

Dealing with Unmet Needs of the Deaf and Mute Adolescent Girls Students Regarding Reproductive Health

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Abstract

Background: - Deaf and mute adolescents' girl's students have special sexual and reproductive health needs remain unmet. Despite of the availability of health education services regarding reproductive health, deaf and mute unable to communicate with these services, due to the special needs such as ability of hear and speak. **Aim** of current study is to deal with the unmet needs of the deaf and mute adolescent girls regarding reproductive health. **Research design:** A quazi experimental design was used in the study. **Sample:** Convenience sample included 50 deaf and mute adolescent girls' students. **Setting:** El Amal School for deaf and mute at Helwan city. **Tools:** Three tools were used to collect the data, first tool interviewing questionnaire, consisting of two parts personal characteristics and knowledge assessment sheet regarding reproductive health, second tool practice assessment checklist regarding personal hygiene during menstruation and breast self-examination. Third tool assess the adolescent girl's satisfaction regarding study. **Result:** present study shows that there was highly statistical significant different in different aspects of adolescent girls regarding reproductive health knowledge and practice after implementing the study. **Conclusion:** current study concluded that, effective and marked improvement regarding knowledge and practice about reproductive health amonge deaf and mute adolescent girl's student. The result supported the research hypothesis **Recommendation:** Create comprehensive educational booklet with sign language regarding reproductive health. Collaborate with faculty of artificial intelligence technology to set an application to deal with deaf and mute unmet needs and emergency.

Key words: - Deaf and mute- Reproductive health-Unmet needs

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I. Introduction

Deaf and mute people have difficulty communicating with normal people who do not know sign language and misinterpretations. Most of the tasks in a human daily life depend on speaking and hearing, which lead to problems in communicating with the deaf mute and normal people. Among the communication difficulties is difficulty in communicating with the providers of reproductive health services due to the lack of an understandable language between them, which led to an increase the needs of deaf and mute people to know and awareness reproductive health.. Around the world, about 9.1 billion peoples are deaf and mute [1].

Adolescence is a time of development of cultural self-identity impacted. During adolescence period, young adults learn about the world. Although discovery process not always easy, for some cultural groups is more difficult because of the lack of ways to interact and learn about culture. Adolescent girl deaf may have difficulty defining and developing cultural identity [2].

Menarche is defined as the first menstrual period, the most notable event during female puberty. Menstruation is a normal physiological process occurring every month throughout the reproductive age of the females, is a monthly endometrial shedding leading to the discharge of blood from the uterus occurring in every 28 ± 7 days. The average menstrual bleeding lasts about 5 days [3].

Menstrual hygiene management defined as women and adolescent girls using a clean menstrual management material to absorb or collect blood that can be changed in privacy as often as necessary for the duration of the menstruation period, using soap as well as water for washing the body as required, also having access to facilities to dispose of used menstrual management materials. adolescent girls understand the basic facts linked to the menstrual cycle and how to manage with dignity and without discomfort or fear [4].

A lack of adequate guidance, facilities, and materials for girls to manage menstruation in school is a neglected public health, social, and educational issue that requires prioritization, coordination, and investment.

Deaf and mute adolescent girls Students and teachers unable to manage menstruation with safety, dignity, privacy, negatively impacting the abilities to succeeding and thrive within the school environment [5].

Sexual and reproductive health (SRH) is defined as when individuals have a safe and satisfactory sexual life also have reproductive ability and power to make decisions about reproductive health life as well as how reproduction should occur. Therefore, education of SRH is crucial to fulfill needs. Determining desired goals is dependent on the recognition of needs as health promotional solutions takes effect only if developed based on individuals' needs [6].

Breast cancer (BC) is one of the most frequent types of malignancy worldwide, breast self-exam (BSE) is considered as a simple method to screen and detect breast cancer. BSE still can increase the awareness about BC and alert the women and the physician about the need to perform more advanced screening measure, especially women with positive family history of breast cancer [7].

