

INCREASING ADOLESCENTS' KNOWLEDGE OF MARRIAGE AGE MATURATION (PUP) THROUGH COMIC MEDIA: AN EXPERIMENTAL STUDY**Sarliana^{1*}, Yuli Admasari², Asri Widyayanti³**¹Bachelor of Applied Midwifery Study Program, Health Polytechnic Ministry of Health Palu, Palu, Indonesia²Bachelor of Applied Midwifery Study Program, Health Polytechnic Ministry of Health Palu, Palu, Indonesia³D-III Midwifery Study Program Palu, Health Polytechnic Ministry of Health Palu, Palu, Indonesia

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ABSTRACT

Introduction: Reducing the incidence of child marriage is a component of the national medium-term plan (RPJMN) for 2020-2024, which is targeted to fall to 8.74% in 2024, and 6.94% in 2030. The prevalence of child marriage in Central Sulawesi is 31.91% and Sigi Regency has the third highest prevalence of child marriage, namely aged 10-14 years (0.04%) and aged 15-19 years (2.58%). **Aims:** To evaluate the impact of providing health education via comic media on adolescent knowledge regarding the age of marriage at SMA Negeri 1 Sigi. **Method:** The design applied in this research was experimental with pretest-posttest and a control group setup. Twenty-six participants were chosen through random sampling and allocated to either the intervention group (comic media education) or the control group (leaflet media education). The research instrument utilized was a questionnaire. Data analysis was conducted using the Wilcoxon and Mann-Whitney tests. **Results:** This study shows that, in the control group, knowledge before education was mostly in the sufficient category (42%) and after education increased to good category (74.2%). Meanwhile, in the intervention group, before education, the majority was in the poor category (35.5%) and after education the majority was in the good category (96.8%), with a p value of 0.000 <0.05. **Conclusion:** Using comics proves more efficacious in enhancing teenagers' knowledge compared to utilizing leaflets. It is hoped that schools and health centers can collaborate to establish youth counseling centers as a platform for counseling students and can utilize comics as one of the educational media.

Keywords: education, marriage age maturation (PUP), comics, knowledge, teenagers**INTRODUCTION**

The trend of child marriage can affect the quality and competitiveness of young people's human resources in the future and is an act of violence against children and violates children's rights to grow and develop (Batyra & Pesando, 2021; Darhagi, 2021). Child marriages are performed before the age of 18 years (Junaidi et al., 2019). UNICEF states that each year, approximately 12 million girls are wedded before reaching the age of 18, with the greatest prevalence of child marriages documented in Sub-Saharan Africa at 38%, followed by South Asia at 30%, and Latin America at 25% (UNICEF, 2020a). Indonesia holds the seventh position globally and ranks second within

the ASEAN region (Kirana & Nisak, 2022; Yusnissa & Nooraeni, 2024).

In Indonesia, the incidence of child marriage surged from 11.1% in 2016 to 11.2% in 2018 (Bappenas, 2019). Sustainable Development Goals (SDGs) target a reduction in the incidence of child marriage, included in the 2020-2024 National Medium Development Plan. and targeted to decrease from 11.2% in 2018 to 8.74% in 2024, and 6.94% in in 2030 (Monoarfa, 2020; Unicef Indonesia, 2020). Regions with elevated rates of child marriage exceeding the national average of 22.8% include West Sulawesi at 34.22%, South Kalimantan at 33.68%, and Central Sulawesi at 31.91% (Pakasi, 2019; Rahayu, 2022; UNICEF, 2020b).

Child marriages in Indonesia still occur frequently and are influenced by

Indonesian customary traditions and religious values which have a significant impact on the implementation of this practice. It is important to understand the practice of child marriage through various interrelated aspects, including Islamic norms regarding marriage, morality surrounding premarital sex, society's views on gender, children, and the role of parents who do not always fully support girls (Pakasi, 2019; Yustitia & Islami, 2023).

The practice of child marriage significantly affects the health, happiness and future of girls. The effects of early marriage include increased risks to sexual, physical and mental health, as well as adverse health impacts. Child marriage has a negative impact that is detrimental to children, families and the country, namely increasing the incidence of children dropping out of school, stunting, maternal and infant deaths, high risk pregnancies, LBW, poverty, domestic violence, disruption of the mental health of children and mothers, wrong parenting patterns, and the child's identity is not recorded because they do not have a birth certificate (Fan & Koski, 2022; Monoarfa, 2020; Yoosefi Lebni et al., 2023).

