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The Influence of Health Education and Prevention of Complications Program Using Wa Group on the Attitudes of Pregnant Women in the III Trimester in Preparing for Birth in the District Kuala Samboja In 2023

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A R T I C L E I N F O

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A B S T R A C T

AKI in Indonesia is still high, mainly due to direct causes such as hemorrhage, infection, eclampsia, and others. Preparation for childbirth through P4K is necessary, but in practice, many mothers are not adequately prepared to face childbirth, thus requiring education, including through WhatsApp (WA) groups. To analyze the influence of health education from the Maternity Planning and Complications Prevention Program (P4K) using WhatsApp groups on the attitudes of third-trimester pregnant mothers regarding childbirth preparation in Kuala Samboja Village in the year 2023. This study employed a quasi-experimental design with a nonequivalent control group design. The research population consisted of 82 third-trimester pregnant mothers in Kuala Samboja Village from January to March 2023. The sampling technique used the estimation formula, resulting in a sample size of 20 participants. The measurement instruments utilized were the SAP (Scale of Attitude towards Pregnancy) and a questionnaire. Data analysis was performed using the Mann-Whitney test. The description of attitudes among third-trimester pregnant mothers before the intervention in the treatment group had a mean value of 37.10, and after the intervention, the mean value was 64.60. The description of attitudes among third-trimester pregnant mothers before the intervention in the control group had a mean value of 36.00, and after the intervention, the mean value was 53.65. There is a significant difference in attitudes among third-trimester pregnant mothers between the WA Group and the leaflet group in preparing for childbirth, with a significant p-value of 0.000. Education using WhatsApp (WA) Groups is more effective compared to leaflets because the social media platform WA is easier to use and enhances mothers' attitudes towards childbirth preparation

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INTRODUCTION

The Maternal Mortality Rate (MMR) reflects the risks faced by mothers during pregnancy and childbirth which are influenced by the mother's nutritional status, socio-economic conditions, poor health conditions before pregnancy, the incidence of various complications during pregnancy and birth, the availability and use of health care facilities including health services. prenatal and obstetrics. The high maternal mortality rate indicates low socio-economic conditions and low health service facilities including prenatal and obstetric services (Ministry of Health of the Republic of Indonesia, 2020). Most maternal deaths are caused by direct causes, namely bleeding, infection, eclampsia, prolonged labor and abortion complications. In addition, maternal deaths are also caused by low levels of knowledge, attitudes, education, parity, too young a birth age, too frequent births. , too old to give birth (Depkes RI, 2020). The Minister of Health launched the Childbirth Planning and Complication Prevention (P4K) Program with stickers which is a new breakthrough in accelerating the reduction of maternal and newborn mortality rates through activities to increase access and quality of services as well as community building activities, awareness of childbirth preparation and action in saving mothers and babies newborn (Runjati, 2018).

The Childbirth Planning and Complication Prevention (P4K) Program is an activity facilitated by village midwives in order to increase the active role of husbands, families and communities in planning safe births and preparation for complications for pregnant women, including planning the use of post-natal contraceptives using stickers as a targeted notification medium in order to increase the coverage and quality of health services for mothers and newborns (Runjati, 2018). Delivery Planning and Complication Prevention Program (P4K). P4K activities are an effective instrument in achieving the Millennium Development Goals (MDGs) targets, especially in terms of reducing MMR, which has been integrated as an activity of the standby village. The contents of the P4K are the mother's name, estimated delivery, birth attendant, place of birth, birth companion, transportation and prospective blood donor (MOH RI, 2020).

The role of midwives in implementing the Childbirth and Complication Prevention Program (P4K), namely midwives register pregnant women, midwives together with cadres or shamans make contact with pregnant women, husbands and families to agree on filling out stickers including the use of post-natal family planning, midwives provide counseling to pregnant women, husbands and families regarding the Childbirth Planning and Complication Prevention (P4K) Program, especially in agreeing on the contents of the sticker up to the post-natal contraceptive equipment which must be recorded in the birth order which is carried out in stages held by health workers and the Maternal and Child Health (KIA) book which is held directly by pregnant women (Maryunani, 2019). The attitude of pregnant women in implementing the Childbirth Planning and Complication Prevention (P4K) Program is very important because they can know that there is a safe delivery, there is a plan to use contraception after giving birth that is agreed upon between the pregnant mother, husband, family and midwife (Runjati, 2018).

Pregnant women and their families have a birth plan and family planning that is made together with the birth attendant, the family prepares for the birth both materially and environmentally (socially, culturally), the husband during pregnancy until delivery, his wife always plays an active role in increasing the readiness of pregnant women in Facing childbirth explains that in facing childbirth the husband has a big role, such as determining whether the birth will be assisted by a midwife or doctor, saving for the cost of giving birth, asking the midwife or doctor when the estimated date of delivery is, asking for an explanation regarding the initiation of early breastfeeding and exclusive breastfeeding, preparing a vehicle if at any time mother and baby need to go to hospital immediately (Maryunani, 2019).

The number of obstetric complications from the Kutai Kartanegara District Health Service in 2021 was 126,806 (20%) of the number of pregnant women). The coverage of obstetric complications handled in 2021 was 90.81 with a total of 22 maternal deaths caused by bleeding, preeclampsia/eclampsia, infection, obstructed labor and abortion. The coverage of obstetric complications handled in 2021 has exceeded the 2021 SPM (Minimum Service Standards) target of 80% (Kutai Kartanegara District Health Office, 2021).

Maternal deaths usually occur because they do not have access to quality maternal health services, namely emergency services on time, with a background of being late in recognizing danger signs and making decisions, being late in reaching health facilities, and being late in getting services at health facilities and choosing to deliver to a traditional birth attendant. where based on data from the Samboja Community Health Center, the number of births to traditional birth attendants is still more than 20% (Samboja Community Health Center, 2022).

Research conducted by Monika & Septiawan (2021) on the Determinants of the Utilization of the Birth Planning Program for Prevention of Complications in Pregnant Women explains that maternal death is caused by complications during pregnancy and after childbirth and is exacerbated by the absence of follow-up during ANC examinations. The main complications that account for nearly 75% of all maternal deaths are bleeding, infection, hypertension during pregnancy, and complications of unsafe abortion and birth assisted by traditional birth attendants, the rest are caused by or related to diseases such as malaria and AIDS during pregnancy.

