



THE INFLUENCE OF EDUCATION USING QUARTET CARD MEDIA ON KNOWLEDGE ABOUT TEENAGE PREGNANCY

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ABSTRACT

Background: Teenage pregnancy is an international phenomenon that remains unresolved. Based on the results of the Basic Health Research (2018), the proportion of teenagers aged 10-19 who have ever been pregnant is 58.8 percent and those who are pregnant with their first child is 25.2 percent, the average age of mothers who are pregnant for the first time is 18 years old, namely 46 percent, where there is a difference in figures in rural areas which are higher (51 percent) compared to urban areas. The results of the Indonesian Demographic and Health Survey (SDKI) (2017) show that 7 percent of women aged 15-19 have become mothers, 5 percent have given birth and 2 percent are pregnant with their first child. **Objective:** To evaluate the influence of education using quartet card media on knowledge about teenage pregnancy at SMA Negeri 1 Bintang Bayu, Bintang Bayu District, Serdang Bedagai Regency in 2024. **Method:** This research uses the method quasi-experiment with design Pretest-Post test with control group design. The population in this study were all adolescents at SMA Negeri 1 Bintang Bayu, Bintang Bayu District, Serdang Bedagai Regency, grades X and X1 totaling 157 people. The sample size of the study used the Lemeshow formula, namely 30 people. The location of the study was conducted at SMA Negeri 1 Bintang Bayu, Bintang Bayu District, Serdang Bedagai Regency, and was conducted in May-June 2024. **Results:** Statistical test results with test Mann-withney results were obtained for P Value=0.000 means $p < 0.05$. **Conclusion:** There is an Influence of Education Using Quartet Card Media on Knowledge About Teenage Pregnancy at SMA Negeri 1 Bintang Bayu, Bintang Bayu District, Serdang Bedagai Regency. It is hoped that there will be cooperation with health workers in providing education using Quartet Card Media regarding knowledge of teenage pregnancy.

Keywords: Education, Quartet Card Media, Knowledge, Teenage Pregnancy

Introduction

Early marriage refers to marriage at an age that is not ideal, as the bride and groom are usually neither physically, mentally, nor financially prepared. Early marriage is often seen as rushed, as it occurs without sufficient planning and preparation. (Sinaga *et al.*, 2024). Teenage pregnancy is a significant issue in the 21st century and an international phenomenon that remains unresolved. Teenage pregnancy is defined as pregnancy occurring in adolescents aged 10-19. Cases of teenage pregnancy were widespread throughout the world in 2013.

World Health Organization The World Population Day theme for adolescent pregnancy was proclaimed. This highlights the need for global attention to the issue of adolescent pregnancy. Adolescent pregnancy is not only a well-understood cause, but also A global phenomenon with serious health, social, and economic consequences. An estimated 21 million girls aged 15 to 19 become pregnant each year in developing countries, and approximately 12 million of them give birth. (Internasional, 2025). In Indonesia, based on



the results of Riskesdas (2018), the proportion of adolescents aged 10-19 years who have The percentage of women who have been pregnant is 58.8%, and 25.2% are pregnant with their first child. The average age of mothers expecting their first child is 18 years old (46%). In rural areas, this figure is higher than in urban areas (51%), and the difference is clear. According to the SDKI (2017), among women aged 15-19, 7% have become mothers, 5% have given birth, and 2% have given birth to their first child. The National Population and Family Planning Agency (BKKBN) stated that the pregnancy and birth rates among adolescent girls are still high, namely 48 out of 1000 adolescents (Survey, 2017).

Teenage pregnancy is still a major problem for reproductive health since it can negatively affect teenagers' physical, emotional, and social well-being. The risk of unintended pregnancies may rise due to adolescents' lack of pregnancy education. Determining the different elements that affect teenagers' awareness of early pregnancy is essential. (Sari *et al.*, 2025).

Teenage pregnancies are a global problem that not only endangers the health of mothers and their unborn children, but also poses a central challenge to the development of many societies. Adolescent pregnancy negatively impacts not only the physical health of adolescents and their babies but also socially and economically. Adolescent pregnancy carries there is an increased risk of negative obstetric and health consequences for women and their children. Nutritional anemia is a significant health problem in teenage pregnancies: because girls grow rapidly at the onset of menstruation, their iron requirements are high. Insufficient iron intake during pregnancy can cause anemia (T Ganchimeg, E Ota, N Morisaki, 2014). These pregnant adolescent mothers are at increased risk not only for nutritional anemia but also for obstructed labor and eclampsia.

Teenage pregnancies can have serious consequences for mothers and newborns worldwide, including anemia, nutritional deficiencies, pregnancy-induced hypertension, premature births, insufficient weight gain, birth

complications, fistulas, and sepsis. The difficulties encountered in this area among adolescents have therefore been the focus of increasing global efforts in recent years. (Fentahun Yenealem, Azimeraw Aregsa Tesfu, 2022).

