

## The reproductive health understanding: an analysis for the prevention of children sexual harassment

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### ABSTRACT

Understanding reproductive health is an important issue for students with special needs as their specificity does not prevent the acquisition and comprehension including efforts to prevent sexual harassment. Descriptive cross-sectional design was used. The samples selected were 86 students in Indonesia which were 29 males and 57 females, consisting of 36% deaf (n=31), 50% mentally retarded (n=43), and 13.9% autistic (n=12). Data were collected with a questionnaire of 34 items which measured the understanding of reproductive processes, functions, and systems, as well as sexually transmitted diseases, attitudes about reproductive health, media and social influence on sexual activity and ability to communicate. The data were analyzed descriptively and different multivariate tests were carried out based on the type of student's impairment. Consequently, their understanding of reproductive health was discovered to be low, especially in terms of sexually transmitted diseases (STDs), attitudes, and communication skills. The results also showed that there was no significant difference in the understanding of reproductive health in students with special needs concerning the type of disability suffered. These can be used by teachers, counselors, and the subjects plus their parents as initial information on developing an understanding of reproductive health in the future.

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## 1. INTRODUCTION

During adolescence, there are also physical and psychological changes that cause adolescents to be vulnerable to the growth and developmental process. One of the problems regarding physical changes encountered by people in this age group is related to reproductive health, which occurs because of their low knowledge level on such aspects [1]–[3]. This is also experienced by adolescents with special needs or persons with disabilities. With psychological or mental limitations [4], [5], the growth and development in children with disabilities are the same in the normal counterpart, even though the difference is audio or visual impairment [6], [7]. Including reproductive health issues. Reproductive health is a state of complete physical, mental and social fitness, not merely being free from disease or disability in all matters relating to the reproductive system, as well as its functions and processes [8]–[10]. This is important because reproductive

health is a means to give birth to the next generation of the nation. In accepting the physical condition as a part of their developmental tasks, adolescents need to keep themselves neat and clean. Adolescents females are expected to understand reproductive principles such as menstruation, pregnancy, childbirth, maintaining cleanliness & neatness, self-care, and avoiding sexual relations before marriage [11]–[13]. The males ought to also understand the reproductive system such as wet dreams, puberty, changes in physical shape, cleanliness, and avoiding sex before marriage, however, in reality, many teenagers still do not understand reproductive health.

Over the last few decades, developing countries have recognized the necessity to improve adolescents' understanding of reproductive health, but only little improvement has been recorded about this aspect [14], [15]. Boys and girls aged 15-19 still thought that females are not supposed to become pregnant provided they had sex only once. This misperception mostly occurs in young males with a percentage of 49.7% while in young females the percentage is 42.3%. Such understanding is increasingly needed to be conveyed to adolescents experiencing physical and psychological deficiencies. Persons with disabilities or special needs require gaining knowledge of reproductive health [16]. A study in central africa showed that females with special needs have a limited understanding of reproductive health while encountering barriers to accessing health services and information [17]–[19]. Various useful materials are not understood by persons with disabilities including reproductive health needs.

The investigation conducted globally showed that around 93 to 180 million young people between the ages of 10-24 years are living with some form of disability, and the majority is found in developing countries [20] that need special attention on reproductive health. For persons with disabilities, the lack of opportunities to participate or socialize in the same manner as other individuals suffering from similar conditions also affects the perception of their sexual being, as well as the knowledge of sexual relations, reproduction, and preventive health [4], [21]–[24]. Although youths with disabilities experience the same feelings, needs, and desires as their normal counterparts, society tends to underestimate their reproductive health concerns [25] which the understanding has to be conveyed intensively by various related parties such as shadow teachers due to the increasing prevalence of sexual harassment occurring in the affected children. Therefore, this study aimed to discuss the way the description of reproductive health understanding in adolescents experiencing physical and psychological deficiencies is seen from various demographic perspectives.