Data from the Samboja Health Center, the K1 coverage is 75%, the K4 coverage is 90% and the delivery coverage at health facilities is 85%, from the Health Service data it shows that many pregnant women at the Samboja Health Center are still many who have not carried out the Birth Planning and Complication Prevention Program (P4K).) (Samboja Health Center, 2021).

Insyiah's research (2022) concerning the Birth Planning and Complication Prevention (P4K) Program at the Community Health Center explains that the implementation of P4K has not run optimally in terms of the aspects of communication, resources, disposition, and bureaucratic structure, that is, so far there has been no outreach to family and society as well as mother's attitude pregnant, the availability of human resources is still insufficient, there is no allocation of funds to support P4K socialization activities, there are no extension

support facilities in the form of brochures, leaflets, and teaching aids at Pukesmas and there is no SOP for P4K. Birth Planning and Complication Prevention Program (P4K) at the Health Center.

One of the problems faced by pregnant women is the lack of a positive attitude regarding the Birth Planning and Complications Prevention Program (P4K) so that many pregnant women ignore the program and have an impact on mother's health. For this reason, it is necessary to increase the attitude of mothers towards the P4K program through health education (Yusenta et al., 2020). Currently the use of the Whatsapp (WA) application can help facilitate the delivery of health education because it is effective for conveying information because it is easy and inexpensive to use. The use of the WA application has now become an option in providing information (Yusenta et al., 2020). The results of research conducted by Kholisotin et al (2019) concluded that there was an influence on the attitudes of third-trimester pregnant women before and after being given Whatsapp video-based counseling about childbirth in the working area of the Klabang Health Center, Bondowoso Regency.

From the results of the preliminary study conducted by the researchers in Kuala Samboja Village through interviews with 10 pregnant women, as many as 8 pregnant women had not prepared for delivery both materially and psychologically and had not chosen a place of delivery, while 2 mothers had prepared for delivery and had chosen a place of delivery. . They consider that preparation for childbirth is not very important because they already have previous experience. Based on the background description above, researchers are interested in conducting research on the effect of health education on the Birth Planning and Complication Prevention Program (P4K) using WA groups on the attitudes of pregnant women in preparing for childbirth in Kuala Samboja Village in 2023.

LITERATURE REVIEW

Childbirth readiness is a condition that a pregnant mother has physically, mentally and emotionally to face childbirth (Sarwono, 2017). The Indonesian Ministry of Health (2018) noted that factors influencing the implementation of P4K are economic status, education, support from health workers, perceptions and attitudes. Health education is an important feature and part of the role of professional health workers, for example nurses or midwives, in health promotion and disease prevention (preventive) efforts (Nursalam, 2018).

Health education using WA group media provides information about childbirth preparation so that it can improve pregnant women's attitudes towards birth planning. The attitude of pregnant women in implementing the Childbirth Planning and Complication Prevention (P4K) Program is very important because they can know that there is a safe delivery, there is a plan to use contraception after giving birth that is agreed upon between the pregnant mother, husband, family and midwife (Runjati, 2018).

For more details, see the following theoretical framework chart:

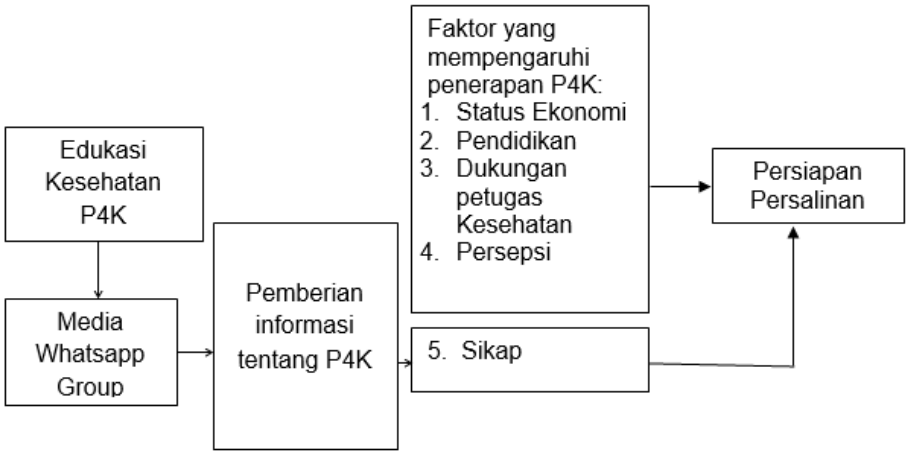


Figure 1. Theoretical Framework Republic of Indonesia Ministry of Health (2018)

1. Birth Planning and Complication Prevention Program (P4K)

In 2017, the Minister of Health planned P4K with stickers, which was a breakthrough effort to accelerate the reduction in maternal and newborn mortality rates. Through activities to increase access and quality of services, which are also activities that build community potential, especially community awareness to participate in preparations and actions to save mothers and newborn babies. The P4K program is a priority in reducing MMR in Indonesia, this is supported by the Minister of Health Circular No. 2008 concerning the acceleration of the implementation of P4K by affixing stickers (Depkes RI, 2020).

2. Health Education

a. Understanding

Health education is a consciously planned process to create opportunities for individuals to continuously learn to improve their awareness and increase their knowledge, abilities and skills for the benefit of their health (Nursalam, 2018).

Health education is basically to increase the level of health (well-being), reduce dependency, and provide opportunities for individuals, families, groups and communities to actualize themselves and in an effort to maintain an optimal state of health (Nursalam, 2018).

Health education is an important feature and part of the role of professional health workers, for example nurses or midwives, in health promotion and disease prevention (preventive) efforts which have been carried out since the time of Florence Nightingale in 1959, and this form of activity can be carried out in hospitals or outside hospitals. (non-clinic) which can be carried out in places of worship, maternal and child health centers, public service places, shelters, community organizations, school health care organizations, elderly homes, and mobile health units (Nursalam, 2018).

