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Nurses' Challenges Regarding Adolescent Behavior in Preventing Early Pregnancy

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ABSTRACT

Background: Early adolescent pregnancy remains a persistent and unresolved phenomenon worldwide. The World Health Organization reports that 16 million girls aged 15-19 give birth annually. Indonesia continues to grapple with high rates of young pregnancy. The consequences of early pregnancy are extensive, ranging from abortion, school dropout, early marriage, and divorce to psychological distress such as stress and depression. **Aim:** This research contributes to understanding adolescent behaviors aimed at preventing early pregnancy. **Methods:** Employing a quantitative research design with a descriptive approach, the study sampled 225 female students through simple random sampling. A validated questionnaire was utilized for data collection, and analysis was conducted using SPSS 21 software. **Results:** The findings reveal that most respondents demonstrated commendable behaviors in preventing early pregnancy, with 193 individuals (85.8%) exhibiting good prevention practices. Nevertheless, some respondents displayed moderately positive behaviors, while others exhibited unsatisfactory practices. **Conclusion:** To address the behavior of adolescent females and its impact, community health nurses should intervene promptly. This intervention should focus on educating and coaching adolescents to raise awareness and promote effective prevention strategies, with the goal of reducing the prevalence of early pregnancy.

Keywords: Adolescents; Behaviour; Pregnancy Prevention

INTRODUCTION

Adolescent pregnancy is a significant public health issue with far-reaching consequences for both young mothers and their children. It remains a pressing concern globally, particularly in developing countries, where rates of adolescent pregnancies are considerably higher. Despite efforts to reduce adolescent pregnancy rates through education and access to contraceptives, the prevalence of adolescent pregnancies remains persistently high. The percentage of pregnant adolescents in 2018 was 16.67%, based on the Indonesian Youth Development Index. The proportion of women aged 10–19 who have ever been pregnant is 58.8%, and 25.2% are currently pregnant in Indonesia, according to the 2018 Riskesdas (Apriliani *et al.*, 2023). Therefore, the trend of adolescent pregnancies, places Indonesia in the second highest ranking of child marriages in ASEAN (Majni, 2022). The World Health Organization estimates that approximately 12 million girls aged 15 to 19 years and 777,000 girls under 15 years give birth annually (WHO, 2023). Gueye *et al.* (2020) stated that early pregnancy is associated with a high risk of maternal and neonatal complications with significant neonatal morbidity and mortality, especially in developing countries. Complications from pregnancy and childbirth are the leading cause of death among adolescent girls in many regions. These pregnancies are often associated with higher risks of maternal and infant mortality and morbidity, as young mothers face increased medical and social challenges during and after childbirth.

Beyond the immediate health risks, adolescent pregnancy can have profound and long-term effects on the lives of young mothers. They are at higher risk of premature birth, low birth weight, and developmental issues, impacting their physical, emotional, and cognitive development. Murphy-Graham, Cohen, and Pacheco-Montoya (2020) explained that health practices need efforts to protect girls, increase their chances of completing high school, delay marriage, and prevent early pregnancy.

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An estimated 23 million miscarriages occur annually worldwide, translating to 44 miscarriages every minute. Risk factors for miscarriage include the very young age of the woman. The consequences of miscarriage are physical, such as bleeding or infection, and psychological. Psychological effects include an increased risk of anxiety, depression, post-traumatic stress disorder, and suicide (Quenby *et al*., 2021).

Factors that contribute to adolescent pregnancy include having older sisters or mothers who experienced adolescent pregnancies, peer influence, psychological control by parents, psychological pressure, dropping out of school, and a family history of members being detained (Sholihah, Widiasih, & Solehati, 2021). Other research also states that compulsive sexual behavior is associated with a history of child sexual abuse (Slavin *et al.*, 2020). As a result, managing adolescent sexual behavior may be challenging without the family's support. Puberty, adolescence, and sexuality are interactive to one another. Puberty is the maturation stage of the life cycle in which transition of organisms takes from state of reproductive immaturity to complete reproductive competence. Sexual behavior does not occur de novo with the onset of adolescence. During adolescence, hormonal and psychological factors influence autoerotic experiences like sexual fantasies, nocturnal orgasms with emission, and masturbation (Irwin & Shafer, 2021).