Marriage leads to developing family, reproduction and extend of family in human being, which is recommended in all religions. If performed with proper knowledge, would have crucial effect on the health of the individuals and society. Beginning of join life, the deaf and mute couples need the proper knowledge on different contexts of the safe reproduction, the reproductive system hygiene, the significance of benefiting from methods of family planning, proper selection of contraceptive and this is what pre-marital counseling provides specially for deaf and mute for support and commutation with society [8].

Sexually transmitted diseases (STDs) are the major public health problems worldwide which lead to illness with significant health, social and economic consequences. STDs are among the most common infectious diseases. School students may stand the risk of sexually transmitted infection (STI) because of a possible minimal knowledge of the dynamics of STI at this early reproductive age [9].

Nurses have a responsibility to ensure that deaf and mute female reproductive health needs are met or that individuals are referred to appropriate services. Nurses play an important role in addressing reproductive health care. Sexuality and sexual health problems are challenging areas for nurses, should be approached in a way that respects girl's confidentiality and sensitively explores girl's needs [10].

Significance of the study

According to the World Health Organization (WHO, 2017), 360 million people worldwide, about 5 percent of the world's population, suffer from hearing loss, 32 million of children, and 1.1 billion young people between the ages of 12 and 35 are at risk of hearing loss due to music noise.

According to other statistics issued by the United Nations in 2017, the number of deaf and mute in Egypt is about 7.5 million people. The communication between a deaf and mute person poses to be a serious problem compared to communication between blind and normal visual people. This creates a very little room with communication being a fundamental aspect of human life [11].

Aim of the study

The aim of this study is deal with the unmet needs of the deaf and mute adolescent girls regarding reproductive health **through the following objective:**

- Assess deaf and mute adolescent girl's student's knowledge regarding reproductive health.
- Assess the practice of deaf and mute adolescent girl's student's regarding reproductive health.
- Determine the unmet reproductive health needs among the deaf and mute adolescent girl's students .
- Provide health education to deaf and mute adolescent girl's students regarding reproductive health need.
- Assess the effect of the health education provided among the deaf and mute adolescent girl's students.

Research Hypothesis

The unmet reproductive health needs among the deaf and mute adolescent girl's students will be determined and knowledge as well as practice of deaf and mute adolescent girl's students regarding reproductive health will be improved after implementing the study.

II. Subjects And Methods

2.1 Research design:

A quazi experimental design was used in the study.

- **Research setting:**

This study was conducted at El Amal School for deaf and mute at Helwan city.

2.3 Subjects:

Deaf and mute adolescent girl's students.

2.4 Sampling technique:

Convenience sample. All available deaf and mute adolescent girls' students in the previous setting who accept to participate in the study. 50 students, Primary (5 students), Preparatory (14 students) Secondary (21 students) and post Graduate (10 students) selected by absentism.

- **Tools of data collection:**

The data were collected through using the following tool:

Tool I: - interviewing questionnaire, designed by the researcher consisting of two parts: -

Part one: Personal characteristics of the deaf and mute adolescent girl students as name, age and educational level.

Part two: Knowledge assessment sheet distributed 3 times pre, post and follow up the study. Prepared to assess deaf and mute adolescent girl students about reproductive health such as reproductive system, signs of puberty, menstrual cycle, breast self-examination, perineal care, sexual transmitted disease STD's, premarital counseling and unmet needs [12].

Scoring system for knowledge: The grading system for answer

- Zero for don't know or wrong answer
- One for correct and incomplete answer
- Two for correct and complete answer.

Total score knowledge:-

The total score for each deaf and mute adolescent girl was categorized into poor knowledge when achieved less than or equal $\leq 50\%$ of the grand total score and "good knowledge" was considered when adolescent girl achieved more than $> 50\%$ of the grand total score .

Tool II: - Reproductive health practice checklist distributed 3 times pre, post and follow up the study. concerned with reproductive health practice consist of 2 parts[12].