3. WhatsApp Media

a. Understanding WhatsApp

WhatsApp is a message-based messaging application for smartphones with basic similar to blackberry messenger. WhatsApp Messenger is a cross-platform messaging application that allows us to exchange messages without SMS fees, because WhatsApp Messenger uses the same internet data plan for email, web browsing, and so on. And compared to other online chat applications, WhatsApp remains the most widely used chat application. Social media WhatsApp, which is often abbreviated as WA, is one of the communication media that can be installed on smartphones. This social media is used as a means of chat communication by sending text messages, pictures, videos and even telephone calls. The existence of WhatsApp social media is one proof of technological and communication developments that must be responded positively (Makarima, 2019).

Some of the advantages of using WhatsApp social media, among others; First, WhatsApp has a feature to send pictures, videos, sounds, and GPS locations via GPS hardware or Gmaps. Those media can be viewed directly not as a link. Second, integrated into the WhatsApp system, like SMS, you don't need to open the application to receive a message. Incoming message notifications when the cellphone is off will still be delivered if the cellphone is on. Third, Message status; the red clock for the loading process on the cellphone has a check mark (√) if the message has been sent to the network, then a double check mark (√√) appears if the message has been sent to a chat friend. There is a red cross if the message sent fails. Fourth, Broadcats and Group chat Broadcast to send messages to many users. Group chat to send messages to fellow members of the community. Fifth, saving bandwidth. Because it is integrated with the system, there is no need to log in and load contacts/avatars, so that data transactions are even more economical. The application can be turned off and only active when there is an incoming message so it can save battery (Makarima, 2019).

Figure 2. WhatsApp Groups

4. Attitude

a. Understanding Attitude

Attitude according to (Azwar, 2019) is a general evaluation that humans make of themselves, other people, objects or issues. Attitude is a reaction or response of someone who is still closed to a stimulus or object (Notoatmodjo, 2019). Attitudes are views or feelings that are accompanied by a tendency to act according to the object's attitude (Wawan and Dewi, 2019).

5. Preparation for Childbirth

a. Understanding Childbirth Preparation

Readiness is a condition possessed by both an individual and a body in preparing themselves both mentally and physically to achieve the desired goals. Readiness includes physical, mental and emotional readiness (Slameto, 2018). Childbirth readiness is a condition that a pregnant mother has physically, mentally and emotionally to face childbirth (Sarwono, 2018).

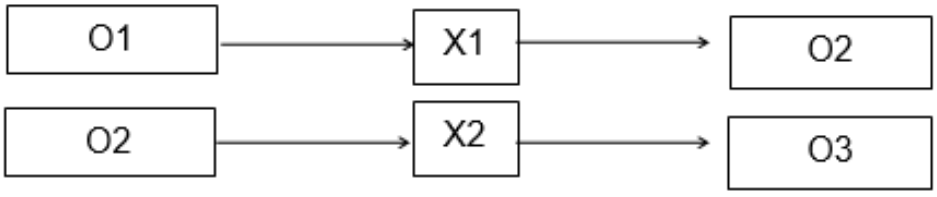
The high maternal mortality rate is caused by a lack of preparedness for childbirth. Research by the Johns Hopkins Program for International Education in Gynecology and Obstetrics (JHPIEGO) in 2014, this was due to the inadequate or lack of readiness of mothers in labor to give birth and readiness to face emergencies, which are key components of maternal safety programs globally. Birth preparedness helps ensure that women can reach professional birth services when labor begins and reduces delays that occur when women experience obstetric complications.

METHODOLOGY

A. Type and Research Design

This type of research is quantitative research. This type of quantitative research is research that examines causal relationships using statistical analysis. The research design used was quasi experimental. According to (Nazir, 2019), this quasi-experimental research has the characteristics of a true experimental design, because the variables that should be controlled or manipulated cannot or are difficult to do. Therefore, the validity of the research is insufficient to be called a true experiment (Notoatmodjo, 2012).

Researchers used a Nonequivalent Control Group Design, namely giving a pre-test to a group before being given treatment and giving a post-test after being treated. In this way, the results of the treatment can be known more accurately, because it can be compared with the situation before the treatment was given (Sugiyono, 2014).



Figur 3. Research Design Nonequivalent Control Group Design

Information:
O1: pretest before the treatment of the WA group
O2: pretest before the Leaflet group treatment
X1: Treatment given by WA Group
X2: Treatment given by leaflet
O2: posttest after WA group treatment
O3: posttest after Leaflet treatment

Population and Sample

Population

The population is all research objects that have certain qualities and characteristics determined by the researcher to be studied (Sugiyono, 2017). The population in this study was all third trimester pregnant women in Kuala Samboja Village for the period January 2023 - March 2023, totaling 82 pregnant women.

Samples

A sample is a part or fraction of a whole, or part of a whole set, chosen by a researcher to participate in research (Heryana, 2019).

The determination of the sample size in this study uses a sample size estimation formula for research which aims to test the hypothesis of differences between two groups of independent variables, namely:

This design can be described as follows.

$$n = \frac{2\sigma^2(z_1 - \alpha + z_2 - \beta)^2}{(\mu 1 - \mu 2)^2}$$

Information:
n = Sample Size
z_1-α = Standard normal deviation for α
z_2-β = Standard normal deviation for β
μ1-μ2 = Minimum difference in mean (mean) which is considered significant
σ = standard deviation (obtained from previous studies)

In this study, researchers determined:
The level of significance (α) is 0.05 (normal standard deviation α = 1.96).
The power of test is 80% (β = 1 – 0.8 = 0.2) with a normal standard deviation β = 0.842).

The standard deviation obtained in the intervention group was 6.4. With the difference from the mean of the control group and the intervention group (40.47 – 34.2 = 6.27).

