

Knowledge and Health Attitudes of Pre-Marital Education Brides: A Quasi-Experimental Study

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ABSTRACT

Maternal and child health challenges have been seen before the process of pregnancy. Improving education, attitudes and behavior of couples is an important part of preconception health. The aimed of this research was to verify the impact of premarital education on enhanced knowledge and attitudes of preconception health on brides. Research method was quasi-experimental, pretest-posttest control group design. Sampling technique was purposive sampling, based on inclusion and exclusion criteria. Time and location of the study September-November 2022 at three Office of religious (KUA Koto Tengah, KUA Kuranji and KUA Padang Utara). The intervention group were given educational material related to marriage law in Islam and preconception health education using lecture and discussion methods. The control group were given education only related to the law of marriage in Islam (religious sphere) with the lecture method. Questionnaires with tested validity and reliability were used to gather data. The results of knowledge intervention group compared the control group ($p = 0.00$). Prospective bride's attitudes were not impacted by premarital education in the intervention group compare the control group ($p=0.59$). In conclusion, it has been proven that premarital education enhance preconception health knowledge, as opposed to women' preconception health attitudes.

Keywords: premarital education; Knowledge; Attitude; Preconception Health

ABSTRAK

Fungsi reproduksi berkaitan dengan kondisi wanita maupun pria untuk dapat menghasilkan keturunan, yang diawali dengan proses kehamilan. Tantangan kesehatan ibu dan anak telah tampak sebelum proses kehamilan. Peningkatan edukasi, sikap dan perilaku dari laki-laki maupun perempuan yang berhubungan dengan kesehatan prakonsepsi merupakan bagian penting dari asuhan prakonsepsi. Penelitian ini bertujuan untuk melihat pengaruh bimbingan pranikah terhadap pengetahuan dan sikap kesehatan prakonsepsi pada calon pengantin wanita di Kota Padang. Penelitian ini menggunakan metode quasi-experimental, pretest-posttest dengan melibatkan group kontrol. Teknik pemilihan sampel purposive sampling, berdasarkan kriteria inklusi dan eksklusi. Waktu dan lokasi penelitian September-November 2022 di tiga

Kantor Urusan Agama (KUA) (KUA Koto Tengah, KUA Kuranji dan KUA Padang Utara). Pengumpulan data menggunakan kuesioner yang telah diuji validitas dan reliabilitas. Kelompok intervensi diberikan materi edukasi yang berkaitan hukum pernikahan dalam islam dan kesehatan prakonsepsi dengan cara pemaparan klasikal dan diskusi dengan calon pengantin. Kelompok control hanya diberikan materi edukasi hukum pernikahan dalam islam. Hasil menunjukkan adanya pengaruh edukasi terhadap pengetahuan calon pengantin wanita pada kelompok intervensi dengan kelompok kontrol $p=0,00$. Namun edukasi pranikah tidak memiliki pengaruh terhadap sikap kesehatan prakonsepsi pada calon pengantin wanita kelompok intervensi dengan kelompok kontrol $p=0,59$). Kesimpulan, edukasi pranikah menunjukkan adanya pengaruh terhadap peningkatan pengetahuan kesehatan prakonsepsi pada calon pengantin wanita, namun tidak menunjukkan pengaruh terhadap sikap kesehatan prakonsepsi pada calon pengantin wanita.

Kata Kunci: *Edukasi pranikah; Pengetahuan; Sikap; Kesehatan Prakonsepsi*

INTRODUCTION

Marriage is the starting point in building a family. The family has eight functions described in Government Regulation Number 87 of 2014, one of the family functions is the reproductive function. The reproductive function is to regulate the reproduction of offspring in a healthy and planned manner so that they can give birth to a quality generation (BKKBN, 2014; Badan Pusat Statistik et al., 2017) Reproductive function is also related to the condition of women and men to be able to produce offspring, which begins with the process of pregnancy.

