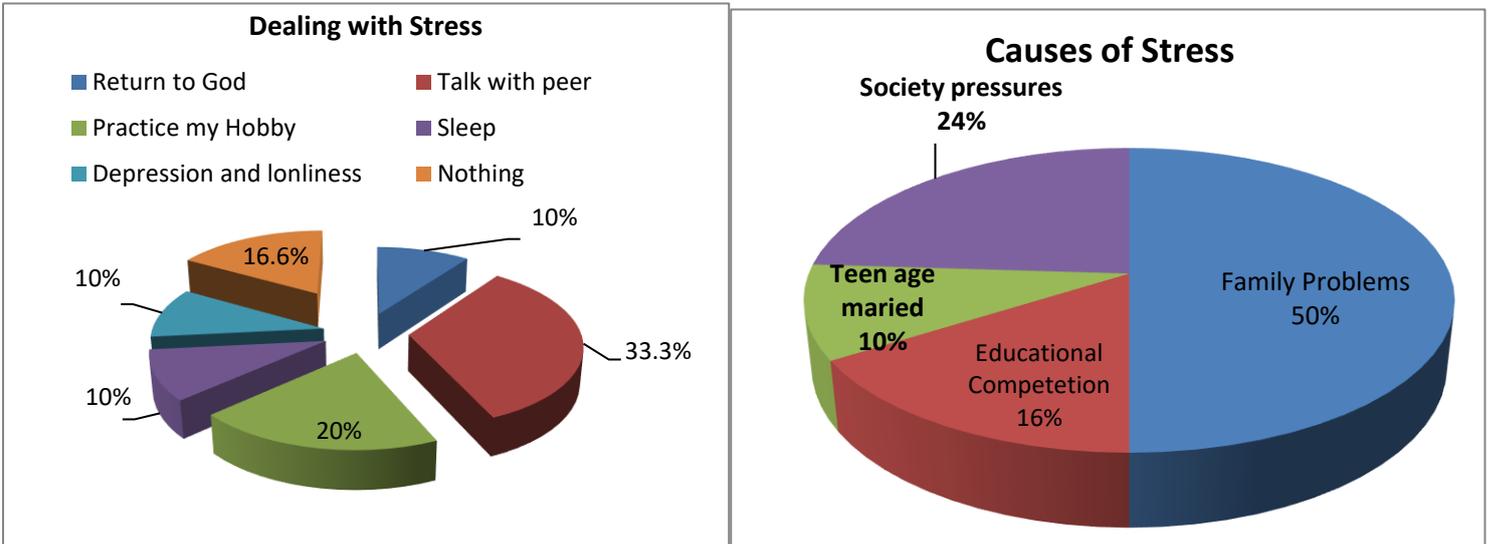


Figure 1 Deaf, and mute girls' causes of stress, and methods of dealing with stress.

Table 6 Deaf and mute girl's practice regarding following healthy guidelines to adapt well to puberty change (Multiple choices answers).

puberty change	No.	%
<b>Methods used to overcome menstrual disorder</b>		
Un recognize	10	33.3
Doing simple activity	4	13.3
Drinking hot fluids	19	63.3
<b>Methods used to overcome mode swings</b>		
Un Recognize	10	33.3
Crying, and isolation	9	30
Communicate with close girls	6	20
Walking	2	6.6
Practice favorite hobby	5	16.6
<b>Methods used to overcome sleep disorders</b>		
Nothing	19	63.3
Maintain a set bed time daily	2	6.6
Not sleeping during the nap period	3	10
Limit intake of caffeine, and beverage	6	20

Table (7): Distribution of deaf and mute girls' attitudes toward puberty (n=30).