By using the formula above, the sample calculation is:

$$N1 = N2 = 2\left[\frac{(Z\alpha + Z\beta)S}{\mu 1 - \mu 2}\right]^2$$

$$N1 = N2 = 2\left[\frac{(1{,}96 + 0{,}842)\,6{,}4}{(6{,}27)}\right]^2$$

$$N1 = N2 = 2\left[\frac{(2{,}802)\,6{,}4}{(6{,}27)}\right]^2$$

$$= 16{,}36 = 16$$

Then each group obtained the results of 16 samples.
Taking into account the dropout which is estimated at 10%, the required sample size is:

$$n^1 = \frac{n}{(1-f)} \rightarrow n^1 = \frac{16}{(1-0,1)}$$

$$n^1 = 17,778 = 18$$

Because the study used 2 groups, the number of each group was 18 people so that the total sample was 36 people. In taking the sample, the risk of dropping out is 10% of the total sample so that the total sample becomes 36 x 10% = 36 + 3.6 = 39.6 = 40. So the number of samples for each group is 20 respondents.
The inclusion criteria in this study are:

a. Pregnant women who are willing to be respondents
b. Pregnant women domiciled in Kuala Samboja Village
c. Pregnant women who are willing and provide their time to be respondents are conducted through the Whatsapp group
d. Pregnant women who have an Android cellphone for the Whatsapp application
e. TM III pregnant women who have high risk and risk factors

The exclusion criteria in this study were:

a. Pregnant women who were not present at the time of the study
b. Uncooperative pregnant women

The sampling technique that will be used is consecutive sampling. Consecutive sampling is the best type of nonprobability sampling, and is often the easiest way. Most clinical research (including clinical trials) uses this technique for subject selection (Sastroasmoro and Ismael, 2018). By using this technique, the population has the same opportunity to do research that meets the inclusion criteria as a research sample.

Research Variables and Operational Definitions

1. Identify Variables

The research variable is anything in any form that is determined by the researcher to be studied so that information is obtained about it and then a conclusion is drawn (Sugiyono, 2017). The variables in this study consist of:

a. Independent Variables (independent) are variables that affect or become the cause of changes or the emergence of the dependent variable. The independent variable in this study was health education via the Whatsapp group.
b. The dependent variable (dependent) is the variable that is affected or is the result, because of the independent variable, the dependent variable in this study is the attitude toward childbirth preparation.

2. Operational Definition

Operational definition is a definition based on the characteristics observed with something that is defined (Nursalam, 2018). Operational definition is a definition based on the observed characteristics of something that is defined. It can be observed that it is possible for researchers to make careful observations or

measurements of an object or phenomenon which can then be repeated by other people (Nursalam, 2018).

Table 1. Operational Definition of Research Variables

1	2	3	4	5
Sikap Persiapan Persalinan	Respon atau tanggapan ibu hamil mengenai persiapan persalinan oleh ibu selama kehamilan dengan indikator: a. Menerima b. Merespon c. Menghargai d. Bertanggung jawab	Kuesioner dengan skala Likert	Skor sikap : 1. Mean 2. Standar Deviasi 3. Minimum 4. Maksimum	Ratio
Edukasi kesehatan menggunakan WA group	Pemberian informasi oleh tenaga kesehatan mengenai P4K meliputi pengertian P4K, tujuan P4K, manfaat P4K, sasaran P4K, output P4K dan persiapan persalinan ibu menghadapi persalinan menggunakan media aplikasi *whatsapp* yang dilakukan secara berkelompok atau group	SAP P4K	Dilakukan sesuai SAP	-

Data Sources and Research Instruments

Data Source

The method of collecting data in this study is as follows:

a. Primary Data

Primary data is data directly collected by the researchers themselves. In this research, primary data is in the form of a questionnaire for attitudes using a Likert scale with answers of strongly agree, agree, disagree and strongly disagree. Favorable and unfavourable question forms.

b. Secondary Data

Secondary data is data that is not directly collected by researchers but uses data that has been collected by other people which is considered valid. Secondary data is a data source that does not directly provide data to data collectors or researchers, for example through other people or documents (Sugiyono, 2017). The secondary data in this study is the data on the number of pregnant women.

Research Instrument

Research instruments are tools chosen and used by researchers to collect data so that the activities are systematic and can make things easier for researchers (Nursalam, 2018).

a. The instruments used in the research are the following independent variables, namely P4K health education according to SAP.

P4K health education is the process of conveying information and providing understanding to pregnant women in a group manner using the WhatsApp group application. The material in WhatsApp and leaflets contains material about P4K. Health education and preparation for childbirth is carried out through the opening, content and closing stages which are carried out once at the first meeting and evaluated at the next meeting on the 15th day (2 weeks) after the intervention.

b. The instrument used in research for the dependent variable is a questionnaire using a Likert scale. A questionnaire is a data collection technique that allows researchers to study and find out the attitudes, behavior and characteristics of several people, in this casethe questionnaire contains several questions about attitudes toward childbirth preparation. The technique used is the first assessment (pretest) and post test after health education is carried out.
For the Likert scale favorable question:
a. If the respondent chooses the answer Strongly Agree, give a score of 4
b. If the respondent chooses the answer Agree, give a score of 3
c. If the respondent chooses the answer Disagree, give a score of 2
d. If the respondent chooses the answer Strongly Disagree, give a score of 1
For Likert scale unfavorable questions:
a. If the respondent chooses the answer Strongly Agree, give a score of 1
b. If the respondent chooses the answer Agree, give a score of 2
c. If the respondent chooses the answer Disagree, give a score of 3
d. If the respondent chooses the answer Strongly Disagree, give a score of 4

Table 2. Attitude Instruments Grid

Indicator	Question Items		Amount
	Favourable	*Unfavourable*	
Accept	1,2,3	4,5	5
Respond	6,7,8	9,10	5
Value	11,12,13	14,15	5
Responsible	16,17,18	19,20	5
Amount			20

Research Procedures
1. Manage and request a letter of introduction to the Samarinda Ministry of Health Polytechnic for research.
2. Researchers apply for permission to Kuala Samboja Village to conduct research by submitting a research permit from the East Kalimantan Ministry of Health Samarinda Polytechnic.
3. After obtaining permission, the researcher began conducting research by determining the research sample taken by consecutive sampling, namely pregnant women in the third trimester who met the inclusion criteria.
4. Prospective respondents must fill in the informed consent given as a sign of approval to become a respondent.
5. After the researcher explained the purpose of the research, the respondent filled out and signed an informed consent.
6. Researchers conducted health education using WA Group media and leaflets so that in taking samples the researchers divided respondents into 2 groups.
7. Respondents were gathered in the pregnant women's class and then given health education about P4K for 1 hour and then divided into 2 randomly selected groups.