Challenges to the health of mothers and children have appeared before the process of pregnancy. WHO report explained that 4 out of 10 women do not plan their pregnancies, so that as a consequence the couple is late in getting essential health interventions (WHO and Johns Hopkins Bloomberg School of Public, 2018; World Health Organization.,

2013). Then the challenge in Indonesia is related to health, namely child marriage which is worrying where in 2021 there were 65 thousand incidents recorded and in 2022 there were 55 thousand applications for marriage at a young age (Ministry of Women's Empowerment and Child Protection of Republic Indonesia, 2023). Furthermore, the problem of anemia in 2018 that occurred in the age group 15-24 years and 25-34 years in non-pregnant women was 48.9% (Ministry of Health Republic Indonesia, 2018). The problem of sexually transmitted infections, especially HIV, has increased in the reproductive age group in 2020 (Ministry of Health Republic Indonesia, 2021).

An initial survey at the Padang City Health Office in 2020 found nutritional problems for prospective brides (CATIN), including anemia in 41 people and malnutrition in female CATIN in 73 people out of a total of 1,308 CATIN people who visited the reproductive health services of prospective

brides. Data from the Central Statistics Agency (BPS), there were 6,349 weddings in Padang City in 2020. In the same year CATIN who visited reproductive health services had not reached 50% of the total incidence of marriages in Padang City.

In addition, a preliminary survey on the implementation of pre-marriage education for brides and grooms was also carried out by the Padang City Ministry of Religion, with a one-year quota of 250 pairs of participants. Meanwhile, pre-marriage education at office of religious affairs in each subdistrict without quota participants. The difference is related to the material provided which is more solid and integrated in various fields, including religion, health, and socialization on prevention of domestic violence in marriage guidance organized by the Ministry of Religion of the City of Padang. However, both of them have not involved more comprehensive preconception health materials for pregnancy preparation.

Conditions for a healthy pregnancy require preparation and planning during the preconception period so as to reduce risks during pregnancy and childbirth, and to create a quality generation in optimizing the first 1000 days of life, growth and development of children (Dieny, Rahadiyanti and Kurniawati, 2019;

Zubaeda, Runjati and Suhartono, 2020). The bride and groom are in the optimal period to get preconception care services. Identifying biological, behavioral, and social threats to women's and their partners' health before fetal conception is known as preconception care. Promotive, preventative, and social intervention measures are presented in preconception care to enhance the health of expectant women and their unborn children (World Health Organization., 2013; American College of Nurse-Midwives, 2016).

Premarital education is one of preconception care services suggested by WHO and other health organizations. Increasing men's and women's knowledge, attitudes, and behavior toward preconception health is a critical component of preconception care, according to the Centers for Disease Control and Prevention (CDC) (Gavin *et al.*, 2014; CDC, 2023). In addition, one of crucial aspect of implementing health practices is enhancing partners' awareness, understanding and involvement (Mitchell and Verbiest, 2013).

Premarital guidance is a set of activities that give CATIN couples who are getting married information, comprehension and skills as well as increasing their awareness of reproductive health, general health and household life (Direktur Jenderal Bimbingan Masyarakat Islam, 2021).

Premarital guidance is supposed to influence several aspects of health behavior, namely knowledge and attitudes. Knowledge is the consequence of sensory activities associated with the learning process (Irwan, 2017). Attitude is a person's tendency to like or vice versa towards an object. Attitudes cannot be seen immediately, but attitudes are interpreted before behavior (Notoatmodjo, 2016; Amir, 2017).

Previously, in 2019 Priani and team conducted research on preconception education and discovered substantial variations in preconception knowledge among the intervention and control groups (Priani, Afiyanti and Kurniawati, 2019). Then Pertiwi and the team's 2020 research revealed that there was a significant difference in the average knowledge and preconception attitudes of prospective brides using booklets which were more dominant compared to video media (Pertiwi *et al.*, 2020). Furthermore, Oktalia and team (2021) discovered that more than 40% of CATIN couples believed that pregnancy health would occur naturally without preparation, and the findings showed that there were still CATIN couples who lacked sufficient knowledge about healthy pregnancy preparation and counselling. In contrast to previous research, this research compared the intervention group with the

control group and not only evaluated brides' knowledge but also examine the attitude of brides after receiving education. The aimed of this research was to verify the impact of premarital education on enhanced knowledge and attitudes of preconception health on brides in the city of Padang.