Adolescent issues have been the subject of numerous news stories in a variety of media. Getting pregnant outside of marriage is one of them. Because of this, there are more opportunities for premarital sex, which can have a number of negative effects, including unwed pregnancies, young marriages, unwed children, abortions, STDs, depression in women who have had sex, and more. (Eva Ratna Dewi, Lidya Natalia Sinuhaji, 2023)

A major issue that can affect a teen's life is adolescent pregnancy. Teenage pregnancy can have an impact not only on the mother but also on the child she gives birth to. The National Population and Family Planning Board (BKKBN) states that there are a number of medical reasons why women under 20 should postpone getting married and having their first child. These include the chance of medical concerns as well as the uterus and pelvis not being fully grown, which can result in pain and death during labor, the postpartum period, and the baby. (Aminatussyadiah *et al.*, 2020)

Pregnancy in women between the ages of 14 and 20, whether or not they are married, is referred to as teenage pregnancy. Due to the possibility of bleeding during pregnancy, which can result in maternal death, teenage pregnancy has an extremely high risk of maternal and child mortality. Therefore, in order to prevent these hazardous hazards for teenagers, specific education, care, and protection are required. Through reproductive health films, teens can learn how to protect themselves from numerous threats that could ruin their future. (Haulia, 2023)

Research conducted in Thailand, especially for pregnant teenagers in the metropolitan city of Bangkok, found that many things happen and have an impact on teenage pregnancy, such as an increased risk of anemia, premature birth, low birth weight, babies who have to be treated in the NICU, and



postpartum complications (Karen A Hacker, Yared Amare, Nancy Strunk, 2021). The condition of teenage pregnancy also shows problems related to the increased incidence of complications.

The reproductive organs should be ready to handle the consequences of fertilization. Therefore, pregnancy should occur at the appropriate age. Since pregnancy during adolescence poses serious risks to both the expectant mother and the child, preventative measures are necessary. Strategies implemented in several countries to prevent teenage pregnancy include: 1) setting the minimum marriage age at 18 years or more, and addressing poverty; parental education and the importance of involving local communities in schools and the capabilities of schools and selected teachers; 3) including sexual education into compulsory subjects in the education curriculum (school-based education) and the strength of the parent-child relationship.

Other strategies include the importance of school support that offers young people options to continue their education and improve their knowledge, family support, the revaluation of the importance of schools as well as social and community actors, and dialogues with parents about sexual experiences of adolescent girls who have not received formal sex education. (Adriana A E Biney, 2017)

Providing education to teenagers about teenage pregnancy can be done by utilizing various media so that it can be easily accepted by teenagers, one of which is using quartet cards. Cards are thick rectangular paper (for various purposes, almost the same as tickets, While quartets are groups, collections, and so on consisting of four. So it can be said that quartet cards are thick paper like tickets that are grouped "four". Knowledge can be obtained through delivering education with various media. Rahman (2019) in his research stated that there was an influence on the level of knowledge of children before and after being given nutrition education where in the treatment group using quartet card media increased by 11.25 points while in the control group with lecture media only increased by 5 points. This is in line with research conducted by Nugroho

(2023) that there was an increase in knowledge in fifth grade elementary school students after being given education with quartet card media. Based on a preliminary survey conducted in April 2024 among youths of SMA Negeri 1 Bintang Bayu in the Bintang Bayu district of the Serdang Bedagai Regency, out of 15 adolescents interviewed, 12 adolescents did not know the impact of pregnancy if it occurs during adolescence. Based on the above problems, the researcher is interested in raising the title " The Impact of Quartet Card-Based Educational Intervention on Students' Knowledge of Teenage Pregnancy at SMA Negeri 1 Bintang Bayu, Serdang Bedagai, 2024".

Research Method

This research uses the method *quasi-experiment* with *design Pretest-Post test with control group design* with the aim to determine The Impact of Quartet Card-Based Educational Intervention on Students' Knowledge of Teenage Pregnancy at SMA Negeri 1 Bintang Bayu, Serdang Bedagai, 2024, grades X and XI totaling 157 people. The formula for the sample size of the study used the Lemeshow formula, which was 30 people. The inclusion criteria in this study were teenagers who were willing to participate in the study until completion and the exclusion criteria in this study were male teenagers. The type of data used in this study was primary data providing questionnaires about pregnancy in teenagers.