8. The intervention group consisting of 20 people was included in the WA group while the control group was given leaflets of 20 people.
9. The intervention was carried out for 2 weeks in both the experimental group and the control group.
10. In the experimental group, every week for 2 weeks, materials will be given about P4K and childbirth preparation, discussions and questions and answers.
11. In the leaflet group, pregnant women can consult directly with researchers.
12. After 2 weeks of conducting the research, a post-test measurement was carried out regarding the attitude of preparing for childbirth.
13. Attitude was measured at the beginning of the meeting and the data was used as pre-test data for both the WA group and the leaflet group.
14. The next measurement for attitudes regarding childbirth preparation will be carried out 2 weeks later by the researcher collecting respondents again and measuring attitudes regarding childbirth preparation, post test data collection will be carried out directly and also using Google forms.
15. The results of the data obtained will be analyzed and the researcher will draw conclusions from the processed data.

Instrument Testing Techniques

Instrument testing was carried out on questionnaires that had been made regarding attitudes about childbirth preparation. Instrument testing was carried out by 20 respondents who had the same characteristics, namely pregnant women.

Validity Test

Validity is an index that will show that the measuring tool really measures what is being measured (Notoatmodjo, 2018). An instrument is said to be valid if it is able to measure what is desired, can reveal data from the variables studied accurately (Arikunto, 2018). To determine the validity of the instrument, it is usually done using the Pearson Product Moment formula, which is a way to correlate the score of each variable with the total score. The instrument test was carried out in different places as many as 20 people. The Pearson Product Moment correlation formula (Machfoedz, I., & Suryani, 2018)

$$r = \frac{n\,(\sum xy) - (\sum x \sum y)}{\sqrt{(n \sum x^2 - (\sum x)^2\,(n \sum y^2 - (\sum y)^2)}}$$

Information:
r = Correlation coefficient
n = Number of respondents
∑x = Value of each question
∑y = The total number of questions
Test results:
If r count (r Pearson) ≥ r table (0.361 because N 30) it means that the statement is valid
If r count (r Pearson) < r table (0.361 because N 30) means the statement is invalid.

Reliability Test

Reliability is the similarity of measurement or observation results if the facts or realities of life are measured or observed many times at different times (Nursalam, 2018). A scale is considered reliable, that is, it can be trusted if it consistently gives the same results at different times.

Knowing the results of reliability by comparing the value of r count with r table. The reliability formula uses the Alpha Cronbach formula which is used to find the reliability of instruments whose scores are not 1 or 4, for example questionnaires or questions in the form of descriptions.

In this research, the reliability test of the instrument was used on a Likert scale using the Alpha Cronbach formula (Sugiyono, 2017).

$$r_{11} = \frac{(k)\,(1 - \sum \sigma_b^2)}{(k - 1)\,\sigma^2 t}$$

Information:

r11 = instrument reliability

k = the number of questions or the number of questions

$\sum \sigma b^2$ = total variance of the items

$\sigma^2 t$ = total variance

Test results:

a. If r count > 0.60 it means that the statement is reliable

b. If r count < 0.60 it means the statement is not reliable

3. Instrument Test Results

The attitude instrument consisted of 20 question items using a Likert scale which were tested on 30 respondents. The results obtained were 2 invalid question items because they had a value of r count <r table 0.361, namely question items number 7 (0.295) and 13 (0.097), so these items were discarded. so that the number of valid question items is 18 question items. The results of the reliability test obtained a value of 0.928 > r 0.600, so that the instrument was declared reliable.

Data Processing Techniques and Data Analysis

Compilation of Data

(Notoatmodjo, 2019), explains that the process of data processing activities (data processing) consists of 3 (three) types of activities, namely:

Checking Data (Editing)

The collected data were examined in the form of observation sheets, questionnaires, cards, books and others. This activity includes the following:

1) Calculation of data.

2) Sum of data.

In this study the researcher counted observation sheets, questionnaire sheets or a list of questions that had been filled in, the aim was to find out whether all the required data had been filled in completely or not.

Correct

Included in this correction activity is to see things as follows:

1) Check the completeness of the data

2) Check data continuity
3) Checking the uniformity of data

In this study the researcher made corrections to the data that had been entered into the data table in the form of raw data and saw whether the data entered was correct or not.

Code (Coding)

Facilitating data processing, all answers or research data are considered very necessary to be simplified so that when data processing can be done easily. One way to simplify the research data is to give certain symbols for each classified data given a score of 1,2,3,4 and so on and then enter it into the SPSS program.

Data Tabulation (Tabulating)

Data tabulation is arranging and organizing in such a way that it can be easily added up, arranged and presented in the form of tables or graphs. Implementation is carried out by:

a. Manuals
b. Electronic (computer)

Data tabulation is carried out both manually and by computer. Manual tabulation is carried out when recapitulating respondent data. After it has been recapitulated manually and recorded on paper, the recap is then carried out electronically by manually entering the data into the Excel computer program.

Data Cleaning (Cleaning)

When all data from each data source or respondent has been entered, it needs to be checked again to see the possibility of code errors, incompleteness, etc., then corrections or corrections must be made.

Data Analysis

Data analysis was carried out using a computer software program. Data analysis in this study used univariate analysis and bivariate analysis. Before using univariate and bivariate analysis, a data normality test was carried out.

a. Data Normality Test

The data normality test is carried out to find out whether the data follows a normal distribution or not. The normality test is part of the test requirements for statistical analysis of basic assumptions. In this study, the normality test used was the Shapiro Wilk test because the sample size was <50 people. The normality test was analyzed using computerization.

b. Univariate Analysis

The purpose of this analysis is to explain the picture of attitudes among those given health education using WA and leaflets by displaying them in the form of mean values, standard deviation, standard error as well as minimum and maximum values. To get the value of the dependent variable, namely change in attitude, there are several values that will be used, namely the mean and median. These values are called the middle value (central tendency).

c. Bivariate Analysis

Bivariate analysis was carried out to determine differences in attitudes before and after health education was carried out with the WA group. The data analysis test used is the independent t-test to see differences in attitudes between those

given health education using WA groups and leaflets. If the data is not normally distributed, use the Mann Whitney test.