METHOD

Quantitative research uses methods that were *quasi-experimental*. Before starting education each group (intervention group and control group) was given a questioner, with the scope of preconception health. The intervention and control groups were divided according to the time of arrival. On the first day, respondents were assigned to the intervention group, and on the second day, respondents were assigned to the control group; there was no randomization process. After filling out the pre-test questionnaire, the intervention group were given premarital educational material related to marriage law in Islam and supplemented with preconception health education using lecture and discussion methods. The scope of preconception health educational materials includes: Introduction to the Concept of Preconception Care, Nutrition, Reproductive Rights and Gender, Risky Lifestyles, Mental Health and Family Planning. The control group were given

education after filling out the pretest questionnaire, the education related to the law of marriage in Islam (religious sphere) with the lecture method, without being given preconception health education. The provision of educational material was prepared by the researcher based on the scope of the preconception material being studied. The educational presentation was conducted only once and was not repeated. Data collection on preconception health knowledge and attitudes in both groups will be carried out before premarital counseling and after premarital counseling.

The research population was all Women's prospective brides (CATIN) at KUA Padang City. The intervention group had 49 samples, whereas the control group had 48. Purposive sampling approach is used to choose the sample, with specified inclusion and exclusion criteria. Inclusion criteria for this study were: 1) CATIN aged ≥ 20 years. 2) CATIN who is willing to be a respondent. 3) CATIN can read and write and communicate. Furthermore, the exclusion criteria: 1) CATIN who did not attend class to the finish. 2) CATIN who has received premarital education materials about preconception health. 3) CATIN who has been married before. 4) CATIN who works as a midwife, doctor, nurse.

The ethical committee has granted clearance for this research, permit number 942/UN.16.2/KEP-FK/2022. The research site were KUA in Koto Tengah District, KUA in Kuranji District and KUA in Padang Utara District. The study was conducted during September 2022 to November 2022. The preparation of the questionnaire began with consultations and discussions with experts, followed by the formulation of questions based on the indicators to be studied and in accordance with the material to be provided in the education. After that, the questionnaire was tested on prospective brides and grooms at the religious affairs office in Padang city. The collection of questionnaire test data was conducted over a period of 2 months, and after that, validity and reliability testing were carried out. Questions that are not reliable and not valid are discarded. Meanwhile, questions that are valid and reliable are retained. The Knowledge Questionnaire uses multiple choice tests, there are 27 valid questions with a reliability value (0.89). The attitude questionnaire uses a Likert scale, there are 18 valid questions with a reliability value (0.85). Research tools use laptops, infocus, printers, loudspeakers and stationery. Data processing was carried out with the help of SPSS version 26 software, using research analysis *Independent T-Test*, before

analyzing the data, the normality test was carried out.

RESULTS AND DISCUSSION

Table 1. Age of Respondent

Variable	Intervention Group			Control Group		
	frequency	Mean ± SD	Min- Max	frequency	Mean ± SD	Min- Max
Age	49	26,08±3,80	20-37	48	26,31±3,93	20-40

Table 1 showed the age of participants, that the average ages of participants in both the intervention and control groups was 26 years. Participants in both groups were minimum 20 years old, while the intervention group had maximum age 37 years compared to the control groups age of 40 years. From the table, it can be understood that the respondents' ages in early adulthood and on the reproductive age. Adult age is identified using Hurlock's (2015) theory of human development, which divides people into three groups: early adulthood (18–40 years), middle adulthood (40–60 years), and elderly adulthood (≥ 60 years). The respondents' average ages also indicated that they are in the optimal and ideal period for pregnancy to occur, based on the National Family Planning Health Agency (BKKBN) describing the ideal age for pregnancy to occur, which is 20-35 years. Age over time will affect mental maturity, rational thinking maturity and memory will increase and age

also affects the individual's life experience. Age is an enabling factor in influencing individual knowledge and attitudes (Notoatmodjo, 2016). Entering adulthood each individual has a developmental task, in early adulthood it is necessary to make changes in behavior and attitudes in order to be able to complete their developmental tasks and enter the next stage, in this phase individual developmental tasks include choosing a life partner and building a family, wanting to have offspring and carrying out the responsibilities of being a spouse or parents (Maulidya, Adelina and Hidayat, 2018; Putri, 2019; Sari, 2021). Age is another aspect of behavior wisdom that is specific to each person and is derived from years of experience. It is a component of cognitive and emotional growth (Indahti, 2019).