Part one: - Breast self-examination cheek list

Part two:-Personal hygiene during menstruation cheek list

Scoring system for practice checklist

Concerning practice of the deaf and mute adolescent girls regarding RH, studied in a list of twenty five items distributed among the following two important subscales personal hygiene during menstruation practice (with thirty items) and BSE Practice (with twelve items).

- Each item was examined in a two points liker scale (zero-one)
- The rating scale scores the practice as zero for not done and one for done.

Total scoring practice:-

The total score of each deaf and mute adolescent girl was categorized into poor practice when adolescent girls achieved less than or equal $\leq 50\%$ of the total score and good practice when achieved more than $> 50\%$ of the total score.

Tool III: Satisfaction assessment liker scale:-designed by the researcher

This scale was used to assess deaf and mute adolescent girl student's satisfaction regarding the study.

2.6 Validity

The study tools were tested for content and face validity by jury of three expertises' as specialist of deaf and mute, expertise in maternal and new born 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' opinion after calculating content validity index of items and was 94%.

2.7 Reliability

The study tools were subjected to assessment of internal consistency reliability using Spearman-Brown Prophecy Formula ($r^1=2(3)/1+r$), where r^1 estimated reliability of the entire test and r estimated correlation coefficient computed on the split halves. Tool reliability for knowledge was 0.896 while for practice was 0.872.

2.8 Pilot study

A pilot study was conducted on 10% of subject which was 5 students of study sample. The aim of pilot study was to determine the clarity, feasibility and applicability of the study tools as well as estimation of time needed for completing the questionnaires and to test the clarity of questions. Those participants of pilot study were included to study sample because there is no modification in the tools.

2.9 Field work

The actual field work was carried out through seven months, started at the beginning of April 2019 after obtaining all official permissions, completed by the end of October 2019. The study included three grades of educational level primary, preparatory and secondary. The primary grade was 8 level, preparatory grade 3 levels and secondary grade 3 levels. The researcher was visited the study setting once weekly (Monday) from 9:00 Am to 12 Pm after arrangement with students and sign language translator through WhatsApp application group. First visit, the researcher met the students, explained the aim of the study after introduced herself and then obtaining written consent from parents of each student to participate in the study. The study carried out by help of the school's social workers to translate the words to sign language.

The study was implemented in the following stages:-

I-Preparing and planning stage: -

At this stage researcher visited the school to meet the school director and assess the number of student at each level and student properties. The researcher designed the questionnaire form to identify the unmet needs of the deaf and mute adolescent girl's students regarding reproductive health by assessing the knowledge and practices about reproductive health. The students were divided into four groups, the first group included the primary grade (five female students), the second group included preparatory grade (fourteen students), the third group included the secondary grade (twenty one students) and the fourth group included post graduates (ten students girls).

NB:-the study was involved the recent post graduate student (10) girls of school for a small number of samples, post graduate student participant in some activities at the school (work shop), for this reason they included in the sample.

II-Implementation stage: -

In this stage, the researcher defined the identity, met the students, explained the aim of the study, and distributed the approval consent to obtain the written consent of the parents. After this, the **data collection was carried out through the following steps:-**

- Pretest assessment administered questionnaire was distributed to assess adolescent girl's level of knowledge and practice regarding reproductive health after explained how to fill it and clarified any asked questions.

NB: - For first and second group, at each visit, one of the reproductive health topics was demonstrate as its mentioned in the questionnaire by using appropriate teaching methods such as lecture, group discussion by signs language and media such as picture also power point presentation. While for third and fourth group two reproductive health topics was demonstrate, at each visit.

