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Dominant Factors in the Behaviour of Mothers Performing Pregnancy Massage

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ABSTRACT

Pregnancy massage is one of the complementary services during pregnancy that is attractive to pregnant women, but not many health workers provide this service. Currently, pregnant women are considering several factors related to pregnancy massage as an alternative service to overcome discomfort in pregnant women. The aim is to explain the dominant factors that influence mothers' behaviour in carrying out pregnancy massage. Quantitative research with cross-sectional design. 203 pregnant women were participating and were selected using purposive sampling techniques. Data collection was carried out in March-August 2023. Univariate and bivariate data analysis used the chi-square test and multivariate with the multiple logistic regression test. There were 163 people (80.3%) pregnant women who had good behaviour during pregnancy massage. Several variables that have a significant relationship are sources of information (p=0.023), knowledge (p=0.001), family support (p=0.001), and the role of health workers (p=0.001). Four variables that influence the behaviour of pregnant women are the role of health workers (POR=105.491), sources of information (POR=6.811), knowledge (POR=6.721) and family support (POR=5.836). It was concluded that the dominant factor in this research was the role of health workers.

Keywords: Behavior, Massage, Pregnancy

ABSTRAK

Pijat kehamilan merupakan salah satu layanan komplementer pada kehamilan yang menarik bagi ibu hamil, namun masih belum banyak tenaga kesehatan memberikan pelayanan tersebut. Saat ini ibu hamil mempertimbangkan sejumlah faktor terkait pijat kehamilan sebagai salah satu alternatif layanan untuk mengatasi ketidaknyamanan pada ibu hamil. Tujuannya untuk menjelaskan faktor dominan yang mempengaruhi perilaku ibu melakukan pijat kehamilan. Penelitian kuantitatif dengan desain cross-sectional. Ada 203 ibu hamil berpartisipasi dan dipilih menggunakan teknik purposive sampling. Pengambilan data dilakukan bulan Maret-Agustus 2023. Analisis data univariat, bivariat menggunakan uji chi square dan multivariat dengan uji regresi logistik ganda. Terdapat 163 orang (80,3%) ibu hamil yang berperilaku baik melakukan pijat kehamilan. Beberapa variabel yang memiliki hubungan yang signifikan yaitu: sumber informasi (p=0,023), pengetahuan (p=0,001), dukungan keluarga (p=0,001), dan peran tenaga kesehatan (p=0,001). Empat variabel yang mempengaruhi perilaku ibu hamil yaitu: peran tenaga kesehatan (POR=105,491), sumber informasi (POR=6,811), pengetahuan (POR=6,721) dan dukungan keluarga (POR=5,836). Disimpulkan bahwa faktor dominan pada penelitian ini adalah peran tenaga kesehatan.

Kata Kunci: Perilaku, Pijat, Kehamilan

INTRODUCTION

Women naturally go through the process of pregnancy from fertilization until the baby is born (Yuniarti et al., 2022). During pregnancy, physical changes may cause discomfort, causing the more advanced the gestational age of a mother, the greater the likelihood of discomfort she will experience (Ernawati et al., 2022). One of the non-pharmacological therapies for pregnant women is pregnancy massage which aims to improve the quality of life of mothers and babies by addressing the discomfort felt during pregnancy. This massage can help mums feel better and more comfortable by giving a light touch to certain areas of their body (Arum et al., 2021).

Pregnancy massage commonly called prenatal massage is one of the complementary midwifery services (Cahyanto et al., 2020). Pregnancy massage works to release metabolic products in the body's lymphatic and circulatory systems, to reduce fatigue and increase energy levels in the body of pregnant women. This can help relieve discomfort and pain in the back area during pregnancy. After a massage, the discomfort that pregnant women feel due to things such as cramps, and muscle tension will be reduced as increased circulation facilitates heart function and blood pressure, thus making them feel more energised (Sundari, 2020).

From the preliminary study conducted at 10 midwives in Pekanbaru City, about 40% of midwives have conducted pregnancy massage therapy, and the rest of the midwives have not provided pregnancy massage services, even though pregnancy massage has many benefits for maternal and foetal health. According to Setyaningsih et al. (2021) that using complementary therapies during pregnancy is something that appeals to many pregnant women. Complementary therapies are still not widely used in pregnancy care. Non-medical personnel still provide complementary therapies to pregnant women. Massage is an alternative therapy favoured by some pregnant women. When choosing complementary services, pregnant women consider many factors, including time, expertise of the health care provider, staff communication, friendliness of the location, comfort level, and ease of transport.

According to Astika (2022) many factors influence pregnant women to do pregnancy massage, namely education, employment, information sources, knowledge, attitudes, family support, and the role of health workers. Therefore, the author conducted a study to know the dominant factors that influence the behaviour of mothers in doing pregnancy massage.