Table 2. Characteristics of Respondents

Characteristic	Intervention group		Control Group	
	<i>f</i>	Percentage	<i>f</i>	Percentage
Education				
Elementary	0	0%	1	2,1%
Junior High School	3	6,1%	4	8,3%
Senior High School	15	30,6%	18	37,5%
Bachelor degrees	31	63,3%	25	52,1%
Total	49	100%	48	100%
Information about health check-up				
No	21	42,9%	20	41,7%
Yes	28	57,2%	28	58,3%
Total	49	100%	49	100%
Participation on health check-up				
No	29	59,2%	27	56,3%
Yes	20	40,8%	21	43,8%
Total	49	100%	48	100%
Nutritional Status				
Very Thin (IMT<17,0)	1	2,0%	0	0%
Thin (IMT 17,0-18,4)	1	2,0%	1	2,1%
Optimal (IMT 18,5-25,0)	27	55,1%	22	45,8%
Fat (IMT 25,1-27,0)	8	16,3%	7	14,6%
Obesity (IMT >27,0)	12	24,5%	18	37,5%
Total	49	100%	48	100%

The characteristics of the respondents in the control group and the intervention group are detailed in table 2. Undergraduate-level of

education respondents made up the majority of both groups, accounting for 63.3% of the intervention group and 52.1% of the control

group. Information on premarital health examinations, more than 50% of respondents admitted that they had received this information. However, the percentage of respondents' involvement in performing health checks at pre-marriage service was still low: intervention group 40.8% and control group 43.8%. Furthermore, the nutritional status of the bride determined by body mass index, it is known that most of the respondents have optimal nutritional status, the intervention group had 55.1% and the control group had 45.8%. Based on the data collected, nutritional problems were still found in respondents who were nominated by the category of overweight problems in the intervention group of respondents who were 16.3% overweight and 24.5% obese; As for the control group, respondents who were overweight were 14.6% and 37.5% obese.

Education is one of the factors that influence individuals in understanding information, experience and influencing individual cognition so that it influences knowledge increase (Puspitasari, Nasution and Murniati,

2021). The close relationship between education and knowledge makes it a predisposing factor for health behavior (Notoatmodjo, 2016). The level of education is also one of the parameters for the index of human knowledge in Indonesia (Badan Pusat Statistik, 2020). According to Sulastris's research (2022), there is no statistically significant correlation between education and CATIN's knowledge of pregnancy preparation (p -value = 0.056). Furthermore, education is also a factor that influences the maturity of the age at first marriage, this is corroborated by research by Kurniawati and the team (2016) which shows that there is a relationship among educational level and maturity at the age of first marriage with the chi square result of X value.² count of 27.22 research results which are in line with the research of Anggraini, Sari and Damayanti (2021). The level of education affects behavior in deciding to marry, has more motivation to strive to achieve economic and career prosperity so as to reduce the phenomenon of early marriage (Kurniawati, Nurrochmah and Katmawanti, 2016; Puspitasari, Nasution and Murniati, 2021).

Table 3 The different result of knowledge before being given education and after education on intervention group compare control group

Variable	Group	f	Mean rank	Median	Min-Max	p-value
Pretest of knowledge	Intervention	49	53,31	67,00	19-89	0.128
	Control	48	44,60	61,11	4-85	
	Total	97				
Posttest of knowledge	Intervention	49	64,94	81,00	26-100	0.000
	Control	48	32,73	61,11	4-85	
	Total	97				

Table 3 show the results of the study show that before carrying out premarital education in the group intervention as well as the control group, statistically had knowledge of preconception health which was equivalent to a p-value of 0.128. Following premarital education, the results exhibited a substantial difference in preconception health knowledge between the intervention group and the control group (p-value = 0.000).