Adolescent sexual behavior is a priority concern to prevent unwanted pregnancies and sexually transmitted diseases (STDs), including human immunodeficiency virus (HIV) positive. Practices that discourage risky sexual behavior include the use of condoms and primary contraceptive methods, as well as combining condoms with more effective contraceptive methods. The rate of condom use tended to be lower among students engaging in other risky sexual behaviors (Szucs *et al*., 2020). The pathways by which adverse childhood experiences (ACEs) are associated with early marriage and early pregnancy are poorly understood. Early marriage and early pregnancy may be risk factors for adulthood intimate partner violence (IPV) (Huber-Krum *et al.*, 2024).

This research will contribute to the development of evidence-based policies and programs that support adolescent sexual and reproductive health, ultimately working to reduce the prevalence of adolescent pregnancy and create a healthier future for young people. Community health nurses greatly benefit from such data provided in this research, which serves as an illustration of adolescent dating behavior. The main task of community health nurses is to carry out prevention, promotion, education, and counseling to deal with behavioral cases in adolescents in the community.

METHODOLOGY

Study Design, Setting, and Period

This observational study with a quantitative approach and cross-sectional design was performed at nine public vocational high schools in Tabanan Regency for class X, XI, and XII female students. Data collection was collected from May until July 2023.

Sample Size Calculation and Sampling Method

The minimum sample size for this study was calculated using the Slovin formula, which is expressed as $n=N/(1+N)$, where n = sample size, N = population size, and e = margin of error. This sample formula refers to Rychtář & Taylor (2020). Based on academic data, the total number of active students in those high schools was 515. In this study, a 5% margin of error was used. Thus, with N = 515 and e = 0.05, the minimum sample size required in this study was 225 students. A cluster random sampling technique was used to recruit the participants.

The inclusion criteria for this study were: willing to be a respondent, able to communicate both verbally and in writing, aged 15–18 years, and not married yet. The students who could not be contacted (via WhatsApp call or email), did not fill out the informed consent form, or did not fill out the study questionnaire completely were excluded from the study.

Instruments

Pregnancy prevention behavior in adolescents was assessed using the Indonesian version of the PPB (Pregnancy Prevention Behavior) instrument that the researcher created, and the validity test was carried out by six experts in the field of community nursing in Indonesia, with a CVI value of 0.9. This instrument consists of

15 question items, and each item is measured on a 5-point Likert scale as follows: Never (5 points), Seldom (4 points), Sometimes (3 points), Often (2 points), and Always (1 point). The total scores obtained by participants ranged from 15 to 75, and a higher score indicated higher pregnancy preventive behavior. The pregnancy preventive behavior can also be categorized into three levels based on the total score obtained by participants: good (value obtained more or equal to 76% to 100%), rather good (value obtained range 61% to 75%), and less than satisfactory (value obtained less than 61%).

Data Collection Process

Data regarding the identity of female students who are registered at high school, have active academic status, and have WhatsApp numbers that can be contacted are obtained from the student affairs section at the school. The data was then filtered to determine female students who met the inclusion criteria. A total of 225 female students met the research criteria and eligible students were explained the study information. The researcher asks for willingness to participate in the research. If they agreed to participate, they were asked to complete and sign a written consent form as a prerequisite for further participation. Of the 225 female students, all were willing to take part and signed written informed consent. After eligible students signed informed consent, they were instructed to complete sociodemographic and pregnancy prevention behavior questionnaires.