- Regarding reproductive health practice such as breast self-examination, the researcher firstly discusses the procedure by presented pictures and videos to facilitate the learning. Then each adolescent girl applies the procedure and ask the student to apply the procedure at home. Through next visit, the researcher asks the student to demonstrate breast self-examination to activate their memory also to ensure that the procedure is applied correctly.
- According to personal hygiene during menstruation, the researcher firstly demonstrate the procedure by presented pictures and videos to facilitate the learning. Then, ask the student to apply the procedure at home due to difficulty of applying the procedure in the school and maintain student privacy.
- Posttest assessment self-administered questionnaire distributed immediately to assess their knowledge and practice regarding reproductive health immediately after presented reproductive health topics.
- After 3 month follow up knowledge and practice assessment questionnaire distributed to assess the level of retention knowledge and practice regarding study topic.

III Evaluation stage:-

At this stage, the researcher assess the deaf and mute adolescent girls satisfaction regarding the study through satisfaction assessment liker sacale distributed after follow-up test. The results of pre, posttest and follow-up was used to evaluate the effect of the study on girls knowledge and practice regarding reproductive health.

• Ethical considerations:

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

2.11 Statistical analysis:

Data was entered and analyzed by using SPSS (Statistical Package for Social Science) statistical package version 22. Graphics were done using Excel program. Quantitative data were presented by mean (X) and standard deviation (SD). It was analyzed using student t- test for comparison between two means, and ANOVA (F) test for comparison between more than two means. Qualitative data were presented in the form of frequency distribution tables, number and percentage. It was analyzed by chi-square (χ^2) test. However, if an expected value of any cell in the table was less than 5, Fisher Exact test was used(if the table was 4 cells) , or Likelihood Ratio (LR) test (if the table was more than 4 cells). Level of significance was set as P value <0.05 for all.

Limitation of the study

- Difficult sign language using as a communication skills.
- Lack of references regarding study topic.
- Difficult to translate medical terminology to sign language.

III. Results

Table 1: shows that half (54%) of deaf and mute adolescent girl aged between 15 to < 20 years with mean of 17.5 ± 3.0 years. Regarding level of education, 42% of them were at secondary school while 20% at university. Concerning dealing with family member, 80% of studied girls were able to dealing well with all family members, 16% able to dealing well with mother and 4% able to dealing well with with siblings.

Table (2) highlights the efficacy of study regarding knowledge aspects for studied deaf and mute adolescent girls. Post and follow up the study revealed a highly significant improvement ($p < 0.000$) in the different aspects of knowledge aspects. The post study' good knowledge responses ranged from 98% for BSE to 100% for each reproductive health, reproductive system organs, puberty, menstruation, marriage & premarital counseling, and total knowledge. The follow up study good knowledge responses ranged from (94%) for BSE and reproductive system to 100% for menstruation. There were high statistical significant difference between knowledge groups of pre, post and follow up the study ($p < 0.000$) for each knowledge aspect, as well as total knowledge score groups.

Figure (1) shows that source of knowledge regarding reproductive health for 32% of studied girls were college, while 16% of them were neighbors which have the same disability. **Figure (2)** presents the causes that lead to studied girls don't apply breast self-examination which were for 32% of them shame while for 20% lack of adequate educational resource.

Table (3) highlights the efficacy of the study for the practice aspects of the studied deaf and mute adolescent girls. Post and follow up implemented the study revealed a highly significant improvement ($p < 0.000$) in the different aspects of practice. Post study' good practice responses were 98% for each personal hygiene, BSE, and total practice. Follow up the study good practice responses ranged from (70%) for BSE to 100% for personal hygiene during menstrual period. There were high statistically significant difference between practice groups of pre, post and follow up interventions ($p < 0.000$) for each practice aspect, as well as total practice score groups.