Variable	The studied girls (n = 30)	
	N	%
<b>Feeling free more after puberty</b>		
Disagree	25	83.3
Agree to some extent	3	10
Agree	2	6.7
<b>The occurrence of a positive change in the lifestyle after puberty</b>		
Disagree	23	76.7
Agree to some extent	5	16.7
Agree	2	6.7
<b>Deaf and mute girls' view of life became broader, and more optimistic after puberty</b>		
Disagree	21	70
Agree to some extent	5	16.7
Agree	4	13.3
<b>Deaf and mute girls became more confident after puberty</b>		
Disagree	21	70
Agree to some extent	7	23.3
Agree	2	6.7
<b>Deaf and mute girls have better relations with friends, and family</b>		
Disagree	21	70
Agree to some extent	5	13.3
Agree	4	16.7
<b>Deaf and mute girls became more concerned about health, and following a healthy lifestyle</b>		
Disagree	26	86.7
Agree to some extent	1	3.3
Agree	3	10
<b>Negative attitude</b>		
<b>Puberty is an unpleasant period</b>		
Disagree	21	70
Agree to some extent	4	13.3
Agree	5	16.7
<b>Puberty is a mysterious period that most girls don't underset, and</b>		
Disagree	8	26.7
Agree to some extent	3	10
Agree	19	63.3
<b>The change in lifestyle after puberty is a matter of concern</b>		
Disagree	23	76.7
Agree to some extent	4	13.3
Agree	3	10
<b>Girls expect problems in puberty</b>		
Disagree	23	76.7
Agree to some extent	4	13.3
Agree	3	10

<b>Puberty is a period of increasing responsibilities, and life burdens</b>		
Disagree	24	80
Agree to some extent	3	10
Agree	3	10
<b>Tend to be isolated because of shyness about changes in body shape</b>		
Disagree	23	76.7
Agree to some extent	3	10
Agree	4	13.3
<b>Total attitude</b>		
Negative	25	83.3
Positive	5	16.7

Table (8): Distribution of total deaf and mute girls' health promoting lifestyle (n=30):

Variable	The studied girls (n = 30)			
	Incompetent		Competent	
	N.0	%	N.0	%
Health responsibility, and physical activity	28	93.3	2	6.7
Appropriate nutrition	27	90	3	10
Spiritual development	24	80	6	20
Personal relation	21	70	9	30
Pressure management	24	80	6	20

**Table (9): Distribution of total Deaf and mute girls' knowledge, attitudes, and health promoting lifestyle (n=30):**

Variable	The studied girls	
	No	%
<b>Total Knowledge</b>		
Unsatisfactory	28	93.3
Satisfactory	2	6.7
<b>Total attitude</b>		
Negative	25	83.3
Positive	5	16.7
<b>Total health promoting lifestyle</b>		
Incompetent	24	80
Competent	6	20

**Table (10): Correlation between the deaf and mute studied girls' knowledge, self-efficacy, attitudes, and a health promoting lifestyle:**

Items	Mean± SD	Total knowledge	
		Correlation Coefficient (r)	P-value
<b>Health promoting lifestyle</b>	28.03±17.11	0.748	0.000*
<b>Attitude</b>	5.20±6.58	0.748	0.000*

\*: Significant at  $P \leq 0.05$

## Discussion

The findings of the current study revealed that the majority of deaf and mute girls' ages ranged from thirteen to sixteen years old, while the minority age was less than thirteen years old, and about one-fifth of deaf and mute girls' ages were sixteen years. According to the level of education two two-thirds of deaf and mute girls at preparatory grade, while fifth in primary grade, and sixth girls in secondary grade that is in the first stage. The researcher supposes that there is no relationship between deaf and mute girls' age and level of education, because in schools of deaf and mute, the primary grade extends to eight years, while in other schools only six years. Therefore, find that the thirteen-year-old deaf and mute girl is still in the primary grade.

Regarding parents' level of education, the study showed that more than one-fifth of the father's level of education is in preparatory school, while less than one-sixth can't read and write, and about one-sixth are in intermediate education. Regarding to mother's level of education the study showed that less than half of mothers can't read and write, while one-fifth of mothers have less than intermediate education. The result is incompatible with (Mahmoud Ibrahim& Kamel., 2022) who reported that the largest percentage of parents have an average qualification was less than half, followed by university degrees were less than a third, and finally qualifications below average were less than one quarter. Mention that in a study conducted in Egypt under the title of "Social welfare services as a mechanism to reduce social exclusion of the deaf and mute".