The determinants of child marriage include education, surroundings, media influence, economic status, cultural norms, and awareness levels (Arimurti & Nurmala, 2017; Pourtaheri et al., 2023). Women who have good knowledge about child marriage and its impacts will try to prefer to marry at an adult age (Elnakib et al., 2022; Femilanda, Elita Putri, & Sari, 2017). Raising public awareness and knowledge, particularly among women, and fostering gender equality by empowering girls can shift societal perspectives on the issue of child marriage (Gill et al., 2017).

According to a study by Matlabi et al. (2013) in Iran, insufficient increasing understanding and awareness of the consequences and implications of marriage at a too young age. is important to prevent this practice contributing to the inclination of adolescent girls to marry at a young age

(Matlabi, 2013). Furthermore, additional research demonstrates that girls who oppose child marriage possess significantly greater knowledge compared to those who endorse it (Naghizadeh et al., 2021). The government has made various efforts to tackle the incidence of child marriage, one of which is through the Marriage Age Maturation program (National Family Planning Coordinating Board (BKKBN), 2019). Based on research, it is stated that young women's knowledge about maturing marriage age has a significant relationship to the risk of early marriage (Dini & Nurhelita, 2020; Urnia et al., 2023). Increasing the age of maturity for marriage is something that must be a concern to ensure that individuals are physically and mentally prepared to face the responsibilities of marriage and parenthood (Holijah & Abd Manaf, 2019).

The maturation of marriage age can be socialized in the form of education (Marphatia et al., 2017; Wiranto et al., 2023). Providing education to teenagers requires choosing the right methods and media (Dennen, Choi, & Word, 2020; Parinduri & Karomah, 2023). Choosing appropriate media tailored to the recipient's circumstances or preferences is one of the success factors in delivering the message. One of them is comics, which are visual media which play an important role in the learning process and can facilitate understanding and strengthen memory (Ayuningtyas, 2019).

Comics serve as an educational tool utilizing visual communication, effectively conveying information in a popular and accessible format. The findings from the study show that comics have the potential to improve understanding of adolescent health, even on sensitive topics, and can be a useful tool for health institutions in delivering material (Saputra & Pasha, 2021). In accordance with the research results, this indicates that counseling utilizing comic media is more efficacious in enhancing knowledge compared to exhibition media (Rusyadi et al., 2020).

Increasing knowledge for teenagers, especially regarding child marriage and maturing the age of marriage, holds significant importance as it aids teenagers in making decisions that lead to good things regarding their behavior. Knowledge forms the foundation for teenagers to engage in constructive actions or behaviors (Yoon et al., 2021).

Provincial data from BKKBN Central Sulawesi, shows Sigi Regency has the third highest prevalence of child marriage, namely aged 10-14 years (0.04%) and aged 15-19 years (2.58%) (National Family Planning Coordinating Board (BKKBN) Central Sulawesi, 2021). The results of interviews with 15 students at SMA Negeri 1 Sigi showed that 13 still did not understand or know about the maturing age of marriage. So researchers want to conduct research about "The Effect of Education regarding the Age of Marriage (PUP) through comic media on increasing teenagers' knowledge in efforts to prevent child marriage at SMA Negeri 1 Sigi"

METHODS

This research utilizes a quasi-experimental design involving pretest and posttest measures with a control group, conducted at SMA Negeri 1 Sigi, involving a sample of 62 tenth-grade adolescents. The sample was divided into two groups, the intervention group receiving education through comic media consisting of 31 respondents, and the control group receiving education through leaflet media, also consisting of 31 respondents. The sampling technique in this study used a random sampling technique, to determine the control and intervention samples that would be used as samples in the research. The researcher drew lots from four classes which were class X. Each class will first calculate how many samples will represent the class. After obtaining the number of samples for each class, the way to take the samples is by drawing lots using the students' attendance numbers. If the lottery

results come out with an odd number then it is used as an intervention sample, conversely if an even number comes up then it is used as a control sample. Data collection was carried out using a knowledge questionnaire consisting of 15 statements explaining the meaning, objectives, benefits and programs for maturing marriage age.

Data analysis is divided into descriptive analysis to describe respondent characteristics and bivariate analysis to observe differences before and after in each group, as well as comparisons between the two groups. Prior to data analysis, a normality test using the Shapiro-Wilk test at significance level of 5% was conducted, revealing that the data do not have a normal distribution. Consequently, data analysis employs the Wilcoxon and Mann-Whitney tests.