Research Ethics

Researchers need to obtain recommendations from their institution for other parties by submitting a request for permission to the institution/institution where the research is conducted and in carrying out the research, the researcher still pays attention to the ethical principles of research in accordance with the National Guidelines for Health Research Ethics (2007), including:

1. Respect for persons (The principle of respecting human dignity) Is a form of respect for human dignity as individuals who have freedom of will or choice and are at the same time personally responsible for their own decisions.
2. Researchers respect the rights of research subjects, whether the subject is willing to take part in the research or not, by providing an Informed Consent (consent sheet) to the research subject.
3. Beneficence (the ethical principle of doing good).

Research is carried out by seeking maximum benefits with minimum losses, research risks must be reasonable compared to the expected benefits, meet scientific requirements, researchers are able to carry out research and at the same time be able to maintain the welfare of research subjects and not cause harm or do things that are detrimental (non-maleficence, do no harm) research subjects.

4. Justice (the ethical principle of justice).

The research carried out treats research subjects with correct and appropriate morals, pays attention to the rights of research subjects as well as a balanced and fair distribution of the burdens and benefits of participation in research.

5. Balancing harms and benefits (paying attention to the benefits and losses incurred). Researchers carry out research in accordance with research procedures to obtain results that are as beneficial as possible for research subjects and can be generalized at the population level (beneficen). Researchers minimize adverse impacts (nonmaleficence).
6. Confidentialy (secrecy)

The confidentiality of the information that has been collected from the respondents is guaranteed by the researcher. The data will only be presented or reported to parties related to the researcher.

I. Research Flow

The research flow contains the research journey so that it makes it easier for the reader to understand the stages of the research as can be seen below:

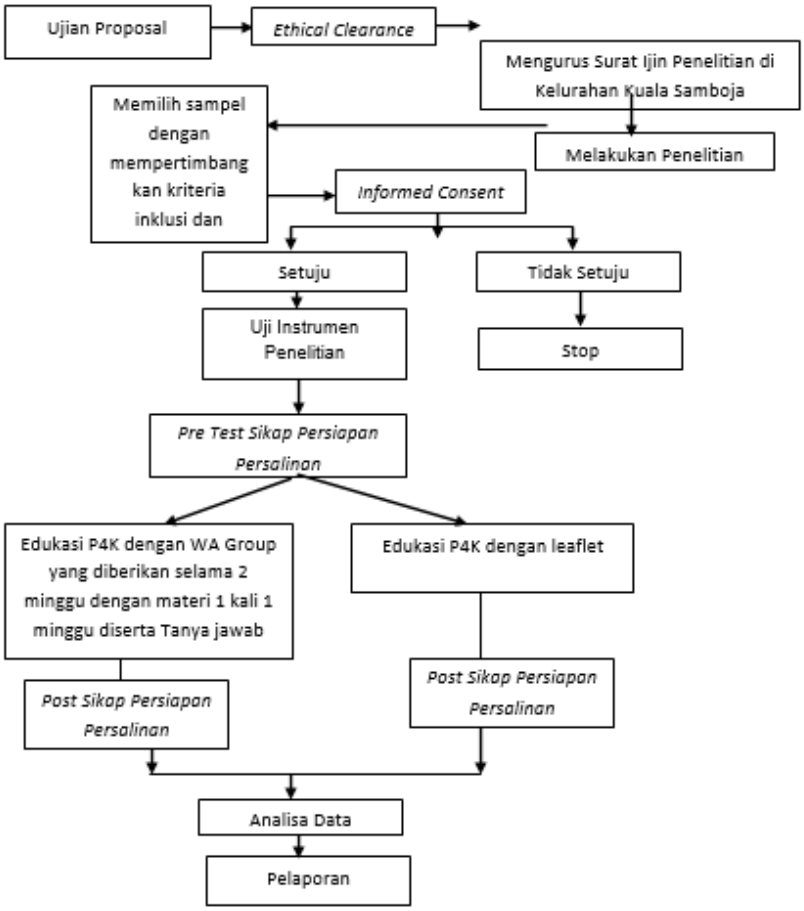


Figure 3. Research Flow

RESULTS

Research Results

This research was carried out in the Kuala Samboja Village in 2023 by taking a sample of 40 pregnant women at the time of the study, where 20 were in the experimental group and 20 were in the control group. Before carrying out statistical tests, the analysis requirements must first be tested, namely the data normality test. Previously, the characteristics of the respondents would be presented as follows:

Characteristics of Respondents

Based on research data for characteristics including respondents, it can be presented as follows:

Table 3. Characteristics Based on Respondent Characteristics in Kuala Samboja Village in 2023

Characteristics	Characteristics Responden	*Eksperimen*		Kontrol	
		Frek (n)	(%)	Frek (n)	(%)
Age	< 20 years	5	25,0	5	25,0
	20-35 years	9	45,0	11	55,0
	> 35 years	6	30,0	4	20,0
Paritas	Primipara	7	35,0	6	30,0
Parity	Multipara	9	45,0	10	50,0
	grandemulti	4	20,0	4	20,0
Education	elementary school	0	0	0	0
	Junior High	5	25,0	6	30,0
	School	10	50,0	9	45,0
	Senior High	2	10,0	3	15,0
	School	3	15,0	2	10,0
	3-year diploma				
	S1				
Work	IRT	14	70,0	15	75,0
	civil servants	1	5,0	1	5,0
	Private	2	10,0	2	10,0
	Self-employed	3	15,0	2	10,0

Based on the table above, it shows that in the group that was given P4K education using the WA group, the majority were aged between 20-35 years, namely 9 people (45%), multipara parity, 9 people (45%), high school education, namely 10 people (50%)) and as housewives as many as 14 people (70%). Likewise, in the P4K education group using leaflets, the majority were aged between 20-35 years, namely 11 people (55%), multipara parity, 10 people (45%), high school education, namely 10 people (50%) and 15 people as housewives. (75%).

Univariate Analysis

a. The Attitude of Third Trimester Pregnant Women in Preparing for labor Before and After Being Given Education (P4K) using the WA Group

Based on the results of the questionnaire, the data were then analyzed. Because the data is in numeric form, the presentation of the data is in the form of mean, minimum, maximum and standard deviation values.

