

Maternal behavior in provider of reproductive health education to early childhood

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ABSTRACT

Society often views sex education for early childhood as taboo, believing it is inappropriate for young children. However, early health education plays a crucial role in reducing the risk of sexual violence. In 2022, the Indonesian government recorded a high incidence of sexual violence, with 11,016 reported cases. This study examines the factors that influence maternal behavior in providing reproductive health education to early childhood in West Sumatra during 2021. This study uses a quantitative cross-sectional study method, the research conducted in May to October 2021 in West Sumatra. The study involved 257 mothers with children aged 3-6 years, selected through cluster sampling. We analyzed the data using univariate and bivariate analysis, employing the Chi-square method. The result shows that factors such as attitudes (0.029), exposure to information (<0.001), and family support (<0.001) significantly influence maternal behavior in providing reproductive health education. However, knowledge levels do not show a significant influence on maternal behavior. In addressing these findings, we recommend strengthening family support through family counseling training programs and increasing the availability and accessibility of information on reproductive health education.

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1. INTRODUCTION

Each year, millions of girls and boys worldwide face the risk of sexual abuse. Sexual violence occurs in every country and impacts all segments of society. Children can become victims of sexual abused at home, school, and within their community [1]. In Indonesia, violence against children remains widespread. According to data from an online information system dedicated to the protection of women and children in Indonesia, the country experienced a significant occurrence of sexual violence, with 11,016 cases reported in 2022 [2]. While in West Sumatra, one of the provinces in Indonesia, cases of sexual violence against children rose from 427 cases in 2020 to 548 cases in 2021 and then surged dramatically to 5,676 cases in 2022 [3].

Sexual violence causes severe physical, psychological, and social harm [4]. Victims experience guilt, depression, relationship difficulties, substance abuse disorders, dysfunctional sexual intercourse, increased risk of (HIV) and other sexually transmitted infections, and unwanted pregnancies [5]. Perpetrators are typically individuals with a relationship to the victim. Statistics on sexual violence against children

indicate that offenders can include fathers, grandfathers, brothers, uncles, teachers, neighbors, playmates, and strangers [6], [7].

Starting sexual education in early childhood is crucial for preventing children from experiencing sexual violence. A key strategy in this prevention is the implementation of comprehensive sexual education [8]. Sexual education should begin in childhood and continue through adolescence into adulthood, aiming to support and safeguard the healthy development of sexual behavior. As children and young people mature, they acquire the knowledge and positive values necessary to understand their sexuality, build safe relationships, and take responsibility for their own well-being as well as that of others [9]. Moreover, parents play a vital role in educating their children about sexual and reproductive health through their language, actions, and the values they model. They must provide clear, accurate, and age-appropriate guidance on expected behaviors while prioritizing their children overall well-being [10], [11].

Sex education for early childhood is often considered taboo in society and deemed unsuitable for young children, although it is essential for their development [12]. Integrating sex education with parents is essential for ensuring the education's effectiveness, as it helps children gain a better understanding and reduces the risk of misinterpretation, especially among mothers. Building communication between parents and children is essential, starting with the introduction of children's reproductive organs, their functions, and how to care for them. Parents' ability to understand and educate their children about sexuality is crucial and requires attention, support, and facilitation [13], [14]. Several factors influence the effectiveness of sexual education programs, including family values, the quality of parental relationships, the availability of accurate information and knowledge about sexuality, cultural and normative influences, and the impact of busy work schedules [15]–[17]. Further research is needed on providing reproductive health education to young children in West Sumatra, Indonesia. This study is designed to investigate the factors influencing maternal behavior in delivering reproductive health education to young children in 2021 and to provide insights for developing strategies or programs aimed at improving maternal behavior in this context.

2. METHOD

This research study is an analytical observational study that utilizes a cross-sectional design. It was conducted in West Sumatra Province from May to October 2021, involving a total population of 429,900 children aged 3 to 6 years living in the region. We determined the sample size using the Lemeshow method, with a 90% confidence interval and a 10% margin of error. A sample of 257 participants was selected through cluster sampling. Data were collected using an online questionnaire and voluntary sampling. A summary of the distribution of mother characteristics is provided in Table 1.

The study included mothers with children aged 3 to 6 years residing in the province of West Sumatra, Indonesia. We excluded individuals who did not complete the questionnaire in full. Data collection occurred through the completion of online questionnaires, which had undergone testing to ensure validity and reliability. The dependent variable focused on mothers' behaviors in delivering reproductive health education to their young children. Independent variables encompassed knowledge, attitudes, information exposure, and family support. We conducted both univariate and bivariate analyses using the Chi-square statistical test. Univariate analysis determined the distribution and frequency of the data, while bivariate analysis employed the Chi-square test to investigate the relationship between the dependent and independent variables.