The variables in this study consist of the independent variable, which is the delivery of health education through comic and leaflet media, and the dependent variable, which is knowledge. The study involves providing education through comics and leaflets. Before receiving education, respondents are provided with informed consent to express their willingness to participate. The process continues with the administration of a pretest questionnaire, followed by intervention for each group, and concludes with a posttest questionnaire. The study received ethical clearance from the Research Ethics Commission at the Health Polytechnic Ministry of Health in Palu, identified by approval number 0080/KEPK-KPK/V/2023.

RESULT

This research will interpret data related to respondent characteristics such as age and gender, information, as well as sources of information and data related to the impact before and after providing education in the control and intervention

groups and look at the differences between the two groups. The data presentation is explained in the table below:

Table 1. Characteristics of Respondents

Variable	Teenager	
	n = 62	%
Age		
14	8	12.9
15	32	51.6
16	19	30.6
17	3	4.9
Gender		
Man	27	43.5
Woman	35	56.5
Information Exposure		
Ever Been	20	32.3
Never	42	67.7
Resources		
Health workers	4	20
Social media	9	45
The school	5	25
Family	2	10

Source: Primary Data, 2023

Table 1 illustrates the characteristics of respondents including age, gender, information and information sources consisting of 62 respondents. The results from the table above show that, based on age, most were 15 years old (51.6%), the most common gender characteristics were women, 35 people (56.5%), the number of respondents who

received information related to maturing marriage age material, most of whom had never been, was 42 people (67.7%), and the largest source of information was through social media (Fb), nine people (45%). The level of knowledge before and after providing education in the control and intervention groups is presented in Table 2:

Table 2. The level of knowledge of respondents before and after being given education using leaflet media (control) and comic media (intervention)

Knowledge Category	Providing Education							
	Control				Intervention			
	Pretest		Posttest		Pretest		Posttest	
	n	%	n	%	n	%	n = 31	%
Good	9	29	23	74.2	11	35.5	30	96.8
Enough	13	42	3	9.7	9	29	1	3.2
Not Enough	9	29	5	16.1	11	35.5	0	0
Total	31	100	31	100	31	100	31	100

Source: Primary Data, 2023

Table 2 displays the level of knowledge of respondents before receiving education in the control group; most of

them had sufficient knowledge, namely 13 people (42%), and after being given education it increased to good knowledge,

namely 23 people (74.2%). Meanwhile, in the intervention group, the majority of respondents before being given education had poor knowledge, namely 11 people (35.5%) and after being given education, they increased to have good knowledge, namely 30 people (96.8%). Statistical tests

using the Wilcoxon test aimed to determine the effect before and after providing education to the control group (using leaflet media). More details are presented in Table 3:

Table 3. Analysis of changes in knowledge before and after providing education using leaflet media (control group) regarding maturational age (PUP) in teenagers

Control Group (Leaflet)	Knowledge			Z Value	P-Value
	Median	Minimum	Maximum		
Pretest	67	47	87	-4.547 ^b	0.000
Posttest	86.6	53	100		

Source: Primary Data, 2023

There has been an increase in the median value of prior knowledge in the control group in the form of education using leaflets from 67 to 86.6. An increase also occurred in the minimum and maximum values respectively from 47 to 87 before intervention and 53 to 100 after

intervention. The results of the analysis test using the Wilcoxon test obtained a Z value of -4.547b with a p-value of 0.000 ($p < 0.005$). This shows that there is a significant difference in teenagers' knowledge before and after being given education using leaflet media.

Table 4. Analysis of differences in knowledge before and after being given education using comic media (intervention group) regarding maturation of marriage age (PUP) in teenagers

Intervention Group (Comic)	Knowledge			Z Value	P-Value
	Median	Minimum	Maximum		
Pretest	67	40	93	-4.631 ^b	0.000
Posttest	93	73	100		

Source: Primary Data, 2023

Based on Table 4, it is known that there has been an increase in the median value knowledge before being given intervention in the form of education using comics, namely 67 to 93. An increase also occurred in the minimum and maximum values respectively from 40 to 93 before

intervention and 73 to 100 after intervention.

The results of the analysis test using the Wilcoxon test obtained a Z value of -4.631b with a p value of 0.000 ($p < 0.005$). This shows that there is a significant difference in teenagers' knowledge before and after being given education using comic media.