Table (4) indicated that, there were no statistical significant differences between the studied deaf and mute adolescent girls' age groups . Although, results showed that the older the deaf and mute adolescent girls the percentage of good knowledge score is higher ,however, the difference was not significant statistically ($P > 0.07$) Also, the deaf and mute adolescent girls who can deal well with their mothers either alone or combined with other family member as their fathers or siblings, showed higher percentage of good knowledge (100%) compared to the deaf and mute adolescent girls who can deal well with their family members other than the mother (97.5%), however, the difference was not significant statistically ($P > 0.15$). In relation to education level, all university and secondary level deaf and mute adolescent girls showed good knowledge compared to

the deaf and mute adolescent girls who were in elementary level (89.5%), this difference was significant statistically ($p < 0.03$). This result may be due to the fact that the deaf and mute adolescent girls who were in elementary level were younger in their age groups than deaf and mute adolescent girls who were in secondary level, or university. In current study there was only one deaf and mute adolescent girl who had a family history of parents complain same disability and she was of poor knowledge. There was high significant statistically difference between deaf and mute adolescent girls who have family history of deaf and mute and those who have not family history regarding groups of follow up knowledge ($p < 0.000$). This result should be taken with caution, may be due to the small sample size in this study of deaf and mute adolescent girls with positive family history(only one girl).

Table (5) reveals that only 6% of the studied deaf and mute adolescent girls do not need any knowledge related to RH, while 94% have unmet needs regarding RH. The highest percentage of unmet needs was disease prevention and breast self-examination (38%), followed by disease prevention and information about reproductive health“(20%).

Table (1) Distribution of Personal Characteristics of the Deaf and Mute Adolescent Girls Student Sample (N=50).

personal characteristics	No.	%
•Age (years):		
11 - <15 years	9	18
15 - <20	27	54
20 -21 years	14	28
Mean ± SD	17.5 ± 3.0 years	
•Level of education:		
Elementary level	19	38
Secondary	21	42
University	10	20
• Parents complain same disability (Yes)	1	2
• The girl can deal well with:		
Family members	40	80
Mother only/or combined*	8	16
Only sibling	2	4
Total	50	100

*Combined= Mother and sibling or Mother & father

Table (2) Pre , Post, and Follow up Responses of the Studied Deaf and Mute Adolescent Girls about Knowledge Aspects, and Total Knowledge Assessment Questionnaire (N=50)

Knowledge aspects	Pre study		Post study		Follow up study		Test of sig.	P value
	Poor NO. (%)	Good NO. (%)	Poor NO. (%)	Good NO. (%)	Poor NO (%)	Good NO. (%)		
Reproductive Health	(%100) 50	0 0	0 0	50(100%)	1 (2%)	49 (98%)	$X^2=168.3$	0.000 HS
Reproductive System	(%100) 50	0 0	0 0	50 (100%)	3 (6%)	47 (94%)	$X^2=109.2$	HS0.000
Puberty	(%88) 44	(%12) 6	0 0	50 (100%)	2 (4%)	48 (96%)	$X^2=104.5$	HS0.000
Menstruation	(%94) 47	(%6) 3	0 0	50 (100%)	0 0	50 (100%)	$X^2=129.6$	HS0.000
premarital counseling	(%100) 50	0 0	0 0	50 (100%)	1 (2%)	49 (98%)	$X^2=119.3$	HS0.000
BSE	50 (100%)	0 0	1 (2%)	49 (98%)	(%6) 3	47 (94%)	$X^2=121.4$	HS0.000
Total knowledge	(%100) 50	0 0	0 0	50 (100%)	(%4)2	48 (96%)	$X^2=113.2$	0.000HS