According to parents and siblings complaining same disability, the study showed that most deaf and mute girls did not have parents with the same disability, while less than half of studied girls have siblings with the same disability. The finding agrees with (Wright et al., 2021) who reported that most deaf children in the United Kingdom are born to hearing parents, most of whom



were not expecting a deaf child. Mention that in a study conducted in the United Kingdom under the title "A systematic scoping review of early applications for parents of deaf infants". Based on the World Health Organization **Report 2021** there are many causes for hearing loss and deafness either hereditary including intrauterine infection such as rubella as well as cytomegalovirus infection, birth asphyxia, hyperbilirubinemia, chronic ear infections, and meningitis also other infections. From the researcher's point of view, the cause of deafness for studied deaf and mute girls is infection either intrauterine or postnatal based on deaf and mute girls' mother's reports.

As regards menstrual history, the age of menarche for the majority of deaf and mute girls at eleven to thirteen years and the duration of menstruation lasts from five to seven days. Approximately two-thirds of girls have regular menstruation, while about half of the studied girl's interval of menstruation was less than a month, also described the menstrual color as dark red. Regarding the odor of menstrual blood, about one-sixth of deaf and mute girls do not recognize it, while more than a third said that menstrual blood had an unpleasant odor. As for the amount of menstrual blood, more than half of the studied girls stated that the amount of blood was moderate.

The result is consistent with **Ramos-Pichardo et al., 2020** Who reported that the average age of menarche for the studied sample was twelve years, more than half had a regular menstrual cycle, the average duration was five days, interval about every month, while the amount of blood ranging from mild to moderate. Mention that in a study conducted in Madrid Spain, under the title, "Why do some Spanish nursing students with menstrual pain fail to consult healthcare professionals?"

For menstrual pain, the result reveals that most deaf and mute girls suffer from menstrual pain. the severity of menstrual pain was one-third for both mild, moderate, and severe, methods of dealing with pain for more than a third were nothing, use of warm drinks was for a third of the studied girls also a quarter of deaf and mute girls used painkillers and less than a sixth go to the hospital. The result is congruent with **Ramos-Pichardo et al., 2020**, Who mentions that more than half of the studied sample have menstrual pain the majority use non-pharmacological methods to deal well with pain and consider the menstrual pain as normal and neutral. Reported that in a study conducted in Madrid Spain, under the title, "Why do some Spanish nursing students with menstrual pain fail to consult healthcare professionals?". The researcher supposes that agreement because deaf and mute girls go through the same stages of female growth and maturity as normal girls due to the completion of all female sexual characteristics

Related to knowledge regarding puberty, the study demonstrated that the majority of deaf and mute girls had an unsatisfactory level of knowledge regarding puberty. The result of the current study corresponds with **Ziapour, et al., 2022** who reported that most of the study sample have lack of adequate knowledge and curated information regarding puberty and adolescence. mention that in a study conducted in Ardebil. At Irian. Under title "Educational needs assessment among 10–14-year-old girls about puberty adolescent health of Ardebil".

According to lifestyle knowledge, the current study represented that most deaf and mute girls had an unsatisfactory level of knowledge regarding healthy lifestyles. Results of the current study vary with **Shendge 2023**, who reported that the majority of the studied sample had good knowledge about lifestyle. Mention that in a study conducted in India under the title of "Assessment of knowledge and practice regarding lifestyle modification about polycystic ovary diseases among college girls attending gynaec outpatient department of selected hospitals". From the researcher's point of view, normal people have many opportunities to research everything new and beneficial for health, through several ways such as social media, telecommunications programmers, attending educational seminars, participating in awareness campaigns, etc. Deaf and mute girls miss all opportunities due to disability and because of the lack of such sources of knowledge by sign language.

considering deaf and mute girls' social assessment, the result showed that the majority of studied girls do not know how to establish social relationships and what girls do to feel good, Regarding methods for establishing social relationships, more than half of deaf and mute girls mention unrecognize while more than third says presence in a social event.

As regards the stress that deaf and mute girls are exposed to during puberty, half of the studied girls had stress due to family problems while one-third of deaf and mute girls had stress due to social stress Furthermore, less than a quarter of studied girls have competitive stress and about tenth suffering from stress due to teenage marriage. According to stress management, more than a tenth of deaf and mute studied girls mention nothing, while a tenth of studied girls resort to God and other tens during stress to be isolated and depressed.