## 2. METHOD

In this study, descriptive cross-sectional design was used. Descriptive cross-sectional studies simply characterize the prevalence of one or multiple health reproductive in a specified population [26]. Sampling in this study used a simple random sampling technique, as many as 86 adolescents with special needs in West Sumatra, namely 29 males and 57 females, consisting of 36% deaf ( $n=31$ ), 50% mentally retarded ( $n=43$ ), and 13.9% autistic ( $n=12$ ). Data were collected through the SurveyMonkey application in July-December 2020 using a questionnaire of 34 items that measured the understanding of i) reproductive processes, functions, and systems, ii) sexually transmitted diseases, iii) attitudes about reproductive health, iv) media and social influence on sexual activity, and v) ability to communicate, where the 5-point Likert scale employed ranged from very dissatisfied to very agreeable. The development and testing of the construct validity of this instrument was developed based on a grid built following the existing theoretical basis. Research data were analyzed using the Rasch model for statistical analysis to assess the suitability of items and participants, detect measurement bias, identify strengths and weaknesses of items, and determine the level of difficulty relative to participants' abilities.

The Rasch model analysis results showed the items' reliability score was 0.93 with a Cronbach's alpha value (KR-20) of 0.94, meaning that the instrument used was very good [27]. Meanwhile, the statistics conducted used the Jeffrey's Amazing Statistics Program (JASP) application to obtain an overview of data distribution and network analysis. This research adheres to ethical principles by guaranteeing participant confidentiality. The participants agreed to participate in this study and publish the results in accordance with ethical approval. This research has passed clerical ethics according to number: 2326/UN35.15/LT/2023 obtained from the community service research institute, Padang State University. Before statistical analysis, a test was performed to determine the data's normality with the results as shown in Figure 1.

The results of the Boxplots description showed the data were normally distributed and statistical testing is liable to be conducted. These are evident from the Q-Q plot collecting sample data set and sorting it from the smallest to the largest value, followed by a description in the form of points and comparison with the quantiles (percentiles) calculated from the theoretical distribution. Q-Q plots (quantile-quantile plots) are used to visually assess whether a data set is normally distributed [28], [29].

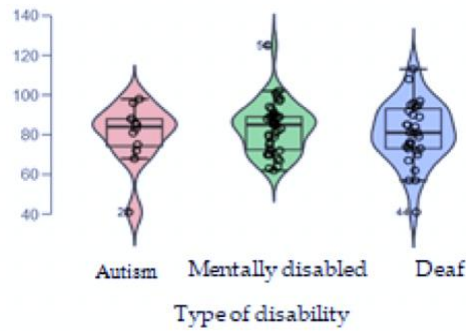


Figure 1. Description of data distribution plot

### 3. RESULTS AND DISCUSSION

Based on the statistical analysis, the understanding of reproductive health in adolescents with special needs can be seen in Table 1. Table 1 shows that based on the understanding of reproductive health in adolescents with special needs, 62.8% (n=54) is generally in the low category, and 4.7% is in the very low category (n=4), but 31.4% are moderate (n=27). From this result, the understanding of reproductive health in children with special needs is still low, as they do not know the right thing to do at the time physical changes begin to occur [30]–[32]. Reproductive health is a state of well-being in all organ systems, functions, and reproductive processes [33], [34]. In similarity to their peers, youths with disabilities need information about puberty, bodily & emotional changes, and the choices faced regarding sexual behavior and reproductive health [25]. However, disability sufferers such as deaf persons usually don't receive growth opportunities that are accessible to individuals capable of hearing [35]. In addition, studies on the reproductive health of deaf adolescents are generally limited [25], [34], [36] in low- and middle-income countries. It has been estimated that approximately 1 in 1,000 children is deaf or known to have hearing difficulty from birth, and the prevalence increases to about 1.6 per 1,000 in adolescents [25]. These results prove the dysfunction of human organs from a physical point of view continues to exist yearly. Furthermore, network analysis is used to indicate the sub-variables in the understanding of the reproductive process, function, and system. Network analysis is a psychometric item response model that is understood as a proxy for variables interacting directly with each other [37], hence its estimation can be seen in Figures 2 and 3.