Knowledge is a contemplate learning process that uses the five senses to create "know" about an item examined by the human (Irwan, 2017). Knowledge is centered on the cognitive domain which emphasizes the intellectual aspects, and influences individuals in acting. Cognitive aspects grounded in Bloom's theory adjusted by Anderson and Krathwohl include six

levels, namely: remembering, comprehending, applying, analyzing, evaluating, producing (Irwan, 2017). There is additionally a cognitive theory that emphasize thinking, knowing, and comprehension as well as mental conceptualization processes including attitudes, beliefs, and expectations (Wisman, 2020). Then cognitive teaching, also known as cognitivism, is a kind of instruction that focuses on the learning process rather than the learning outcomes. Cognitivism theory utilizes complicated mental processes (Adhe *et al.*, 2023).

Cognitive activity in learning follows the process neuroscience. A branch of biology called *neuroscience* studies the structure and operation of the human brain, as well as memory consciousness and perception and

how it relates to learning in living organisms (Ikrar, 2015; Wijaya, 2018). Related research suggests that the brain and behavior are inseparable. The process utilized for converting information into long- and short-term knowledge starting with the sensory senses acquiring information, which is then filtered in the brain and entered into the lobes of the brain, in particular the cerebral cortex, which is responsible for memory retention. Memory will be stored as long-term memory if the information stimulation is repeated. It is long-term memory that makes changes and formation of behavior through knowledge of attitudes and practices (Adhe *et al.*, 2023).

Yuliana and the team's 2021 research regarding the effect of giving bride-to-be courses on CATIN's knowledge of reproductive health, this study both used the

same experimental research to show the results that health education had a significant effect on knowledge outcomes. This study showed the same thing with an increase in knowledge, with an average increase of 16.75 after giving and before giving education. Besides that, characteristically, the educational background of the respondents is similar, most of whom have completed higher education. The difference from previous research and current research lies in the group being tested, namely previous research only used 1 group (Yuliana *et al.*, 2021). Other studies that are in line with the current research conducted by Husna and team (2022) concluded that nutrition health education affects women's and men's CATIN knowledge with an average increase of 5.50.

Table 4 The different gain test of knowledge, on intervention group compare control group

Group	<i>f</i>	<i>Mean Gain ± SD</i>	<i>95% CI Lower -Upper</i>	<i>Mean Rank</i>	<i>p-value</i>
Intervention	49	16,12±15,75	11,59-20,65	67,34	0,00
Control	48	(-0,77) ± 8,12	(-3,13)-1,59	30,28	

Table 4 shows the results of the gain test to show an increase in the score of preconception health knowledge in respondents, the gain test is the difference in scores after premarital education and before premarital education. The mean gain and standard deviation in the intervention group was 16.12 ± 15.75 and the control group ($-0.77) \pm 8.12$. These results mean that the intervention group experienced an increase in the preconception health knowledge score

with an average of 16. Meanwhile, in the control group, the mean gain was a minus result which showed a decrease in score after premarital guidance education. A different gain test was carried out and the result was a p-value of 0.00 which indicated that there was a difference significant increase in preconception health knowledge in the intervention group compared to the control group.

Table 5 The different result of attitude before being given education and after education on intervention group compare control group

Variable	Group	<i>f</i>	<i>Mean rank</i>	<i>Median</i>	<i>Min-max</i>	<i>p-value</i>
Pretest of attitude	Intervention	49	44,52	71,00	46-89	0,112
	Control	48	53,57	76,00	47-89	
		97				
Posttest of attitude	Intervention	49	47,49	73,00	49-90	0,593
	Control	48	50,54	75,00	47-89	
		97				

Table 5 shows the preconception health attitudes of the respondents before receiving premarital education, the results obtained were a p -value of 0.112, which means that the preconception health attitudes in the intervention group were equal to the group before premarital education. Furthermore, after being given premarital education, a p -value of 0.593 was obtained, meaning that there was no significant difference in premarital education on preconception attitudes in the intervention group and the control group.

Attitude is a person's tendency to make choices about an object. Attitudes cannot be seen directly, but are interpreted in advance of behavior, where there is a suitability of the reaction from the stimulus obtained (Azwar, 2015; Notoatmodjo, 2018). Attitudes are formed from three interrelated components, namely cognitive, affective and cognitive (Azwar, 2015; Saifuddin, 2015). Emotional responses involve activity in the amygdala, while cognitive control of emotions is linked to activity in the prefrontal cortex, the front part of the brain behind the forehead, based on that makes knowledge relevant and able to influence an attitude (King, 2014).