Table 4. Results: Attitudes of Third Trimester Pregnant Women in Preparation for Delivery Before and After Being Given Education (P4K) using the WA Group

Breast milk production	Mean ± SD	Median	Minimum-Maximum
P4K Pre Education with WA Group	37,10 (6,696)	37,50	23-52
P4K Education Post with WA Group	64,60 (5,315)	65,50	56-73

Based on the results of collecting data on the attitudes of pregnant women in the third trimester in preparation for childbirth before and after being given education (P4K) using the WA group, the data obtained an average value (mean) of 37.10, a standard deviation value of 6.696, a median value of 37.50, a minimum value of 23 and maximum value 52. The attitude of pregnant women in the third trimester in preparation for childbirth after being given education (P4K) using WA group data obtained an average value (mean) of 64.60, a standard deviation value of 5.315, a median value of 65.50, a minimum value of 56 and a maximum 73.

b. The Attitude of Pregnant Women in the Third Trimester in Preparing for Childbirth Before and after Being Given Education (P4K) using Leaflets

Based on the results of the questionnaire, the data was then analyzed. Because the data is in numerical form, the data presentation is in the form of mean, minimum, maximum and standard deviation values.

Table 5. Data Results Attitudes of Third Trimester Pregnant Women in Preparation for Childbirth Before and After Being Given Education (P4K) using Leaflets

Breast milk production	Mean ± SD	Median	Minimum-Maximum
P4K Pre Education with Leaflets	36,00 (5,849)	35,50	28-51
P4K Education Post with Leaflets	53,65 (6,659)	56,00	42-64

Based on the results of collecting data on attitudes of third trimester pregnant women in preparation for childbirth before and after being given education (P4K) using leaflets, the data obtained an average value (mean) of 36.00, a standard deviation value of 5.849, a median value of 35.50, a minimum value of 28 and a maximum 51. The attitude of pregnant women in the third trimester in preparing for labor after being given education (P4K) using leaflets obtained an average value (mean) of 53.65, a standard deviation value of 6.659, a median value of 56.00, a minimum value of 42 and a maximum value of 64 .

Data Normality Test

The normality test in this study used the Shapiro Wilk test because the number of samples was <50, while the normality test results are presented in the following table:

Table 6. Data Normality Test for Attitudes for Labor Preparation

Breast milk production	sig. value	α	Conclucions
Before being given P4K WA Group education	0,981	0,05	Normal Distribution
After being given P4K WA Group education	0,141	0,05	Normal Distribution
Before P4K Leaflet education	0,238	0,05	Normal Distribution
After the P4K Leaflet education	0,332	0,05	Normal Distribution

Based on the data above, it can be seen that the significant value of the group before the WA group (0.981), after being given an intervention (0.141), before being given a leaflet (0.238) and after being given a leaflet (0.332), all data has a significant value > α 0.05 so that It was concluded that all data was normally distributed and could be continued with parametric statistics.

Bivariate Analysis

Based on the results of research regarding the attitudes of pregnant women in the third trimester in preparation for childbirth, it will be explained as follows:

Differences in the attitudes of third trimester pregnant women in preparing for childbirth between those educated on P4K using the WA group and the Leaflet. Based on the results of research on breast milk production, an analysis was then carried out to explain the differences in attitudes of third trimester pregnant women in preparation for delivery between those who provided P4K education using the WA group and leaflets.

Table 7. Differences in Attitudes of Pregnant Women in the Third Trimester in Preparation for Childbirth between Those Who Use P4K Education WA Group with Leaflet

Attitude	Mean	Mean Difference	Standar Error Difference	t_{hitung}	P value
P4K Education with WA group	64,60	10,950	1,905	5,747	0,000
P4K Education with Leaflets	53,65				

*Independent Test Results

Based on the results of the analysis using the independent t test to see the difference in the attitudes of pregnant women in the third trimester in preparing for childbirth between those who were educated on P4K using the WA group and Leaflet, there was a difference of 10.950, the statistical test results obtained a p value of 0.000 < α 0.05 and a t value of 5.747 > ttable (n-2)(1/2α) = 2.064. which shows that Ho was rejected, which means there is a difference in the attitude of third trimester pregnant women in preparing for childbirth between those who were educated on P4K using the WA group and Leaflet. The results of the study showed that the use of WA groups had a greater influence on attitudes towards childbirth preparation compared to those given leaflets.

DISCUSSIONS

Characteristics of Respondents

a. Age of Respondents

The research results showed that the number of pregnant women in the third trimester in Kuala Samboja Village, both in the experimental group and the control group, was mostly respondents aged 20-35 years. Age is the length of time lived or existed since birth or birth (Big Indonesian Dictionary, 2018).

Based on the above definition, maternal age in this study is the length of time a mother has lived since birth until this research was conducted. In this study, researchers classified the age of pregnant women into 3 categories, namely less than 20 years old, 20-35 years old and more than 35 years old. Age is one of the factors that is considered to influence preparation for childbirth, where the age factor greatly influences attention during the birth process, where the younger the mother's age, the less attention and experience the pregnant woman has due to the mother's unpreparedness in accepting a pregnancy (Matterson, 2018). From research conducted by researchers, most pregnant women aged <20 years did not have a positive attitude towards childbirth preparation, but pregnant women aged between 20-35 years already had good psychological preparation for childbirth to overcome fear in facing childbirth. At the time of the study, information was obtained that mothers were still afraid of facing childbirth, even though one thing that mothers had to prepare before childbirth was to avoid panic and fear and be calm, where pregnant women could go through labor well and be better prepared and ask for support from other people.

closest, attention and affection will certainly help provide enthusiasm for the mother who is about to give birth. Families, both parents and husbands, are the closest part to expectant mothers who can provide consideration and assistance so that mothers who are about to give birth are a separate motivation so that they are more resilient and better prepared to face childbirth.

According to the researchers' opinion, the age variable is an important factor in the reproductive stages. Therefore, it is necessary to provide counseling to mothers about the anatomy and the birth process so that it can relieve the mother's fear of childbirth. In addition, counseling can also be given to the family to be able to provide psychological support to the mother so that it can reduce the fear of pregnant women in facing childbirth.

b. Parity

The results of the study showed that the number of pregnant women in the third trimester in the Kuala Samboja Village, both in the experimental group and in the control group, had the highest number of respondents who had multiparity parity. Parity is the number of live births owned by respondents (Bobak, 2018).