Table 1. Summary of reproductive health understanding descriptives (n=86)

No.	Classification	Interval	F	%
1	Very high	>143	0	0.0
2	Tall	116-142	1	1.2
3	Currently	89-115	27	31.4
4	Low	62-88	54	62.8
5	Very low	35-61	4	4.7
Total			86	100

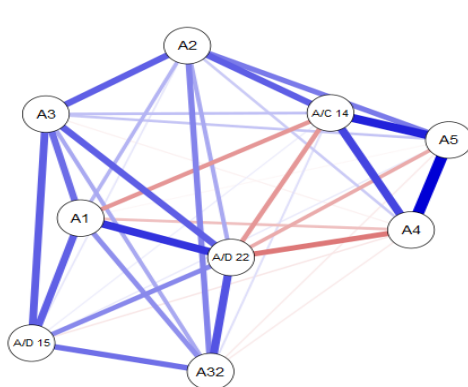


Figure 2. Understanding of the reproductive process, function, and system (males)

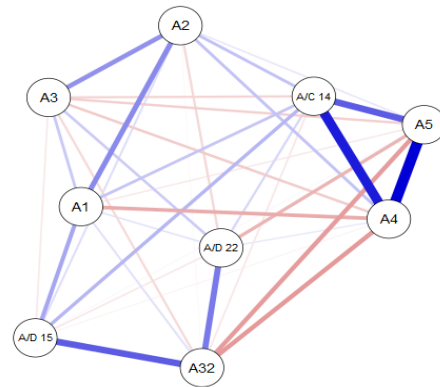


Figure 3. Understanding of the reproductive process, function, and system (females)

Judging from the network analysis in Figures 2 and 3, in general, relationship strength is shown from the line weights between variables. Understanding of reproductive health between nodes, as well as the reproductive process, function, and system, is known to be directly related (edge) and has a blue line. Meanwhile, the red line indicates a tendency for a negative relationship to appear in Figure 1 for males in items A\_4 and A/D22. The statements contained in A\_4 is “I understand that when the reproductive system is functioning properly, I have to keep it clean” and A/D22 is “It is difficult for me to accept the physical changes that are happening to me.” Based on this result, a negative relationship arises because male persons with disabilities find it difficult to accept their physical changes. The relationship between A/D22 and A\_5 means “I understand that there is a physical change in myself when I am an adult.”

This contradiction arises once people with disabilities understand that physical changes tend to occur to them after growing up, but the acceptance is difficult. The A/D22 and A/C14 mean “I clean myself when I have a wet dream,” in addition, the relationship of A/C14 with A\_1 is “It is difficult for me to understand reproductive health as a teenager.” This potentially has a negative connotation for boys with disabilities because anytime they don't clean up after experiencing wet dreams, it's due to the difficulty to understand reproductive health and accept the occurring physical changes. Furthermore, the understanding of the reproductive process, function, and system in females can be seen in Figure 2. A positive and negative relationship appears in females with disabilities as seen in A\_1 with A\_4, an item containing the statement A\_1 “It is difficult for me to understand reproductive health as an adolescent,” and A\_4 “I understand that when the reproductive system is functioning properly, I have to keep it clean.” There is a low negative relationship raised by this type of females where understanding reproductive health is difficult, hence it is assumed they have not maintained the necessary hygiene. Moreover, the item A\_32 and A\_4 contains the statement A\_32 “I avoid or feel inferior when meeting with the opposite sex.” This means that even though the reproductive system is functioning properly and cleanliness needs to be maintained, females with disabilities tend to feel inferior while meeting the opposite sex, as there are feelings of shame and uncleanness, even though in the developmental stage, adolescents also need to be respected by others.