RESEARCH METHODS

Quantitative research type with cross-sectional design. The study was conducted for six months (March-August 2023) in Pekanbaru City, Riau Province. The population was all pregnant women in Pekanbaru City in 2022 totalling 21,574 people (Dinas Kesehatan Provinsi Riau, 2022). Determination of sample size and size using analytical cross-sectional study design. Determination of the minimum sample size requires information on the hypothesised value of the population proportion (Po), the value of the population proportion (desired =Pa), the significant level (α), the power of the test = 100% - β, the alternative hypothesis for a one-sided test: Pa>Po or Pa<Po. By using the table: sample size for one-sample test of proportion (level of significance 5%, power 90%); alternative hypothesis, each variable minimum sample size can be seen in table 1 below:

Table 1. Sampling in the Study

No	Variable	Po	Pa	Alfa	Power	Minimum Sample
1.	Occupation	0,85	0,75	5%	90%	131
2.	Education	0,90	0,80	5%	90%	102
3.	Source of information	0,65	0,55	5%	90%	203
4.	Knowledge	0,90	0,80	5%	90%	102
5.	Attitude	0,90	0,80	5%	90%	102
6.	Family support	0,40	0,30	5%	90%	194
7.	Role of health workers	0,75	0,65	5%	90%	176

Based on Table 1, it can be seen that the largest sample size required in the study was 203 people using the purposive sampling technique. Primary data collection used a 41-item structured questionnaire with a description for pregnant women's behaviour questions 8 items,

information sources 3 items, knowledge 8 items, attitudes 6 items, family support 9 items, and the role of health workers 7 items. The questionnaire has been tested for validity and reliability on 30 respondents in different locations in Kampar Regency. The dependent variable was the behaviour of pregnant women. The independent variables were occupation, education, source of information, knowledge, attitude, family support, and the role of health workers.

The type of data collected is primary data, which is data directly obtained from respondents. Data was collected by filling out questionnaires directly. The data collection procedure is by distributing questionnaires to respondents at Independent Midwife Practices and Clinics in Pekanbaru City.

In this data collection, we used 3 enumerators. The criteria for enumerators were final semester Midwifery D-III students. Enumerators have been given training for 3 days. On the first day of training, all enumerators have explained the contents of the research proposal, the objectives of the research, the stages of the research, data collection techniques and the description of the questionnaire items. Then discussions and questions and answers were held. On the second day of training, all enumerators were directed to go to the field to test the questionnaire by collecting a sample of 10 respondents each. The third day of training was processing the questionnaire trial data.

How to analyse the validity test by comparing the value of the r table with r count which is the result of data processing on a computer by looking at the r table at a significance level of 5% Then the r table is 0.3610. Determining the value of the r count is seen in the Corrected item-total correlation column. The reliability test method is a measure that shows the measurement results remain consistent when measuring two or more times using the Crombarch alpha test > 0.6, meaning that the variable is reliable (Haryanto & Tribowo, 2018). The research data were analysed univariately, bivariate was done by chi-square test with Confident Interval (CI 95%). For multivariate analysis with multiple logistic regression test with prediction model. This research has gone through ethical review procedures from the Ethics Committee of Hang Tuah University Pekanbaru with No: 280/KEPK/STIKes-HTP/VIII/2023

RESULTS

This analysis aims to describe the frequency distribution of independent variables (occupation, education, source of information, knowledge, attitude, family support, and the role of health workers) and the dependent variable (behaviour of pregnant women). Each variable in this study was given two categories which can be seen in the following table 2.

Table 2. Frequency distribution of mothers' behaviour in performing pregnancy massage in Pekanbaru City in 2023

Variable	Category	n=203	Persen (%)
Behaviour of pregnant women	No massage	40	19,7
	Pregnancy massage	163	80,3
Occupation	Not working	61	30,0
	Working	142	70,0
Education	Low	133	65,5
	High	70	34,5
Source of information	Less good	107	52,7
	Good	96	47,3
Knowledge	Less good	67	33,0
	Good	136	67,0
Attitude	Positive	65	32,1
	Negatives	138	67,9
Family support	Not in favour	95	46,8
	Supportive	108	53,2
Role of health workers	Does not play a role	59	29,1
	Play a role	144	70,9

The results of the frequency distribution in Table 2 explain that of the total sample of 203 pregnant women, the majority had good behaviour (80.3%). Most of the respondents were

employed (70%). A total of 65.5% of pregnant women had low education (elementary and junior high school). As for the source of information, 52.7% lacked a good source of information. There were 67% of pregnant women who had good knowledge. There were 67.9% who had negative attitudes. There were 53.2% of pregnant women who received family support. In this study, the majority of health workers played a role (70.9%).