Based on the number, the parity of a woman can be divided into 4 nulliparas are women who have never given birth to children at all, primiparas are women who have given birth once, multiparas are women who have given birth two to four times and grandemultiparas are women who have given birth 5 or more children (Manuaba, 2018). Parity will affect mothers in preparing for childbirth, mothers who already have experience giving birth will know and understand more about the equipment and other preparations needed in childbirth (Nurmala, 2018).

The results of the study showed that most primiparous mothers only made financial preparations such as preparing costs, baby equipment, determining the place of delivery, and selecting birth attendants. Most of them ignore other important preparations such as preparing for blood donation, decision makers in the event of complications in childbirth, and physical preparation with pregnancy exercises, as well as psychological preparation. This happens to nulliparous or primiparous women because generally they have no idea about the events that will be experienced at the end of their pregnancy when labor occurs.

In this study, primiparous pregnant women were prepared because of the anxiety that primiparous pregnant women had regarding their pregnancy and childbirth which made the pregnant women pay more attention to everything related to preparation for childbirth. Meanwhile, multiparous pregnant women who already have a lot of experience are better prepared for everything related to childbirth, this is due to the mother's self-confidence because she already has previous experience. Apart from that, in this study, primipara parity was also supported by age that was not at risk, so that respondents would be well prepared to face childbirth.

Based on the results of this study, the researcher believes that parity is related to the readiness for childbirth in pregnant women, pregnant women who have primiparous parity will consider more everything that must be prepared to

face childbirth well, because of the anxiety that primiparous mothers have regarding the safety of their babies and the smoothness of the process. childbirth, not to mention if it is the first pregnancy so the baby has been waiting for a long time to arrive, so the mother will prepare everything to welcome the birth of her baby and ensure that the birth goes smoothly.

According to researchers' assumptions, the mother's parity greatly determines the risks that may be experienced during pregnancy and childbirth. In primigravida the risk arises because the reproductive organs are not yet mature or not ready to face a pregnancy. Therefore, supervision is needed through regular and periodic pregnancy checks to monitor possible risk factors and provide counseling about the importance of preparing for childbirth and possible complications that may occur.

c. Education

The results of the research showed that the number of pregnant women in the third trimester in Kuala Samboja Village, both in the experimental group and the control group, was that the majority of respondents had secondary education, namely high school graduates. This is in accordance with the opinion of Notoatmodjo (2017) that education can influence a person, including a person's behavior regarding lifestyle, so a high level of education can influence a person's mindset, especially in terms of health. Judging from the number of respondents who were prepared, they came from high school education levels compared to junior high school education levels. This is also in accordance with research conducted by Anggraini (2017) concerning the Relationship between the Education Level of Pregnant Women and the Readiness for Childbirth which shows that most of them have secondary or high school education. According to Notoatmodjo (2017) people who have higher education will respond more rationally than those who are uneducated and unable to face a challenge rationally. The results of the study show that pregnant women with primary and secondary education tend to experience more anxiety than mothers with higher education. This is because the higher a person's level of education, they can think rationally and hold their emotions well so that their anxiety can be reduced. Mothers who are highly educated tend to pay more attention to the health of themselves and their families. The same thing was also expressed by Purwatmoko (2021), where the higher a person's education level, the greater the opportunity to seek treatment at health services. Conversely, low education will cause a person to experience stress, where the stress and anxiety that occurs is due to the lack of information that person gets.

d. Work

Based on the results of the study, it can be seen that most of the respondents in both the experimental group and the control group were housewives or did not work. The majority of respondents do not work so that respondents have more free time to increase their knowledge by seeking information from the mass media or conducting direct counseling with health workers. According to Notoatmodjo (2017) mothers who don't work have more time to prepare for childbirth and consult with health workers, while working mothers also get more information because of the social environment where the

work environment can provide information from the people around them. Health workers have more free time to socialize with mothers who do not work compared to women who work. Work is not a source of pleasure, but more a way of earning a living, repetitive and full of challenges. While work is generally a time-consuming activity. Working for mothers will have an influence on family life (Wawan and Dewi, 2017).

This is in line with research conducted by Sumiyati (2018) where the research results show that there is a relationship between work and pregnant women's knowledge about preparing for childbirth. Mothers who don't work have more free time to search for information and do direct counseling with health workers, unlike working mothers who don't have time to do direct counseling with health workers because they are busy with their work.

According to researchers' assumptions, mothers who do not work or mothers who work are prepared to face childbirth because they are inseparable from their secondary educational background and also have previous experience because they have had children before, so they are better prepared to face childbirth.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. The characteristics of the respondents show that in the experimental group and the control group most of them were aged between 20-35 years, the parity of the respondents in both the experimental group and the control group was mostly multiparity, the education of the respondents in both the experimental group and the control group was mostly high school, the job of the respondents was good in the experimental group and control group, most of them were IRT.

2. The attitude of pregnant women in the third trimester in preparation for childbirth before health education in the Childbirth Planning and Complication Prevention Program (P4K) using the WA group in Kuala Samboja Village in 2023 has an average value of 37.10 and after intervention has an average value of 64.60

3. The attitude of pregnant women in the third trimester in preparation for childbirth before health education in the Childbirth Planning and Complication Prevention Program (P4K) using leaflets in Kuala Samboja Village in 2023 has an average value of 36.00, and after intervention has an average value of 53.65 .

4. There is a difference in the attitude of pregnant women in the third trimester in preparing for childbirth between those who were given health education in the Childbirth Planning and Complication Prevention Program (P4K) using WA groups and leaflets in Kuala Samboja Village in 2023 with a significant p value of 0.000.

Recommendations

1. For Health Workers

Health workers can optimize social media in providing education and information about the importance of preparing for childbirth using media and innovation so that it is easy for pregnant women to understand, especially in the third trimester, so that mothers have a positive attitude towards preparing for childbirth.

2. For Community Health Centers

The results of this research should be recommended for midwifery care for pregnant women in the third trimester in Kuala Samboja Village by optimizing social media to increase outreach activities and reach levels of society so that every pregnant mother can be given P4K education to be ready for childbirth and reduce the risk of problems during childbirth. .

3. Next Researchers

This research can be a reference for further research with different variables with different data analysis, and with a larger sample size. And can produce P4K output from the mother's class to the health outcomes of the mother and baby during delivery.

4. For Respondents

Can use social media to increase knowledge about P4K.

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