Furthermore, items A\_32 and A\_5 contain the same statement as mentioned earlier, meaning females with disabilities despite knowing already that some physical changes are occurring yet they avoid or feel inferior to meet the opposite sex. The existence of such problems is a concern to increase the self-confidence of adolescents with disabilities to move forward based on their abilities regardless of the physical deficiencies. Shattuck *et al.* [38] stated almost one-third of the sample students reported no feeling of being disabled or having special needs, due to their self-confidence. Further understanding of sexually transmitted diseases can be seen in Figures 4 and 5.

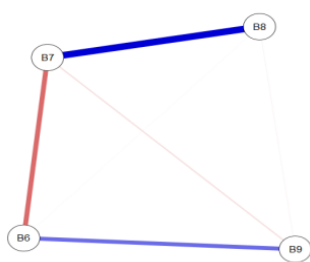


Figure 4. Understanding of sexually transmitted disease (males)

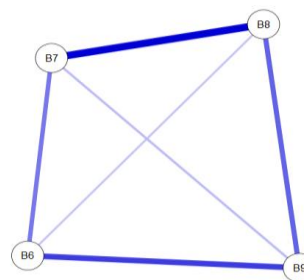


Figure 5. Understanding of sexually transmitted disease (females)

Judging from the network analysis in Figures 4 and 5, in general, relationship strength is shown from the line weights between variables. Understanding of infectious diseases between nodes is known to be directly related (edge) and has a blue line. Meanwhile, the red line indicates there is a tendency for a negative relationship to appear in Figure 3 for males with disabilities, namely in items B\_6 and B7, which contains the statement B\_6 “I understand, intimate relationships can only be done when married” and B\_7 “Relationships sex can be done on a consensual basis.” This proves that males with disabilities still think having sex is possible on a consensual basis even though it needs to be avoided before the marriage bond. They understand the existence of intimate relationships after becoming married but do not realize the dangers posed in the event of an infectious disease due to such relationships outside of marriage. In contrast, females with disabilities have been informed about the need to ensure better self-care, and be protected from infectious diseases, meant to prevent victims of all sexual harassment or violence that have occurred from being infected. Sexual harassment

is widespread globally, affecting both males and females throughout the life span from childhood to adulthood [39]. It has been shown that certain groups are at significantly greater risk of falling victims of sexual violence (e.g., females, children, racial/ethnic minorities, and sexual & gender minorities) [25], [39]–[41]. According to Mailhot *et al.* [39], children with disabilities are three times more likely than those without impairments to encounter sexual harassment, with the highest incidence of violence happening between the ages of 12 and 15 years. However, a growing number of large-scale comparative studies state people with disabilities are at greater risk of sexual victimization throughout their lives than their normal counterparts [39]. Furthermore, the problem of attitudes about reproductive health can be seen in Figures 6 and 7.

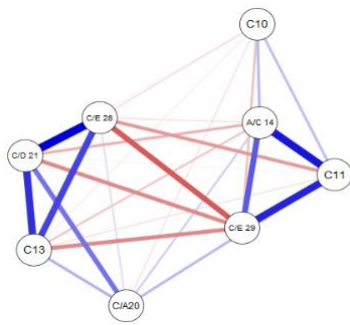


Figure 6. Attitudes about reproductive health (males)

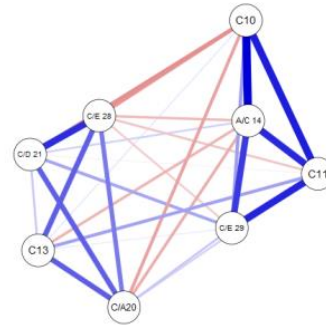


Figure 7. Attitudes about reproductive health (females)