Preconception nutritional counseling's impact on CATIN's food selection behavior was the subject of earlier research by

Rutdamayanti and the team in 2022. The study found that there was a significant impact of education on enhancing CATIN attitudes between the intervention group and the control group, with scores $p=0.00$. Review more deeply from the research, where the respondents' features include a high degree of education from senior high school and a majority of reproductive age (20–30 years). The method used by this research by providing material with repetition 3 times a week, effectively shows a change in attitude for prospective brides who attend counseling (Rutdamayanti, Maretta and Andhikantias, 2022).

The results of the research by Rutdamayanti and the team have differences in the current study, namely differences in the results of changes in respondents' attitudes after being given information (education) exposure. These incidents can be understood and analyzed, as the theory presented by Gerungan (2004) cited in Azwar (2015), there are internal and external factors that influence attitudes. Internal factors include education, previous experience, perception, culture then external factors namely mass media, group interaction, intense communication so that the information obtained and given can shape perceptions, suggestions of motivation and trust. (Azwar, 2015; Saifuddin, 2015).

Research by Rutdamayanti and the team is that there is a process of repeating information exposure and forming intense communication using a period of time so that it can change CATIN's perceptions and beliefs, then a change in attitude occurs. Whereas there was no way to repeat premarital education with preconception health materials in this study, extensive preconception health material was presented and discussed in a 100-minute session. The attitudes of brides in this study cannot be substantially changed by giving them information in a short amount of time and then allowing them to process and comprehend it differently.

Furthermore, attitudes can theoretically change based on an individual's perception of preconception health. Perception is an idea that individuals believe comes from the process of identifying and interpreting an exposure to information or stimulus. Reception of the stimulus is realized by using sense organs such as sight, hearing, taste, touch and smell. Individuals' perceptions are determined by their brain activity selection process, which is impacted by their experiences, thought patterns, present situation, and social interactions.

So that the finally results obtained at this study showed no difference in attitudes among the intervention group and the

control group after premarital guidance. The conditions for the findings in this study are in accordance with the presentation of the cognitive theory expressed by Greenwald (1968); Petty and team (1981) cited in Wisman (2020) cognitive response analysis, which aims to comprehend how people think in response to persuasive stimuli, how their ideas and cognitive processes influence whether they undergo an attitude shift, and how much of a change they do experience. In this instance, the persuasive stimulus is premarital education within the framework of preconception health materials. Furthermore, Kurt Levin was quoted by Yuliana and Tyas (2022) arguing that human behavior is a product of interaction among people and their environment, and is impacted by the many features of each human being. Gibson quoted by Yuliana and Tyas (2022) argues that human behavior is defined as attitudes or actions and everything that humans do, such as talking, walking, exchanging opinions.

Theories that describe how the elements that have a role in influencing health behaviour, one of them is the theory of reasoned behavior (theory of reasoned action). Theory of reasoned action by Ajzen and Albarracin (2007), Ajzen and Fishbein (2005) cited in King (2014) implies that in order for change to be effective, people must be passionate about their actions, have a positive attitude

about the change in behavior, and believe that their community perceives the new behavior positively. Furthermore, the cognitive dissonance theory says that individuals have a strong need to be consistent with behavior. This theory was developed by Festinger in 1957 regarding individual psychological discomfort caused by inconsistent thoughts. Cognitive dissonance can lead individuals to justify negative things done in order to maintain that the individual is a good and logical being. Cognitive dissonance in individuals can be reduced by changing attitudes to match the individual's current behavior or vice versa changing behavior to match attitudes (Nurhadi, 2020). The next hypothesis is self-perception, which holds that attitudes are not always obvious, even to the individual (King, 2014).

CONCLUSION

It may be Inferred from the results and discussion that both of groups brides were on average 26 years old and have completed higher education. Most of the respondents had received information about pre-wedding health checks but the results were not the inversely proportional to the actions of respondents in pre-wedding health checks, their participation was still low. Furthermore, based on the characteristics of the respondents, problems were still found nutritional excess in prospective brides both

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of groups. Premarital education is verified significantly gain the intervention group's knowledge of preconception compared to the control group. However, premarital education is not verified improve preconception health attitudes in prospective brides.

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