3. RESULTS AND DISCUSSION

3.1. Respondents' characteristics

The majority of respondents in this study were young adults and highly educated individuals. Specifically, 78.6% were aged between 21 and 40, and 79.8% had a higher education background. Regarding employment status, 58.0% of the respondents were unemployed, as shown in Table 1.

Bivariate analysis revealed a significant correlation between behavior and attitudes toward facilitating early childhood reproductive health education for children aged 3 to 6 years in West Sumatra Province. Respondents with a positive attitude were 1.7 times more likely to deliver reproductive health education. Moreover, a significant association was found between mothers' behavior and their exposure to information about early childhood reproductive health education. Respondents with greater exposure to information were 6.4 times more likely to provide the education. In addition, a significant correlation exists between family support and a mother's behavior in facilitating early childhood reproductive health education. Respondents receiving family support are 7.6 times more likely to provide this education. These bivariate results are presented in Table 2.

Table 1. Distribution of mother characteristics

Characteristics	F	%
Age group		
16-20 years old	5	1.9
21-40 years old	202	78.6
41-60 years old	50	19.5
Education		
Low	52	20.2
High	205	79.8
Profession		
Work	108	42.0
Does not work	149	58.0
Total	257	100.0

Table 2. Bivariate analysis of mother's behavior in providing reproductive health education in early childhood

Variable	n	Behavior				OR (90% CI)	p-value
		Well		Not enough			
		f	%	f	%		
Knowledge							
Low	128	59	46.1	69	53.9	1,432	0.190
Well	129	71	50.6	58	45.0		
Attitude						1,784	0.029
Negative	125	54	43.2	71	56.8		
Positive	132	76	50.6	56	42.4		
Information exposure						6,424	<0.001
Not exposed	41	7	17.1	34	82.9		
Exposed	216	123	56.9	93	43.1		
Family support						7,635	<0.001
No	55	9	16.4	46	83.6		
Yes	202	121	59.9	81	40.1		

3.2. Mother's knowledge

Mothers with limited knowledge may face challenges in promoting early childhood reproductive health education to their children. These challenges often arise from societal taboos and the sensitive nature of the topic, leading to indirect discussions where parents often use slang terms as a substitute for formal language to make the conversation more comfortable [18]. The lack of awareness about the importance of sexual education among some parents may jeopardize their children's sexual well-being [19]. This study found no significant relationship between mother's behavior and their knowledge in providing reproductive health education to children aged 3-6. These findings contradict the study of Murdiningsih *et al.* [20] which identified a relationship between behavior and knowledge ($p = 0.001$ or $p\text{-value} < 0.05$) in mothers providing reproductive health education to children.

3.3. Mother's attitude

There is a significant relationship between a mother's behavior and attitude in providing reproductive health education to children aged 3-6. Respondent who exhibits good behavior in delivering reproductive health education for early childhood are primarily those who hold a positive attitude toward reproductive health. Specifically, 76 respondents (50.6%) with a positive attitude, compared to 54 respondents (43.2%) with a negative attitude, demonstrate better behavior in this regard. Respondents with a positive attitude are 1.7 times more likely to provide reproductive health education. These findings align with the study of Murdiningsih *et al.* [20] which identified a significant relationship ($p = 0.001$ or $p\text{-value} < 0.05$) between attitudes and maternal behavior in providing reproductive health education.

Many mothers recognize the importance of reproductive health information for their children, but they often feel hesitant to initiate or engage in discussions on these topics. Nevertheless, parents with a positive attitude are more likely to provide reproductive health education to their children. Research has shown that the majority of parents support the importance of discussing sexual and reproductive health (SRH) topics to teenagers [21]. Furthermore, parents with higher levels of education tend to hold more positive attitudes toward engaging in SRH discussions with their adolescents compared to those with lower levels of education [10]. To foster a positive attitude, increasing mothers' knowledge is necessary to improve their behavior in providing reproductive health education in early childhood.

3.4. Information exposure

A significant relationship exists between a mother's behavior and her exposure to information when facilitating early childhood education on reproductive health for children aged 3 to 6 years. Respondents who exhibit good behavior in delivering reproductive health education are primarily those who have exposure to information about reproductive health, specifically 123 respondents (56.9%), compared to only seven respondents (17.1%) without such exposure. Those exposed to information have 6.4 times greater likelihood of providing reproductive health education. These findings align with research by Nursal *et al.* [22] which demonstrated a significant relationship ($p = 0.001$ or $p\text{-value} < 0.05$) between information exposure and maternal behavior in delivering reproductive health education.