Judging from the network analysis in Figures 6 and 7, in general, relationship strength is shown from the line weights between variables. Attitudes about reproductive health between nodes are known to be directly related (edge) and have a blue line. Meanwhile, the red line indicates there is a tendency for a negative relationship to appear in Figure 5 in C/E\_29 and C\_13 where this item contains the statement C\_13 “In my opinion, it's okay to poke and tease my friends, especially friends of the opposite sex” and C/E29 “I feel normal only when meeting with the opposite sex.” From the result, the attitude raised by young boys with disabilities does not care about the meaning of being kept from the touch of other persons, as they tend to still think it is normal, even though such ought not to be done to the opposite sex. Another item with a similar expression is C/D21 “It's hard for me to accept the physical changes that happen to me” and C/E 28 “When I finish an activity that makes me sweat, I immediately change my clothes.” This appears in underprivileged males knowing the physical changes that have occurred, many of which became problems because of the occurrence while changing sweaty clothes was not only comfortable but also a positive attitude raised in maintaining reproductive health. The results prove children with disabilities understand personal hygiene needs to be maintained. A positive attitude appears at the time of carrying out activities that cause sweat and clothes’ changing. These also showed there was a pattern of cleanliness upheld by the accompanying teachers in providing knowledge of maintaining personal hygiene. Furthermore, an understanding of media and social influence on sexual activity can be seen in Figures 8 and 9.

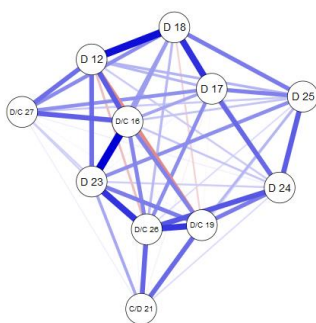


Figure 8. Media and social influence on sexual activity (males)

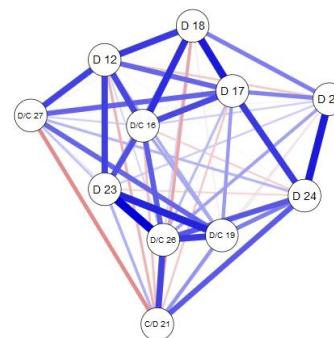


Figure 9. Media and social influence on sexual activity (females)



Judging from the network analysis in Figures 8 and 9, in general, relationship strength is shown from the line weights between variables. Understanding of media and social influences on sexual activity between nodes is known to be directly related (edge) and has a blue line. Meanwhile, the red line indicates a tendency for a negative relationship to appear as shown in Figure 7. In D/C\_26 and D\_12, the item contains the statement D/C\_26 “when I have a wet dream, I am afraid I will not be a virgin again” and D\_12 “I wash my hands before and after urinating and defecating.” This showed that the understanding possessed by adolescent boys with disabilities regarding sexual activity is still lacking in socialization and the media conveys it, which causes a fear of losing virginity after wet dreams. In Figure 8, the media and social influence on sexual activity raised by females with disabilities can be seen in D/C\_27 and C/D\_21, where the item D/C\_27 contains the statement “I feel taboo to study reproductive health” and C/D\_21 is “I am afraid that if I touch the opposite sex, i will get pregnant.” Based on the result, there is a feeling of taboo in studying reproductive health, thereby causing a tendency for females with disabilities to be afraid of becoming pregnant after contacting the opposite sex, which also proves such females need to be informed that pregnancy won’t occur provided they contact the opposite sex following applicable norms. This means identification with the opposite sex has not been fully carried out on adolescents with disabilities, hence individuals need to recognize one another regardless of their conditions, tasks, and stages of development. One other issue is that the understanding of the pregnancy process is still unclear because of the wrong assumption about its occurrence. From a religious point of view, it is not justified to have intercourse before marriage, but the wrong understanding is the belief of being pregnant after coming into contact with the opposite sex because such a result occurs once there is a sexual activity carried out by married males and females. Junction of the sperm cell and the ovum is required, else no pregnancy is expected. Further understanding of reproductive health is seen in terms of the ability to communicate as shown in Figures 10 and 11.