Table 5. Analysis of differences in knowledge between the control group and the intervention group regarding maturation of marriage age (PUP) among teenagers

Knowledge Variable	N=62	Median	P-Value
Intervention Group	31	80.00	0.044

Knowledge Variable	N=62	Median	P-Value
Control Group	31	80.00	

Source: Primary Data, 2023

Table 5 based on the Mann-Whitney test shows that there is a difference in the level of knowledge between the control group and the intervention group, with a significance level of $p = 0.044$ (<0.05). With the same median value between the control group and the intervention group, namely 80.00.

DISCUSSION

The results of the research, looking at the characteristics of the respondents, show that the age range for teenagers is 14-17 years. Age is one of the factors that influence the knowledge a person has because the ability to grasp and be prepared to receive the material provided will be more productive in adolescence. Backed by research findings, it demonstrates a notable correlation between age and the knowledge of young women (Mamba, 2017; Srinayanti et al., 2023; Yuniartanti Putri et al., 2023).

Apart from age, the information obtained by teenagers also plays a role in influencing knowledge. Research findings show that the majority of respondents have never received information regarding the maturation of marriage age. However, there were several respondents who had been exposed to this information. The diversity in acquiring information, such as through mass media, electronic platforms, social media, and various other sources, contributes to varying levels of knowledge that individuals possess (Gross & Rutland, 2017). Someone who often obtains information will have a better level of knowledge than someone who receives less information. In accordance with research results, someone who has previously received information has a significant relationship with adolescents' knowledge (Tucunan et al., 2022).

Increased knowledge is also greatly influenced by the intervention provided.

This research provides intervention in the form of health education about maturing marriage age using media. The media used is comic media in the aspect of knowledge about maturing marriage age. Based on the description of research data in Table 3 and 4, it shows that the knowledge scores in both the experimental group and control group exhibit a significant p-value of 0.000, which is less than the standard threshold of 0.05.

Both groups were able to increase their knowledge before and after being given education. However, the results of the analysis test to see the differences between the two groups showed that the intervention group provided education using comic media was more significant in increasing teenagers' knowledge. This is in line with research results which show that comic media has increased knowledge by three times and positive attitude changes by four times compared to leaflet media. So it is concluded that comic media treatment is more effective when compared to leaflet media in increasing teenagers' knowledge and attitudes about healthy teenage styles (Handayani, 2010).

The main aim of health education given to adolescents is to change or increase adolescent knowledge (Shaluhiyah, Indraswari, & Kusumawati, 2021). Knowledge plays a crucial role in shaping an individual's behavior (Fabrigar, Petty, Smith, & Crites, 2006). Behavior that is based on good understanding tends to be better than behavior that is not based on understanding (Darsini et al., 2019).

Teenagers are the nation's successors who must be equipped with good knowledge, especially regarding the prohibition of child marriage. National Medium Term Development 2020-2024 plans to reduce the incidence of child marriage from 11.2% in 2018 to 8.74% in 2024 (United Nations Children's Fund,

2018). The government is trying to tackle the incidence of child marriage through the marriage age maturity program (National Family Planning Coordinating Board (BKKBN) Central Sulawesi, 2021).

The Marriage Age Maturation Program has been launched to overcome the problem of child marriage, but child marriages are still found to occur in several areas (Muslihatun & Djanah, 2018). As per the guidelines set by the National Population and Family Planning Agency (BKKBN), the suggested age threshold for marriage is 21 years for women and 25 years for men (Zaelani et al., 2024).

From this standpoint, it's imperative to educate society that early marriage isn't a viable solution for children. Entering marriage prematurely exacerbates challenges, particularly for women, impacting them mentally and physically. Females who conceive at a young age are medically ill-prepared for the demands on their reproductive systems. Consequently, premature births with low birth weights occur, leading to fatalities for both the mother and the infant (Engkus, 2023).

The maturation of marriage age is socialized through education. Providing education to teenagers requires choosing the right methods and media (Notoatmodjo, 2014). Media functions as a visual aid to convey information or messages (Alshammari et al., 2017). Through the media, health messages will be conveyed well and become more interesting and easy to understand (Niviyanto, 2017). This is in accordance with research results which show that the educational media used has an effect on increasing parents' knowledge about food safety for early childhood (Hermawati et al., 2020).

Comics were chosen as a medium for education on maturing marriage age. Farinella (2018) states that comics are a type of visual story that is increasing in popularity as a tool for education and scientific communication. This popularity is because comics have the opportunity to make scientific material more acceptable

and attract a wider readership because of the advantages of visualization which is strengthened by illustrations and stories developed in a character. This is consistent with research findings, which indicate that comic media has an impact on the knowledge of young women regarding anemia at the Attarbiyatussakilah Islamic Boarding School (Rosalina, 2021).