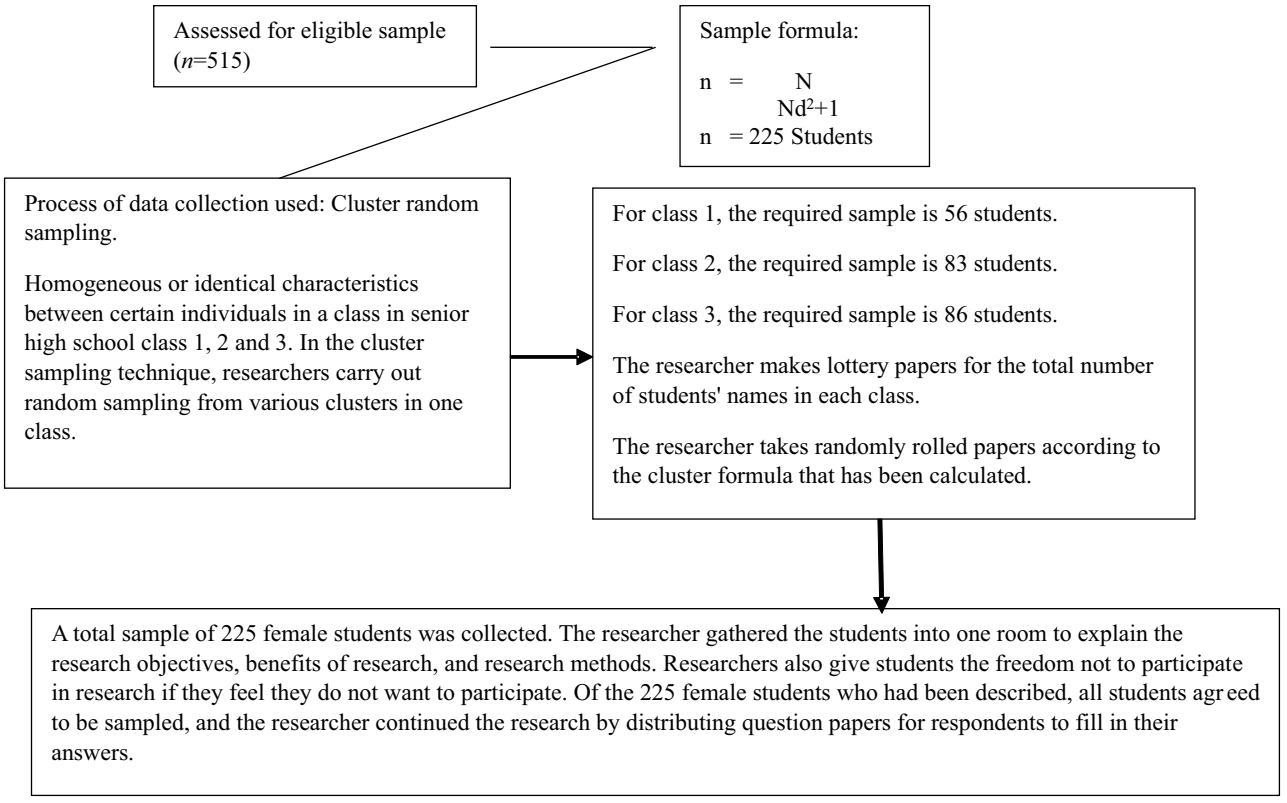

Figure 1: Data Collection Process

Statistical Analysis

Statistical analysis was performed using SPSS v.24 (IBM). For univariate analysis, frequency and percentage were employed.

Ethical Consideration

This research was ethically approved by the St. Paul University, Philippines with reference number SPUP_2022_0001_SR_SS on 4th October 2022.

RESULTS

The initial findings of this study are presented in Table 1, which shows the distribution of respondents according to age characteristics.

Table 1: Distribution of Respondents by Age (n =225), May 2023

Age	Frequency (*n*)	Percentage (%)
15 Years	91	40.5
16 Years	57	25.3
17 Years	29	12.9
18 Years	48	21.3
Total	**225**	**100**

Based on the respondent distribution, Table 1 shows that the majority of respondents in this study were 15 years old, 91 people (40.5%). The number of late adolescents aged 18 years was 21.3%, and the number of middle adolescents aged 16 and 17 years was 25.3% and 12.9%, respectively.

Table 2 describes the characteristics of young pregnancy prevention behavior in adolescents

Table 2: Characteristics of Young Pregnancy Prevention Behavior in Adolescents (n= 225), May 2023

Pregnancy Prevention Behavior	Frequency (*n*)	Percentage (%)
Good	193	85.8
Rather good	29	12.9
Less than satisfactory	3	1.3
Total	**225**	**100**

Table 2 shows that most respondents had good behavior for preventing pregnancy at a young age—as many as 193 people (85.8%). However, there were also rather good behaviors (12.9%) and less-than-satisfactory behaviors (1.3%).

The third result in this study describes the characteristics of adolescent pregnancy prevention behavior based on each question.