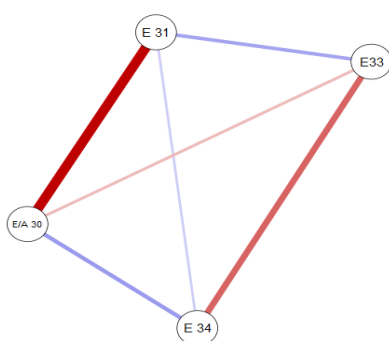


Figure 10. Understanding of the ability to communicate (males)

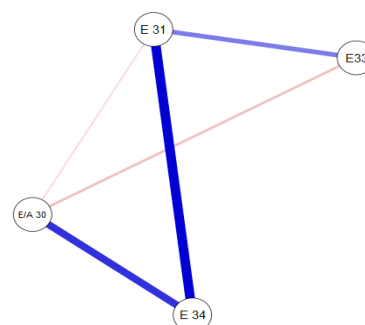


Figure 11. Understanding of the ability to communicate (females)

Judging from the network analysis in Figures 10 and 11, in general, relationship strength is shown from the line weights between variables. Understanding of the ability to communicate is known to be directly related (edge) between nodes and has a blue line. Meanwhile, the red line indicates a tendency for a negative relationship to appear as shown in Figure 9. In E/A\_30 and E\_31, item E/A\_30 contains the statement “I avoid or feel inferior when I meet the opposite sex” and E\_31 is “I do not understand the signs of adolescent puberty.” From this case, adolescent boys with disabilities seem to avoid or feel inferior about meeting the opposite sex due to a lack of the ability to communicate. In addition, they tend to avoid communicating because of the physical deficiencies suffered, and in other cases, the signs of puberty are not understood, which can also be seen from item E\_34 “using friendly words when talking to friends.” There is a tendency to lack the ability to communicate and the information provided by the accompanying teacher causes teenagers not to understand the signs of puberty. The lack of understanding possessed by children with disabilities leads to feeling ashamed of the occurring physical changes. This result proves additional knowledge is needed by the accompanying teacher to overcome the problem of understanding reproductive health. Another issue is a cultural assumption that discussing or conveying information about premarital sex is taboo, which is a factor known to be one of the causes of ignorance and unconsciousness of adolescents about the reproductive process. Adolescents gain knowledge and understanding of reproductive health for both males and females, to become responsible for the situations and conditions they are experiencing. Consequently, there needs to be a role for various parties to provide an understanding of reproductive health, especially for children with special needs, whether parents, teachers, or related institutions can collaborate to overcome the problems being faced in this aspect. Furthermore, the understanding of reproductive health based on the type of disability can be seen in Table 2.

Table 2. Summary for descriptives of reproductive health understanding based on the type of disability

Cases	Sum of squares	df	Mean square	F	p
Types of disability	12.808.00	2	64.38	0.229	0.499
Residual	16.161.0	83	194.71		

Note. Type III sum of squares

The ANOVA results showed that based on the type of impairment (deaf, mentally retarded, and autistic),  $p=0.719$  is greater than  $p=0.05$ , meaning there is no significant difference in the understanding of reproductive health in children with special needs based on the type of disability suffered. This also reinforces that all relevant parties need to provide extra understanding to the sufferers. Sometimes understanding reproductive health or sex education in such children tends not to be a priority for parents [42], especially once faced with time and financial burdens. But, knowledge about sexuality and reproduction provides hope. In addition, females with disabilities need to understand reproductive health to handle the associated stigma and special social norms in situations where the themes that the sufferers also deserve respect, love, and a meaningful life are not being recognized [43]. Recent studies have shown that persons with disabilities face various barriers to accessing health services [5], besides, the t-test performed can be seen in Table 3 and group descriptives as shown in Table 4.

Table 3. Descriptive statistics independent samples t-test

	t	Df	p
Total	-1.919	84	0.058

Note. Student's t-test.