Other research states that comic media can increase teenagers' knowledge because comics are easy to learn using language that is easy to understand, the message is conveyed briefly and clearly, so they can easily understand the content of the comic. Apart from that, the type of writing and choice of comic images used in this research are very interesting; the comics use bright colors so that teenagers are more motivated to read comics. The stories presented in comics are set according to events experienced by teenagers in social life so that they feel like they are in the story and understand the information conveyed better (Anggraini, 2021).

Other research findings also indicate that employing comic media in education can enhance motivation to learn, cognitive learning outcomes, as well as affective learning outcomes (Puspitorini et al., 2014). Comics serve as an educational tool through visual communication, effectively conveying information in a widely accessible manner. Research findings indicate that comics have the potential to enhance understanding of adolescent health, even on sensitive topics, and can be a useful tool for health institutions in delivering material (Saputra & Pasha, 2021).

Opting for comics is an appropriate decision as not only are they popular among teenagers, but they also feature captivating visuals and are economically accessible (Septialti et al., 2022; Suwandinata & Suranata, 2023). The synergy between text and images interwoven into a narrative is the core strength of comics. Images facilitate easy absorption of the story, while text ensures comprehension, and the

storyline facilitates clear understanding and retention of the message or information being conveyed (Jee & Anggoro, 2012). Comics represent an educational medium utilizing visual communication, effectively conveying information in a widely accessible and comprehensible manner. The synergy between text and images forming a cohesive storyline is the primary strength of comics. Images facilitate easy absorption of the narrative, while the text ensures comprehension, and the storyline facilitates clear understanding and retention of the conveyed message or information.

Comics can communicate messages that can influence knowledge, attitudes and behavior (Dhea Fadhilla, 2018). Adolescents will be able to learn optimally if they learn by utilizing visual materials or media, in accordance with their level of development and development needs. (Pratiwi Hartono et al., 2015). The use of comic media provides several advantages compared to other media. Comic media, both digital and traditional, is effective in conveying messages and making learning easier. Comic media has proven to be more effective and efficient in conveying messages (Adnyani & Wibawa, 2021; Sutanto & Wardaya, 2021). The use of comic media provides advantages compared to other media such as booklets, leaflets and picture cards. Comic media is able to present simple stories using everyday language so that they are easier to understand and of interest and provide entertainment as well as education for teenagers (Wulandari & Prameswari, 2017).

Research by Arimurti and Nurmala (2017) showed that the average nutritional knowledge score was higher in the comic treatment group than in the book treatment group. This shows that comic media is more effective in increasing students' nutritional knowledge. Counseling using illustrated comic media attracts teenagers' interest in understanding the material. According to research, a student will learn better if there is interest in him. The use of comic media, if presented well, will

stimulate students' interest and attention, because of its nature, which can make them feel happy. Additional research indicates that comic media proves to be more effective in improving teenagers knowledge compared to counseling methods. Therefore, comic media can serve as a valuable tool for health education targeted at teenagers (Iriansyah, 2022).

Providing information about maturing marriage age through comic media is an effective way for teenagers to increase positive attitudes in facing the trend of child marriage. Comics have characteristics that meet the requirements for selecting good educational media for teenagers. Evaluation of educational information communication materials for Adolescent Reproductive Health (KIE KRR), stated that teenagers generally like illustrated stories, both printed and audiovisual. Each media has its own segment according to the type of target. Comics are a medium that is very suitable for teenagers, especially high school students (Handayani, 2010).

Comics are an attractive educational tool for teenagers because they do not cause pressure that can make them lazy or burdened in the learning process. Utilizing comics as an educational medium can stimulate teenagers' interest in learning. In contrast to traditional books, learning through comics tends to be more engaging and captivating (Putra & Milenia, 2021). Comics are effective as an innovation in adolescent health learning, based on research proven to increase knowledge. Teenagers respond positively to comics because they are fun, relaxing, and facilitate a better comprehension of the material. Even though some teenagers experience difficulties, comics can be used by educational and health agencies as a learning medium for teenagers (Septialti et al., 2022).

CONCLUSIONS

The conclusion of this research is that there is a notable impact on enhancing

knowledge both prior to and subsequent to the event of providing education about maturing marriage age to teenagers using both comic and leaflet media. However, when compared, comic media is more effective in increasing knowledge. It is hoped that schools and health centers can work together to schedule educational activities for schools. Integrated youth service posts can be formed at schools so that they can be utilized and become a forum for counseling for students.

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