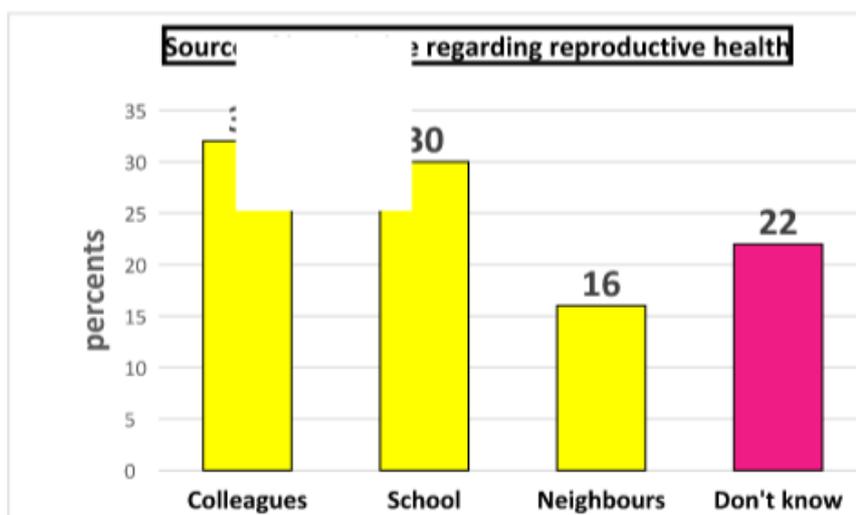


Figure (1) Distribution of Deaf and Mute Adolescent Girl's Students about Source of Knowledge Regarding Reproductive Health.

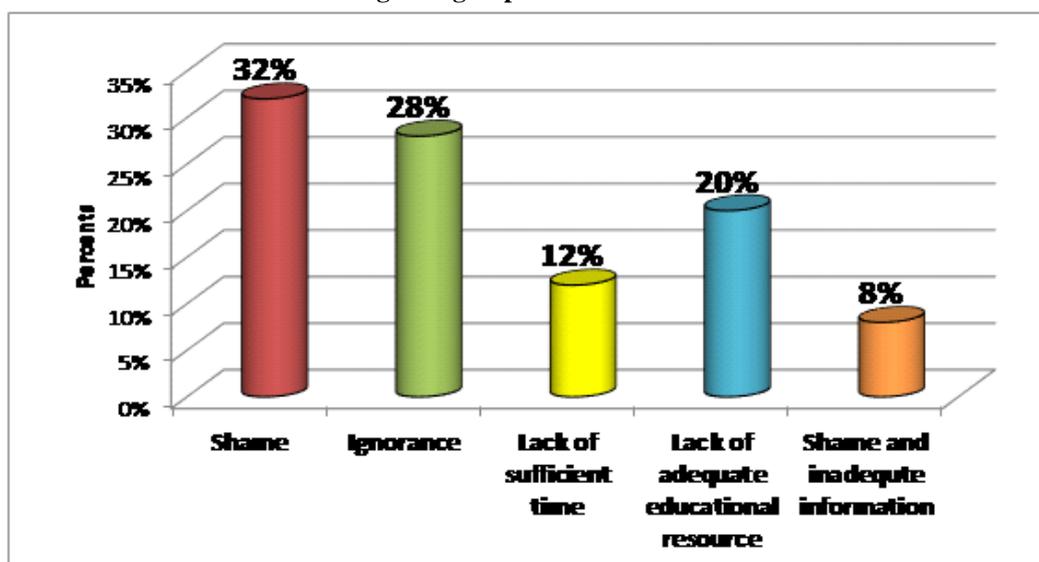


Figure (2) Distribution of the Deaf and Mute Adolescent Girls Sample about Causes of Don't Apply Breast Self-Examination

Table (3): Pre , post, and Follow up Responses of the Studied Deaf and Mute Adolescent Girls to Practice Aspects, and Total Practice Assessment (N=50).

Practice aspects	Pre study		Post study		Follow up study.		Test of sig.	P value
	Risky practice NO. (%)	Safe practice NO. (%)	Risky practice NO. (%)	Safe practice NO. (%)	Risky practice NO. (%)	Safe practice NO. (%)		
Personal hygiene during menstrual period	(%82) 41	(%18) 9	1 (2%)	49 (98%)	0 0	50(100%)	X ² =84.9	0.000 HS
BSE	(%100) 50	0 0	(%2) 1	49 (98%)	15 (30%)	35 (70%)	X ² =50.8	HS0.000
Total practice	(%100) 50	0 0	(%2) 1	49 (98%)	(%10) 5	45 (90%)	X ² =87.9	0.000HS

Table (4): Relation between the Studied Deaf and Mute Adolescent Girls Personal Characteristics and their Level of Follow up Study Knowledge about Total Knowledge Groups (N= 50)