Table 4. Group descriptives

	Group	N	Mean	SD	SE
Total	Males	29	78	12.50	2.321
	Females	57	83.96	14.16	1.876

Based on the statistical analysis results, the t-test p-values ( $p=0.058$ ) are greater than 0.05, meaning there is no significant difference in the understanding of reproductive health in both sexes with special needs, but on average the females understand this aspect more than males. Furthermore, their mean values=83.96 and 78.00, respectively, which also proves that females need to understand reproductive health better because the lives of this gender mostly begin from menstruation to childbirth, and breastfeeding later. Males have to pay attention to reproductive health which also needs to be more guarded in the opposite sex. Females with disabilities have been discovered to possess greater reproductive health needs than their normal counterparts [43]. Some countries already provided rules for collecting data and statistics on the situation of females with disabilities, but the committee involved does not voice the same concern on the lack of information about the situation of people with different gender identities and sexual orientations, even though several studies have raised the issue of violence. Gender-based cases of human trafficking, sexual harassment, and exploitation of females with disabilities were found, therefore linking sexual violence to this sex only and making the related acts suffered by males invisible [44].

The emergence of reproductive health problems is influenced by the following: i) biological factors, including disability conditions (birth and reproductive tract defects) and STDs; ii) psychological factors such as psychological burdens due to the impact of broken homes for adolescents, hormonal abnormalities, feelings of worthlessness and guilt, and lack of confidence; and iii) social & economic factors combined with demographics in the form of poverty, low education levels, ignorance of information on sexual and reproductive development, or disadvantaged locations and areas. Cultural and environmental factors can be in the form of habitual and traditional practices that lead to reproduction, the myth of many children being lucky, and confusing information about reproductive functions obtained from the closest people, such as a teacher [3], [45]. The most urgent need for the reproductive health of children with special needs is access to adequate information on this aspect from anywhere related to their condition, it is essential to ensure that students with severe disabilities receive ongoing sexuality education from early childhood that is appropriate for their age and developmental level [46]. Examples of proper formats include using social stories for adolescents or including concrete objects for students at lower developmental levels. The input of people with severe disabilities and their families must be considered when designing sex education programmes, and adaptations must be made to meet their unique learning needs, one of which is through family-based education. For

example, deaf children need useful reproductive health information in the form of videos or pictures [19] with a tendency to change their attitudes and behavior to maintain good practices. Similarly, to [43], our data highlight that teenagers regard openness and approachability to be important considerations when selecting a source of sexual information. Furthermore, while formal sexual education in schools provides a good basis of knowledge for adolescents, caregivers or parents should supplement the teachings with additional examples taken from their life histories and the wider community. Information on reproductive health in adolescents needs to be disseminated in the school environment, which can be performed through classical counseling by collaborating with counselors and extraordinary assistant teachers that are meant to later provide necessary understanding and individual guidance to affected children based on the type of disability suffered. The role of parents at home, as well as teachers at school, is needed in providing accurate information and knowledge on reproductive health to youths with disabilities. Despite, there are limitations to this study that require additional application and testing in different communities, cultures, and societies to demonstrate its validity and reliability and it is important to note that the results of this study are limited by the small sample size.

#### 4. CONCLUSION

In summary, understanding reproductive health is an important issue for students with special needs because their special needs do not hinder acquisition and understanding, including efforts to prevent sexual abuse in children with special needs. The research results show that children with special needs have both physical and psychological deficiencies, indicating a low understanding of reproductive health. Information regarding reproductive health in adolescents needs to be disseminated in the school environment, which can be done through classical counseling by collaborating with counselors and extraordinary accompanying teachers who will later aim to provide the necessary understanding and individual guidance to affected children based on the type of disability. The role of parents at home and teachers at school is very necessary in providing accurate information and knowledge regarding reproductive health to adolescents with disabilities. We found that there was no significant difference in understanding of reproductive health based on type of disability (deafness, mental retardation, and autism). Judging from subvariables using network analysis, men understand less about reproductive processes, functions and systems, as well as premenstrual syndrome (PMS), as well as attitudes towards reproductive health compared to women. People with disabilities still consider sharing information about sexual activities to be taboo, because their communication skills are still weak. These findings also increase awareness that understanding reproductive health is a concern for parents, special assistants and teachers, as well as school counselors. Future researchers can provide special programs for children with special needs to increase understanding of reproductive health according to the type of disability they suffer.

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


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