The result is in agreement with **Crawford et al., 2023**, Who mention that hearing loss when left untreated, affects many aspects of life at an individual level, including social isolation, loneliness, and stigma. Reported that in a study conducted in Canada, under the title, Subjective impact of age-related hearing loss is worse for those who routinely experience boredom and failures of attention. Ear and hearing. The researcher supposes that the most common stress that deaf and mute girls may exposed to be, is social pressure due to the lack of effective communication between deaf and mute girls and society, due to the lack of understanding of sign language by ordinary girls

Concerning deaf and mute girls' practice regarding following healthy guidelines to adapt to puberty changes, the result showed that, one-third of deaf and mute girls answered do nothing regarding all disorders. The result is inconsistent with **Eldstrand et al., 2022** who reported that there is a lack of knowledge regarding the adequate dosage of analgesics among young women who refuse to use nonpharmacological methods to relieve menstrual pain. Mention that in a study conducted in Sweden under the title "Supporting young women with menstrual pain—experiences of midwives working at youth clinics". From a research point of view the degree of pain tolerance, as well as the methods of dealing with it, varies from one girl to another. During the study and the implementation of the application, some deaf and mute girls mentioned that they used painkillers to relieve menstrual pain, but they were afraid to mention that.

According to deaf and mute girl's attitudes regarding puberty, the current study revealed that only one-sixth of studied girls had a positive attitude toward puberty, while most of them had a negative attitude. The results are identical to **Mohammed et al., 2023** who reported that the lowest percentage of studied adolescent girls had a positive attitude at pre-application which increased to two-thirds post-application, mention that in a study conducted in Benha, under the title "Effect of instructional guidelines on adolescent girl's knowledge and attitude regarding puberty development". Still, many deaf and mute girls do not know about the physical changes that occur during puberty or the reasons leading to this, so sudden changes can affect self-efficacy as well as daily lifestyle and make it difficult to adapt well to the changes, which leads to deaf and mute girls looking into puberty as an unpleasant period.

According to the health promotion lifestyle, the current study assesses the six lifestyle dimensions for studied girls. Regarding health responsibility, the majority of deaf and mute girls never find out about topics that revolve around health also never do periodic examinations to check on health and detection of diseases early, while half seek advice from professionals about how to take care of health, also less than half of studied girls attends a scientific seminar revolving around health. Regarding physical activity most deaf and mute girls never do regular or proper exercise. The result disagrees with **Tomaszewska et al., 2022** who reported that a low level of intensity of health behaviors was presented by less than a third of subjects, and average results were obtained by more than two-quarter of subjects. A high level of intensity of health behaviors was present in a third of the subjects. Women show a higher rate of proper eating habits, preventive behaviors, and work practices. Mention that in a study conducted in Europe, under the title "Responsibility for health-public awareness".

Regarding total knowledge, attitude, self-efficacy, and health promotion lifestyle of deaf and mute girls, the result of the current study showed that there was a highly statistically significant difference between studied girls regarding total knowledge, total attitude regarding puberty, and total health promotion lifestyle.

The result is supported by **Bazpour et al., 2019** who mention that the mean of the lifestyle score changed from a weak level to a moderate level at baseline and a good level immediately after application, and a month after application in the experimental group. Also, there is a significantly positive predisposing awareness and attitude, reinforcing, and enabling factor changes in the experimental group immediately after and a month after application. Reported that in a study conducted in Iran under the title "The Effect of a training program based on the PRECEDE-PROCEED model on the lifestyle of adolescents with beta-thalassemia: a randomized controlled clinical trial"

## V. Conclusion

**Based on the results of the current study, the following can be concluded:** Most deaf and mute studied girls have poor perceptions regarding puberty and healthy promotion lifestyles. The results of the current study answer the research question.