Total knowledge Personal characteristics		Follow up total knowledge groups					
		Poor know.		Good know.		Chi-square	
		N	%	N	%	X ²	P-value
Age (years)	11 - <15 years(n=9)	1	11.1	8	88.9	LR=3.27	0.07 NS
	15 - < 20 Y(n=27)	1	3.7	26	96.3		
	≥ 20 years(n=14)	0	0	14	100		
Education	Elementary edu.(n=19)	2	10.5	17	89.5	LR=4.3	0.03 Sig.
	Secondary school or a technical deplume(n=21)	0	0	21	100		
	University(n=10)	0	0	10	100		
Girl can deal with:	Family members(n=40)	1	2.5	39	97.5	LR=2.0	0.15 NS
	Mother only/ combined(n=8)	0	0	8	100		
	Sibling only(n=2)	1	50	1	50		
Parents complain same disability	(Yes) (n=1)	1	100	0	0	Fisher	0.000 HS
	No (n=49)	1	2	48	98		
Total		2	4	48	96		

NS=Not Significant Sig. = Significant,

Variable	No.	%
• Disease prevention (STDs)	2	4
• Breast self-examination	2	4
• STDs prevention and breast self-examination	19	38
• STDs prevention and information about reproductive health	10	20
• Breast self-examination and ovulation	6	12
• Premarital counseling	8	16
• Nothing	3	6
Total	50	100

Table (5): Distribution of Deaf and Mute Adolescent Girls Regarding their Unmet Needs about Reproductive Health (N=50)

IV. Discussion

Real communication happens when one can understand the message and can respond in same manner. Loss of hearing is a substantial cause of disability. Around 466 million people worldwide have disabling hearing loss. Deaf and mute are at risk of not getting sufficient, accurate and secure healthcare information or proper care due to lack of communication between the communities (*Datta, Thomas, Bawa, et al., 2019*).

The aim of the present study was to deal with the unmet needs of the deaf and mute adolescent girls regarding reproductive health.

The findings of current study reveals that the majority of deaf mute adolescent girls were aged from fourteen to twenty years old at secondary level, while the minority aged from eleven to fourteen years old at primary level and about one third aged from twenty to twenty tow years old post graduate. The minority aged from eleven to fourteen years old about one third is due to the lowest of availability of student girls in reproductive age.

Regarding parents complain same disability. The study showed that majority of deaf and mute adolescent girls were don't have parents with the same disability, only one of studied girl had a family history of parents complain same disability. In opposite line *Tin, Lin, and Mya, 2017 reported* deaf and mute can be congenital or acquired. In pediatric population more than fifteen percent of deafness is genetic in origin. The difference between the study and other study is due to lowest of sample and multiplicity of causes of deaf and mute.

The present study reported three quarter of deaf mute adolescent girls able to deal with family members. The result is incompatible with *Rony, Saikat, Tanzeem, et al., 2018* who reported the relatives or family members of deaf and mute person face difficulties to express the opinion and to communicate with them. The researcher point of view, dealing with the deaf mute girls is not considered difficult or a problem in the case

of good communication with parent and practice of sign language. So, very important for parents to learn sign language in order to communicate well with their daughters.

Regarding to Pre, post, and follow up responses of the studied deaf and mute adolescent girls about knowledge regarding reproductive health, the current study shows that in pretest all deaf and mute adolescent girls had poor knowledge regarding reproductive health, which is improved in posttest and follow-up. In the same line (**Bajracharya and Shakya., 2018**), Mention that only thirty percent of the students had good knowledge regarding reproductive health before intervention. Researcher believes that reproductive health is a critical part of public health and a central feature of human development. , And the lack of sufficient information for adolescents on sexual and reproductive health leads to various sexual and reproductive health problems.