Table 3: Behavioral Characteristics of Young Pregnancy Prevention Based on Each Question in Adolescents

Questions	Always	Often	Sometimes	Seldom	Never
I had sexual intercourse before marriage	2	0	6	4	213
I had sex with my boyfriend to prove the seriousness of love	0	0	3	9	213
I fantasize/fantasize about sex	0	0	19	53	152
I hold hands while dating	25	40	30	38	92
I hug when dating	12	36	30	33	114
I kiss the forehead or cheek when dating	20	21	26	37	121
I kissed them on the lips while dating	0	8	23	40	154
I grope (chest and genitals) when dating	0	0	5	5	215
I do petting (rubbing each other's genitals) when dating	0	0	2	8	215
I had anal sex while dating	0	0	1	0	224

I did oral sex while dating	0	0	2	3	220
When dating, I often participate in various cheerful activities such as studying music, jogging, etc	40	38	49	47	51
I support my boyfriend to excel in both academic and non - academic fields	112	46	13	14	40
I want to be asked out by someone I just met	0	1	10	22	192
I took part in health education, for example, about adolescent reproductive health	10	20	67	76	42

Table 3 shows the behavioral characteristics of high school students who are at risk. From the table, two female students always have sex before marriage, 25 female students always hold hands with the opposite sex, and 20 female students always kiss when dating. How risky the behavior of young women when dating is provides information for community nurses to take immediate action.

DISCUSSION

The behavioral characteristics of young pregnancy prevention, as indicated by responses to various questions about adolescent dating behavior, reveal that: 2 adolescents engaged in premarital sex; 12 adolescents hugged while dating; 20 adolescents kissed on the forehead or cheek; and 25 adolescents held hands when dating. These findings underscore the risky nature of adolescent dating behavior, which significantly increases the risk of pregnancy. This study is supported by another survey conducted by Chaerani (2020), which found that adolescents engaging in risky sexual behavior include those who hold hands, hug, kiss, touch sensitive body parts, and engage in sexual intercourse. Additionally, adolescents experience psychological impacts such as anxiety, fear, shame, guilt, and a perception that these behaviors are customary and reasonable. Therefore, nursing interventions are crucial to delaying adolescent pregnancy and improving the nutritional status of adolescents, thereby reducing the risk of malnutrition in children (Welch *et al*., 2024).

Research indicates a significant risk of pregnancy among adolescent girls who wear dresses, highlighting various behaviors that pose risks for adolescents. Etrawati *et al*. (2023) suggest that these factors are influenced by cognitive factors such as knowledge, affective factors including attitudes and perceptions of norms, parental roles, self-efficacy, and psychomotor factors like negative peer influence and group behavior. These factors contribute to 12% of students engaging in risky sexual behavior, with 3.5% involved in vaginal, anal, or oral sex. Nurses, as advocates, should collaborate with local governments and stakeholders to prevent and control child marriage (Kertati, Karningsih, & Astuti, 2023). Nursing efforts should focus on enhancing parent-adolescent communication about sex or reproductive health and altering adolescents' perspectives on pregnancy or marriage, discouraging them from seeking financial or social status (Hirose *et al*., 2023).

The assumption of risky behavior among adolescents is a significant concern as it can lead to undesirable outcomes. Azmiyannoor *et al*. (2021) highlight the increasing number of adolescents engaging in free sex as a troubling issue that requires attention. Similarly, Kholidin *et al*. (2020) suggest that adolescent courtship behaviors, such as holding hands, kissing, hugging, and even engaging in sex, stem from misguided perceptions like proving love. Given the prevalence of risky sexual behavior among adolescents, nursing professionals need to innovate communication models between mothers and adolescents regarding sex education to prevent adolescent pregnancy (Sejati, Natalia, & Wulandari, 2023).

In nursing, the high prevalence of adolescent pregnancy and its negative impacts require special attention. Various socioeconomic characteristics, demographics, and factors contribute to adolescent pregnancy and its adverse outcomes, including cultural factors. Adherence to these beliefs appears to be a risk factor for adolescent pregnancy. To address this issue, mass media can play a role in increasing understanding of gender roles and advocating for a minimum age for marriage, thereby reducing the negative impact of adolescent pregnancy. Violence has also been identified as a significant factor influencing motherhood and pregnancy outcomes. Regional and national efforts focusing on delaying marriage, promoting education, and empowering women and girls could yield benefits (Shri *et al.*, 2023). Additionally, perceptions of inappropriate dating can lead to preventive behaviors against pregnancy in adolescents. Research suggests that

adolescents' perceptions of casual sexual behavior are influenced by environmental factors and peer groups, which greatly impact them. Peer habits demonstrating risky behavior are often mimicked by other adolescents, leading to the normalization of risky dating behavior (Pantoiyo & Luhpuri, 2020).