## . IV Recommendations:

- Replicate the study on all deaf and mute schools to facilitate the generalization
- Development of instructional guidelines to increase the level of deaf and mute girls' perception regarding puberty and healthy promotion lifestyle.
- Developing a simplified and comprehensive booklet including basic information about health promotion by sign language

## References

1. **Argente, J., Dunkel, L., Kaiser, U. B., Latronico, A. C., Lomniczi, A., Soriano-Guillén, L., & Tena-Sempere, M. (2023).** Molecular basis of normal , and pathological puberty: from basic mechanisms to clinical implications. *The Lancet Diabetes & Endocrinology*.
2. **Cockerham, W. C., D. Wolfe, J., & Bauldry, S. (2020).** Health lifestyles in late middle age. *Research on Aging*, 42(1), 34-46.
3. **Yu, R., Wang, K., Luo, W., & Jiang, H. (2022).** Knockdown , and mutation of Pou4f3 gene mutation promotes pyroptosis of cochleae in cisplatin-induced deafness mice by NLRP3/caspase-3/GSDME pathway. *Toxicology*, 482, 153368.



Vol. 3, Issue 5, Month: March 2024, Available at: <https://hijnrp.journals.ekb.eg/>

4. **Yosep, I., Hikmat, R., & Mardhiyah, A. (2023).** School-based nursing applications for preventing bullying , and reducing its incidence on students: a scoping review. *International journal of environmental research , and public health*, 20(2), 1577.
5. <https://www.who.int/news-room/fact-sheets/detail/deafness-, and-hearing-loss> 5-4-2023
6. **Allwaffer., (2023)** <https://education.alwaffer.com/articles/2014733/>
7. World Health Organisation, Deafness , and Hearing Loss, 2021. <https://www.who.int/news-room/fact-sheets/detail/deafness-, and-hearing-loss>. Accessed 1 Apr 2021
8. **Walker SN, Sechrist KR, & Pender NJ. (1987).** The Health- Promoting Lifestyle Profile: development , and psychometric characteristics. *Journal of Nursing Research*, 36(2), 76-81.
9. **Mahmoud, A. M., & Kamel, H. H. (2022).** Social Welfare Services as a Mechanism to Reduce Social Exclusion of the Deaf , and Mute. *Egyptian Journal of Social Work*, 14(1), 35-56.
10. **Ramos-Pichardo, J. D., Ortega-Galán, Á. M., Iglesias-López, M. T., Abreu-Sánchez, A., & Fernández-Martínez, E. (2020).** Why do some Spanish nursing students with menstrual pain fail to consult healthcare professionals ?. *International Journal of Environmental Research , and Public Health*, 17(21), 8173.
11. Ziapour, A., Sharma, M., NeJhaddadgar, N., Mardi, A., & Tavafian, S. S. (2020). Educational needs assessment among 10–14-year-old girls about puberty adolescent health of Ardebil. *Archives of Public Health*, 78(1), 1-6.
12. **Crawford, C. M., Ramlackhan, K., Singh, G., & Fenske, M. J. (2023).** Subjective Impact of Age-Related Hearing Loss Is Worse for Those Who Routinely Experience Boredom , and Failures of Attention. *Ear , and Hearing*, 44(1), 199-208.
13. **Eldestr, and, L., Nieminen, K., & Grundström, H. (2022).** Supporting young women with menstrual pain– Experiences of midwives working at youth clinics. *Sexual & Reproductive Healthcare*, 34, 100795
14. **Mohammed, T., Ahmed Hassan, A., & Soliman Abd El Aliem, R. (2023).** Effect of Instructional Guidelines on Adolescent Girls Knowledge , and Attitude regarding Puberty Development. *Journal of Nursing Science Benha University*, 4(1), 1048-1061.
15. **Tomaszewska, K., Majchrowicz, B., & Zimoń, P. (2022).** Responsibility for health-public awareness. *Journal of Education, Health , and Sport*, 12(3), 198-209.
16. **Bazpour, M., Gheibizadeh, M., Malehi, A. S., & Keikhaei, B. (2019).** The effect of a training program based on the PRECEDE-PROCEED model on lifestyle of adolescents with beta-thalassemia: a r, andomized controlled clinical trial. *International journal of hematology-oncology , and stem cell research*, 13(1), 12.