Analysis Bivariate

This analysis was conducted to see the relationship of independent variables, namely occupation, education, information sources, knowledge, attitudes, family support, and the role of health workers on the behaviour of mothers to perform pregnancy massage. The results of this bivariate statistical test can be seen in the following table 3.

Table 3. Bivariate Analysis of Factors Associated with Maternal Behaviour in Performing Pregnancy Massage in Pekanbaru City in 2023

Variable	Behaviour				Total	*p-value*	POR	95% CI
	Less		Good					
	n	%	n	%				
Occupation								
Not working	17	27,9	44	72,1	61	0,085	1,999	0,977-4,090
Working	23	16,2	119	83,8	142			
Education								
Low	22	16,5	111	83,5	133	0,169	0,573	0,283-1,158
High	18	25,7	52	74,3	70			
Source of information								
Not good	28	26,2	79	73,8	107	0,023*	2,481	1,180-5,214
Good	12	12,5	84	87,5	96			
Knowledge								
Not good	31	46,3	36	53,7	67	0,001*	12,151	5,302-27,847
Good	9	6,6	127	93,4	136			
Attitude								
Positive	12	18,5	53	81,5	65	0,907	0,889	0,420-1,886
Negative	28	20,3	110	79,7	138			
Family support								
Not supportive	30	31,6	65	68,4	95	0,001*	4,523	2,071-9,880
Supportive	10	9,3	98	90,7	108			
Role of health workers								
Does not play a role	37	84,8	22	37,3	59	0,001*	79,045	22,434-278,510
Played a role	3	2,1	141	97,9	144			

* significant ≤ 0,05

Table 3 explains the results of the bivariate statistical test on the employment variable p-value 0.085 (>0.05). This means that there is no significant relationship between occupation and the behaviour of pregnant women. Statistical test results for the education variable p-value 0.169 (>0.05). This means that the education variable is not associated with the behaviour of pregnant women. While the source of information variable p-value is 0.023 (<0.05). This means that there is a significant relationship between the source of information and the behaviour of pregnant women. In addition, the POR value on the information source variable is 2.481. This means that pregnant women who get information about pregnancy massage that is not good are at risk for behaviour that will not do pregnancy massage by 2.4 times compared to pregnant women who get good sources of information.

Statistical test results of knowledge variables p-value 0.001 (<0.05). This means that there is a significant relationship between knowledge and the behaviour of pregnant women. In addition, the POR value on the knowledge variable is 12.151. This means that pregnant women with low knowledge are at risk of having bad behaviour by not doing pregnancy massage by 12.1 times compared to mothers with high knowledge. The results of the statistical test of

attitude p-value 0.907 (> 0.05). This means that there is no significant relationship between the attitude and behaviour of pregnant women in this study. While the family role variable p-value 0.001 (<0.05). This means that there is a significant relationship between family role and the behaviour of pregnant women. In addition, the POR value on the family support variable was 4.523. This means that pregnant women whose families do not support them are at risk of having bad behaviour of not doing pregnancy massage by 4.5 times compared to pregnant women whose families support them.

For the variable role of health workers, the p-value is 0.001 (<0.05). This means that there is a significant relationship between the role of health workers and the behaviour of pregnant women. In addition, the POR (Prevalence Odds Ratio) value on the variable of the role of health workers is 79.045. This means that health workers who do not play a role are at risk of not doing pregnancy massage 79 times compared to health workers who play a role.

Based on the bivariate statistical test in Table 2, it can be concluded that of the 7 independent variables, only 4 variables are associated with the behaviour of mothers to do pregnancy massage in Pekanbaru City, namely; source of information, knowledge, family support, and the role of health workers. While the other 3 independent variables such as: occupation, education, and attitude are not associated with the behaviour of pregnant women.

Analysis Multivariate

This analysis was carried out to see the dominant influence of the independent variable, namely work, education, sources of information, knowledge, attitudes, family support, and the role of health workers on maternal pregnancy massage behaviour. Before multivariate analysis, a bivariate selection of potential independent variables (candidate variables) that will be included in multivariate analysis was conducted. In this study, candidate variables were defined as variables with a p-value <0.25. The multivariate analysis test used was multiple logistic regression. From the results of bivariate selection that has been done, seven variables have a p-value <0.25. So that there are 6 independent variables that are included in the multivariate model, namely: occupation, education, source of information, knowledge, family support, and the role of health workers.

There were five stages of multivariate modelling performed to see changes in the POR value> 10%. After the last modelling, four variables were found to influence the behaviour of pregnant women: information sources, knowledge, family support and the role of health workers. The variable that was not included in the final multivariate modelling, means that it is a confounding or counfounding variable, which means that it is a variable that affects the relationship between the independent variable and the dependent variable, namely: attitude. The statistical results of the final multivariate modelling analysis can be seen in Table 4 below.