Secondary data collection was also carried out to determine the number of teenagers at SMA Negeri 1 Bintang Bayu. The duration of education in the group was 20-30 minutes. The intervention was carried out for 4 weeks. The educational material was the understanding of teenage pregnancy starting with the definition of teenage pregnancy, the impact of teenage pregnancy, the causes of teenage pregnancy, efforts to prevent teenage pregnancy. In the last week, reinforcement of the material was carried out from the first week to the third week. In the treatment group, education was carried out by The participants showed the quartet cards to the respondents, followed by a game. The research location was



at SMA Negeri 1 Bintang Bayu, Serdang Bedagai, 2024

Result And Discussion

A. Univariate Analysis

Tabel 1. Frequency Distribution of Knowledge About Teenage Pregnancy in the Control Group at SMA Negeri 1 Bintang Bayu, Bintang Bayu District, Serdang Bedagai Regency in 2024.

No Variable	F	Presentation	Variables	F	Percentage
Pretest Knowledge					Knowledge
1. Good	2	13.3	Posttest	2	13.3
2. Enough	4	26.7	Good	6	40.0
3. Not Enough	9	60.0	Enough	7	46.7
Not Enough					
Total	15	100	100	15	100

Based on table 1, knowledge about teenage pregnancy in the pre-test control group was mostly lacking, namely 9 respondents (60%) and during the post-test, measurements were also taken of knowledge about teenage pregnancy. In the control group, most respondents, specifically 7 people (46.7%), still had insufficient knowledge.

Table 2. Frequency Distribution of Knowledge About Teenage Pregnancy in the Intervention Group at SMA Negeri 1 Bintang Bayu, Bintang Bayu District, Serdang Bedagai Regency in 2024.

No Variable	F	Presentation	Variables	F	Percentage
Pretest Knowledge					Knowledge
1. Good	2	13.3	Posttest	11	73.3
2. Enough	7	46.7	Good	64	26.7
3. Not Enough	6	40.0	Enough	0	0
Not Enough					
Total	15	100	100	15	100

Based on table 2, knowledge about teenage pregnancy in the pre-test intervention group was mostly sufficient, namely 7 respondents (46.7%) and when the post-test was carried out, the knowledge of knowledge about teenage pregnancy in the intervention group was mostly good, namely 11 respondents (73.3%).

B. Bivariate Analysis

Table 3 The Effect of Education Using Quartet Card Media on Knowledge About Teenage Pregnancy at SMA Negeri 1 Bintang Bayu, Bintang Bayu District, Serdang Bedagai Regency in 2024.

Knowledge	N	Mean Rank	Sum of Rank	MarkP
Control Group	15	20.93	314.00	0,000
Intervention group	15	10.07	151.00	

Based on table 3, the influence In 2024, a study on the influence of quartet card media on knowledge about teenage pregnancy was conducted at SMA Negeri 1 Bintang Bayu in Bintang Bayu District, Serdang Bedagai Governorate. The p-value of 0.000 ($p < 0.05$), determined using a Mann-Whitney U test, suggests that the use of quartet card media influenced knowledge about teenage pregnancy at SMA Negeri 1 Bintang Bayu in 2024 in Bintang Bayu District (Serdang Bedagai Governorate)

Discussion

The Effect of Quartet Card-Based Educational Media on Adolescents' Knowledge of Teenage Pregnancy. The results of the study on the univariate knowledge test. About Teenage Pregnancy in the control group pretest majority was less, namely 9 respondents (60%) and at the time of the posttest, measurements were also carried out on Knowledge About Teenage Pregnancy In the control group, the majority of respondents, specifically 7 of them (46.7%), still had lower levels of knowledge. Knowledge About Teenage Pregnancy in the intervention group pretest majority was sufficient, namely 7 respondents (46.7%) and at the time of the posttest, measurements were carried out on Knowledge About Teenage Pregnancy in the intervention group, the majority of respondents' knowledge became good, namely 11 respondents (73.3%).

Testing was carried out *Mann-withney* results were obtained for P $Value=0.000$ means $p < 0.05$, stating that there is an influence of education using Quartet Card Media on knowledge about teenage pregnancy at SMA Negeri 1 Bintang Bayu, Bintang Bayu District, Serdang Bedagai Regency in 2024.

This study corresponds with research conducted in Thailand, particularly with pregnant adolescents in Bangkok. It was found that a variety of factors influence teenage pregnancies, such as an increased risk of anemia, premature birth, low birth weight, and the need for intensive care in newborns and postpartum complications (Hackeret *al.*, 2021;

Naik, Cacodkar and Pednekar, 2021). The condition of teenage pregnancy also shows problems related to the increased incidence of complications.