As regard the main source of information regarding reproductive health, the finding of the present study showed the majority of deaf and mute girls mentioned colleague and school teacher and around one quarter mentioned no source of information. In the same line (**Kyilleh, Tabong and Konlaan., 2018**), The study found knowledge on reproductive health choices was low among respondents with majority relying on peers for information on sexual and reproductive health. Reported that in study under title early puberty in 11-year-old girls: Millennium Cohort Study findings. Archives of disease in childhood.

Although the social media presented a lot of knowledge and practice regarding reproductive health, but don't reach for deaf and mute adolescent due to lack of presentation sign language, also due to habits, traditions and culture background which deny girls access to reproductive health and rights.

According to the causes that lead to studied girls don't apply breast self-examination, the study reported that the causes for majority of them was shame while minority was lack of adequate educational resource. The result agree with (**Ibitoye andThupayegale-Tshwene Game, 2019**) who reported only one quarter of participants have a knowledge regarding BSE before the education program, which increased up to half post educational program. As mentioned, the deaf and mute people are a closed group on themselves, which invites to not looking for new events which not translated to sign language. In spite of the many awareness about the breast self-examination, but was like a new trends for deaf mute adolescent girls due to lack of translation to sign language and failure to reach for whereabouts.

According to Pre, post, and follow up responses of the studied deaf and mute adolescent girls about practice regarding to menstrual hygiene and BSE, the current study reveals that in pretest the all of deaf and mute adolescent girls had poor practice regarding BSE, while the majority of them had poor practice regarding to menstrual hygiene which is improved in posttest and follow-up. Result is a compared with (**Kaur,et al., 2018**) who reported less than third of adolescent had good practice of menstrual hygiene, also congruent with (**Johnson, 2019**) who reported, levels of BSE Practice across countries were generally poor.

The poor of knowledge and practice regarding menstrual hygiene management may be due to in many schools, teacher s usually fell shy and embarrassed to discuss such topic in the class such as menstruation and menstrual hygiene management with students, also often skip such topics from curriculum, avoid open discussion and student question. Teachers should be educated and trained to impart knowledge about menstruation and menstrual hygiene management among students. Social and electronic media also play an important role to make the girls and women aware about the latest menstrual products, different manufacturers, government policies, and so forth.

Also according to BSE, from the researcher's point of view, adolescent girls' lack of awareness and interest with breast self-examination practice is due to considered the breast area is a shameful place that should not be approached or carried out any procedure in it.

The results showed that the older deaf and mute adolescent girls who in age more than fifteen years old have higher the percentage of good knowledge score than youngest who in age less than fifteen years old, also all university and 2ry educated deaf and mute adolescent girls the finding shows good knowledge compared to the deaf and mute adolescent girls who were in elementary education.

Regarding to unmet needs of deaf and mute adolescent girls student regarding reproductive health, the present study reported all deaf and mute adolescent girls student have unmet needs regarding reproductive health, around half of studied girls have unmet needs regarding menstruation, BSE and sexual transmitted diseases. The researcher did not find any research or studies conducted about unmet needs of deaf and mute regarding reproductive health, which is cause for concern because the deaf and mute adolescent girls are a group of society also the future mother in desperate need of guidance regarding public health as well as reproductive health to overcome adolescence stage safely.

V. Concolusion

Based on the study finding, can be concluded that:-

The present study concluded that all studied girls had unmet needs regarding reproductive health, all of them had poor level of knowledge and practice regarding reproductive health before the study which is conversely improved after Implementing the study. Result of current study supported the research hypothesis

VI. Recommendations

On the light of the current study findings the following recommendations are suggested:

- Create comprehensive educational booklet with sign language regarding reproductive health.
- Collaborate with faculty of artificial intelligence technology to set an mobile application to deal with deaf and mute regarding unmet needs at emergency cases.

Future Recommendations:-

- Communicate with the ministry of health to set special reproductive health unites for deaf and mute female of the society which must be managed by expertise in both reproductive health and signs language.
- Involve the deaf and mute people, teachers, social worker and administrate office as a group of society in all educational health awareness.

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