Table 4. Multivariate Analysis of the Last Modeling of the dominant factors of maternal behaviour to perform pregnancy massage in Pekanbaru City in 2023

Variabel	B	S.E.	Wald	df	sig.	Exp(B)	95% C.I. Exp (B)	
							Lower	Upper
Source of Information	1,919	0,803	5,706	1	0,017	6,811	1,411	32,875
Knowledge	1,905	0,691	7,600	1	0,006	6,721	1,734	26,047
Family Support	1,764	0,808	4,771	1	0,029	5,836	1,199	28,416
Role of health worker*	4,659	0,800	33,929	1	0,001	105,491	22,001	505,813
*= dominant factor		*Omnibus test*: < 0,001			*Nagelkerke R Square*: 0,751			

Based on Table 4, the final multivariate modelling can be concluded that four variables influence the behaviour of mothers to do pregnancy massage. Health workers who did not play a role were 105.491 times more likely to cause mothers' behaviour of not doing pregnancy massage compared to health workers who played a role (Exp (B);105.491: 95% CI: 22,001-505,813). Pregnant women with poor sources of information had a 6.8 times higher risk of not performing prenatal massage compared to pregnant women with good sources of information (Exp (B); 6.811: 95% CI: 1.411-32.875). Pregnant women with low knowledge had a 6.7 times

higher risk of not performing prenatal massage than pregnant women with high knowledge (Exp (B); 6.721: CI95%: 1,734-26,047). Pregnant women who did not receive family support were at risk of not performing massage 5.8 times compared to pregnant women who received family support (Exp (B); 5.836: CI95%:1.199-28.416).

The omnibus test value in the final multivariate modelling in Table 4 obtained a p-value = 0.001, meaning that the multivariate model formed is fit or feasible to use. The Nagelkerke R Square value = 0.751 means that the independent variables (occupation, education, information sources, knowledge, attitudes, family support, and the role of health workers) can explain the dependent variable (pregnant women's behaviour) by 75%, the rest is explained by other variables not studied.

DISCUSSION

This study explains that the role of health workers is the dominant factor influencing pregnant women to do pregnancy massages. This is supported by research conducted by Rosqiana (2023) that massage is an innovation in pregnant women that can be done by midwives. According to Bolsoy (2022) in his research, health workers mostly use massage methods to improve maternal and postnatal health. In the research of Aswitami et al. (2022) nurses and midwives are advised to conduct training in pregnancy massage because they are health workers who have access to non-pharmacological types of treatment to reduce anxiety in pregnant women.

The results of this study suggest that information sources influence the behaviour of pregnant women. This study is in line with the research of Vogels-Broeke et al. (2022) and in the research of Zhu et al. (2019) stated that social media acting as a source of information plays an important role in pregnancy, especially regarding pregnancy massage. Although digital sources are considered less reliable and useful than professional and conventional sources. To meet the current information needs of pregnant women, it is very important to help develop digital information sources (Vogels-Broeke et al., 2022).

In this study, knowledge influenced the behaviour of mothers doing pregnancy massage. This research is supported by research conducted by Munikasari (2019) and Putri et al. (2014). According to Takeuchi in 2017 in Khasanah et al. (2020) that providing health education using smartphones to pregnant women can increase pregnant women's want to do pregnancy massage.

In this study, family support is also an important variable that influences the behaviour of mothers to do pregnancy massage. This is supported by research conducted by Jumiyati and Astuti (2023) that family support has an impact on pregnant women in overcoming anxiety facing childbirth by providing massage. A pregnant woman needs family support during her pregnancy, especially her husband. When the mother is pregnant, the husband must always support, encourage, and accompany her so that she feels calm and calm if she experiences difficulties. Meanwhile, a pregnant woman will experience anxiety if there is no support system from her husband, this will adversely affect the mother and fetus (Vianti & Yuniarsih, 2022).

CONCLUSION

Four variables influence the behaviour of mothers to do pregnancy massage, namely: sources of information, knowledge, family support and the role of health workers. While the most dominant factor affecting maternal behaviour is the role of health workers. In this study, the 7 independent variables selected (education, occupation, source of information, knowledge, attitude, family support, and the role of health workers) were able to explain 75% of the factors influencing the behaviour of mothers doing pregnancy massage in Pekanbaru City.

Health workers need to play an active role in providing education, counselling and promotion about pregnancy massage. Health workers also need to improve competence related to complementary midwifery services, especially regarding pregnancy massage. It also needs to be recommended by involving the role of information sources, especially social media (Instagram, Facebook, Twitter, Telegram, YouTube and others) is the most effective and affordable support system. Good collaboration between health workers, sources of information, and family support is needed to increase the understanding and knowledge of mothers to maintain their health with pregnancy massage.

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