Government policies involving community nurses can be implemented in the community or at school, with activities integrated into the curriculum and extra-curricular programs being particularly important. This approach is necessary because young women often lack knowledge about the risks associated with certain behaviors, which can lead to pregnancy. In addition to highlighting the risky behavior of adolescents in this study, community health nurses have also observed, in other studies, that the prevalence of adolescent pregnancy in the Pajulu District was 22.7%. Factors significantly associated with adolescent pregnancy include negative attitudes of health workers, lack of specialized adolescent health services, unprotected sexual relations, peer pressure, alcohol use, cultural norms, family neglect, low adolescent education level, and poor adolescent social status. Adolescents at higher risk of pregnancy tend to have limited knowledge about sexual and reproductive health, live in urban areas, come from poor families, have mothers with low education levels, belong to cultures that promote early marriage, are influenced by peers, and have experienced sexual harassment (Moshi & Tilisho, 2023). Research by Djibran, Hulukati, and Usman (2022) suggests that casual sex is driven by sexual urges and the desire for pleasure with the opposite sex outside of legal marital status. This underscores the importance of prevention through education by community health nurses.

The causative factors of premarital sex leading to unwed pregnancy include both internal and external influences. Internal factors include a lack of sex education and high curiosity, while external factors consist of exposure to pornographic content through information technology and peer influence (Topan & Yuandari, 2021). The absence of health education on preventive behaviors for premarital sex within schools and communities contributes to internal factors among adolescents. Research by Sejati *et al*. (2022) aligns with Dar Sejati's findings, indicating that the lack of education on premarital sex impacts young women's perceptions of this behavior. Several interconnected structural factors contribute to adolescents' vulnerability to early and unwanted pregnancies, including limited knowledge and access to contraception, poverty, sexual violence, school dropout rates, closures due to COVID-19, and young age and naivety leading to unprotected sex (Chamdimba *et al*., 2023).

The limited focus on preventive behaviors for premarital sex among adolescents highlights the need for involvement from various sectors. Schools, being close to adolescents, can play a crucial role. Permatasari *et al*. (2022) emphasized the importance of educating adolescents about HIV/AIDS transmission and preventing premarital sex to enhance their understanding and prevention efforts. In addition to schools, parents also have a significant influence on adolescents. Studies indicate that parental support accounts for 17.9% of adolescent attitudes towards premarital sex. The more supportive parents are, the more negative adolescents' attitudes towards premarital sex tend to be (Satriana, Nirwana, & Syahniar, 2020). Nkurunziza *et al*. (2023) suggest approaching adolescents through peer educators who are well-informed and skilled in reducing adolescent pregnancy. As nurses, it is crucial to prevent early pregnancies and avoid their recurrence, as seen in other countries like Brazil between 2015 and 2019 (Monteiro *et al*., 2023). Various factors at individual, interpersonal, environmental, and legal/policy levels significantly contribute to high rates of adolescent pregnancy (Malunga *et al.*, 2023).

Early and unwanted pregnancy in adolescents can have serious implications for both the mother's and child's health. Adverse effects on children can begin during the antenatal phase, with mechanisms such as neuroregulatory dysfunction from fetal programming believed to mediate vulnerability. Substantial evidence suggests that changes in the in-utero environment due to antenatal depression can predispose children to psychopathology, possibly through alterations in the hypothalamic-pituitary-adrenal axis and other biological functions (Monk, Lugo-Candelas & Trumpff, 2019). To mitigate these risks, research by Milgrom *et al.* (2019) investigated the efficacy of cognitive behavior therapy (CBT) interventions in reducing maternal symptoms of depression and anxiety during pregnancy. The study demonstrated promising outcomes, particularly in improving children's health, with significant effects observed in internalizing behaviors at 24 months post-CBT intervention. Since internalization scores on the Child Behavior Checklist (CBCL) in early childhood are linked to mental health disorders later in life, treating antenatal depression with an evidence-based, structured

8-week CBT program could prevent or ameliorate adverse developmental outcomes in children at age 2 (Milgrom *et al*., 2023).

CONCLUSION

The risky behavior of adolescent female students in high school, leading to early pregnancy and sexually transmitted diseases, necessitates immediate intervention by public health nurses and the government. Targeted education and coaching efforts are essential to increase awareness and promote effective prevention strategies among adolescents, ultimately reducing the prevalence of early pregnancy.

Conflict of Interest

The authors declare that there are no competing interests.

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