Providing education to teenagers about teenage pregnancy can be done using various media so that it is easily understood by them, one of which is using quartet cards. The cards are made of thick paper. rectangular in shape (for various purposes, almost the same as a ticket, while a quartet is a group, collection, etc. consisting of four. So it can be said that a quartet card is thick paper like a ticket in a group of "fours". Knowledge can be gained through educational delivery using various media. This research also aligns with research conducted by Rahman (2019), who stated that there was an effect on children's Differences in Knowledge Levels Before and After Nutrition Education. In the treatment group using quartet cards, there was an increase of 11.25 points, while in the control group using lectures, there was only a 5-point increase. This finding is consistent with previous studies by Nugroho (2023), which found an increase in knowledge in fifth-grade elementary school students after being given education using quartet cards.

Conclusion

Frequency distribution of Knowledge About Teenage Pregnancy in the control group, the pretest was mostly lacking, namely 9 respondents (60%) and at the time of the posttest, measurements were also carried out on Knowledge About Teenage Pregnancy Within

the control group, insufficient knowledge remained predominant, affecting 7 respondents (46.7%). Frequency distribution of knowledge About Teenage Pregnancy in the intervention group, the pretest was mostly sufficient, namely 7 respondents (46.7%) and at the time of the posttest, measurements were carried out on Knowledge About Teenage Pregnancy the majority of respondents in the intervention group stated that had good knowledge, namely 11 respondents (73.3%). A Mann-Whitney U test was performed. The results yielded a p-value of 0.000 ($p < 0.05$), suggesting that knowledge about teenage pregnancy at SMA Negeri 1 Bintang Bayu in 2024 is influenced by the use of Quartet Card Media in education.

REFERENCES

Adriana A E Biney, P.N. (2017) 'Is a woman's first pregnancy outcome related to her years of schooling? An assessment of women's adolescent pregnancy outcomes and subsequent educational attainment in Ghana', *Pubmed* [Preprint]. Available at: <https://pubmed.ncbi.nlm.nih.gov/28974268/>.

Aminatussyadiah, A. *et al.* (2020) 'Media informasi dan tingkat pendidikan berhubungan dengan kehamilan remaja Indonesia', 9(2), pp. 173–182. Available at: <https://doi.org/10.26714/jk.9.2.2020.173-182>.

Eva Ratna Dewi, Lidya Natalia Sinuhaji, I.K.P. (2023) 'THE CORRELATION BETWEEN THE ROLE OF PARENTS AND THE OCCURRENCE OF PREGNANT ADOLESCENTS OUTSIDE OF MARRIAGE IN THE WORKING AREA OF THE HAMAMPARAN PERAK HEALTH CENTER, HAMPARAN PERAK SUB-DISTRICT, DELI SERDANG REGENCY YEAR 2023', 2(3), pp. 138–145.

Fentahun Yenealem, Azimeraw Aregsa Tesfu, D. (2022) 'Anemia, nutritional deficiencies, pregnancy-induced hypertension, premature birth, insufficient weight growth, obstructed labor, fistula, and sepsis are just a few of the terrible consequences that teenage pregnancies worldwide can cause for both the mother', *Pubmed* [Preprint]. Available at: <https://pubmed.ncbi.nlm.nih.gov/36309679/>.

Haulia, M. (2023) 'Scientific journal of nursing research'.

Internasional, P. (2025) *Teenage pregnancy*. Available at: https://plan-international.org/srhr/teenage-pregnancy/?gad_source=1&gad_campaign_id=771301656&gbraid=0AAAAADntWr_WMTljsaY0r8gSzRxe71BQZ&gclid=Cj0K_CQiApL7KBhC7ARIIsAD2Xq3A0bLJZuld8FTGh1uxsFzc4j119KTiw8bfFjd0-ZxBhMPO2UFQxv8AaAiTfEALw_wcB.

Karen A Hacker, Yared Amare, Nancy Strunk, L.H. (2021) 'Listening to youth: teen perspectives on pregnancy prevention', *Adolescent Health* [Preprint]. Available at: <https://pubmed.ncbi.nlm.nih.gov/10734275/>.

Sari, Y.K. *et al.* (2025) 'Faktor-Faktor yang Berhubungan dengan Pengetahuan Remaja tentang Kehamilan Usia Remaja di SMPN 21 Pekanbaru Tahun 2025', 1(1), pp. 16713–16722.

Sinaga, K. *et al.* (2024) 'Pengaruh Pendidikan Kesehatan Tentang Pernikahan Dini terhadap Tingkat Pengetahuan dan Sikap Remaja di Puskesmas Kuala Kec. Kuala', 1, pp. 90–98.

Survey, H. (2017) 'Demographic and Health Survey 2017'.

T Ganchimeg, E Ota, N Morisaki, D. (2014) 'Pregnancy and childbirth outcomes among adolescent mothers: a World Health Organization multicountry study', *Pubmed* [Preprint]. Available at: <https://pubmed.ncbi.nlm.nih.gov/24641534/>.