Exposure to information can significantly enhance an individual's knowledge. As individuals receive intervention aimed at increasing their understanding, their expertise in the area improves [20]. This increase in knowledge can be facilitated through various means, such as books, reading magazines, and utilizing the internet as a valuable resource [23]. Mass media also plays a pivotal role in helping individuals stay updated on relevant topics. By providing proper reproductive health education through mass media, it is possible to dispel myths and misinformation about reproductive health [24].

The internet, in particular, has become a key tool for enhancing knowledge of reproductive health. With widespread internet access, it serves as an alternative method for delivering reproductive health education, including for maternal education [25]. Parents, especially mothers, should actively seek information on how to facilitate reproductive health education for young children in ways that are both engaging and easy to understand [22]. As mothers are exposed to more information, their ability to implement reproductive health education in early childhood improves.

3.5. Family support

A significant relationship exists between a mother's behavior and family support in delivering reproductive health education to children aged 3-6 years. Respondents exhibiting good behavior in delivering reproductive health education for young children are predominantly those who receive family support on reproductive health, with 121 respondents (59.9%), compared to only nine respondents (14.4%) who lack such support. Respondents who receive family support in providing reproductive health education are more likely to exhibit good maternal behavior in delivering reproductive health education to early childhood, as opposed to respondents who do not have family support in providing reproductive health education. Respondents who receive family support are 7.6 times more likely to demonstrate positive maternal behavior in delivering reproductive health education. This result aligns with research by Nursal *et al.* [22] which found a significant relationship ($p = 0.004$ or $p\text{-value} < 0.05$) between family support and maternal behavior in providing reproductive health education [22].

Accurate education about sexuality is necessary for children and adolescents to understand how to practice healthy sexual behavior [26]. Providing parents with reproductive health knowledge is essential, enabling them to engage in open and informed discussions about sexuality with their children [27]. These conversations are more commonly initiated by mothers, who are generally closer to children, and they tend to discuss sexual health more frequently and extensively than fathers [28]. However, several factors that become barriers hinder the discussion, including the lack of knowledge, face uncertainty, and confusion regarding sex education, inadequate skills, and poor father-child relationships [19], [29]. Fathers, in particular, need support to attend training sessions that increase their self-efficacy in communicating with their children about sexual health topics comfortably and confidently, which, in turn, helps their kids talk more openly about such issues [28].

Equipping parents with accurate and comprehensive sexual and reproductive health information, along with effective communication strategies and techniques, is vital for improving adolescent sexual well-being [27]. Parents who participated in training programs demonstrated improved communication skills when discussing sexuality with their children [30]. This study has two potential limitations. First, the use of an online questionnaire may have introduced potential selection bias by excluding individuals with lower socio-economic status, due to limited Internet access. The second limitation is that the questionnaire comprised only closed-ended questions, which may have restricted the depth of response.

4. CONCLUSION

The prevalence of sexual violence against children in West Sumatra has been on the rise. Despite the importance of sex education for early childhood, it remains a societal taboo and is often considered inappropriate for young children. A significant relationship exists between maternal behavior in providing reproductive health education and factors such as attitudes, information exposure, and family support in West Sumatra. To address this situation, strengthening family support through family counselor training programs

is necessary, along with improving the availability and accessibility of information about reproductive health education. Such training can help improve mothers' ability to deliver reproductive health education to their children aged 3 to 6 years.

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AUTHOR CONTRIBUTIONS STATEMENT

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C : **C**onceptualization

M : **M**ethodology

So : **S**oftware

Va : **V**alidation

Fo : **F**ormal analysis

I : **I**nvestigation

R : **R**esources

D : **D**ata Curation

O : **O**riginal Draft

E : **E**diting

Vi : **V**isualization

Su : **S**upervision

P : **P**roject administration

Fu : **F**unding acquisition

CONFLICT OF INTEREST STATEMENT

The authors declare that there are no conflicts of interest regarding the publication of this paper. The findings and interpretations presented in this study were developed independently and are free from any personal, financial, or professional interests that could be perceived to influence the objectivity or integrity of the research process and outcomes.

INFORMED CONSENT

All participants in this study provided their informed consent before participating. Participants were fully informed about the purpose of the research, the procedures involved, their rights to withdraw at any time without penalty, and the measures taken to ensure confidentiality and data protection. Participation was voluntary, and no coercion or undue influence was applied.

DATA AVAILABILITY




The data that support the findings of this study are available from the corresponding author, [MY], upon reasonable request and for non-commercial purposes.

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