

Determinant Analysis of the Onset Postpartum Women's Lactation

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Abstract--Women have responsible in staying with baby to achieve the optimum their growth and development. The best way to convey the mercy and to optimise the potential baby's growth and development by providing breast milk. The aims of this research to analyse the determinant of lactation onset. This research done in 13 Public Health Center (PHC) in Palu. Sampling determined by proportionate stratified random sampling. Independent variable such as women's characteristic, baby's characteristic, Early Breastfeeding Initiation (EBI), family's support, post partum weight retention, women's anxiety and rooming in implementation. dependent variable is onset of lactation. Research design by cross sectional study. Bivariate statistic analyses by using chi square test to obtain the correlation between each variables. And it used logistic regression test to find the Odds Ratio value (OR). Result shown that having six variables influenced the onset of lactation such as earning, EBI, rooming in care, post partum weight retention, anxiety and family's support are essential determinant, ut rooming in care become main determinant toward onset of lactation. Conclusion of this research mentioned that earning, EBI, rooming in care, post partum weight retention, anxiety and family's support have correlation toward onset of lactation.

Keywords--determinant, onset of lactation, postpartum women

I. INTRODUCTION

After labour, women have responsible in staying with baby to achieve the optimum their growth and development. The best way to convey the mercy and to optimise the baby's growth and development by providing breast milk. Nutrient state of women's lactation is very essential in achieving the successful breastfeeding by measuring the indicators such as breastfeeding duration, baby's growth and women's nutrient state in post breastfeeding. In develop countries, most of women in lactation period without have enough of fat storage that could lead high risk inadequate of breast milk production, unless they fulfil the energy needed by increasing of food intake. Nutrient state of lactation women could be measured by one of indicator such as post partum weight retention (1).

AKG 2013 recommended for extra energy needed of lactation women within first 6 months postpartum is 330 cal/day by unpregnant women energy needed and it less than AKG 2014 recommendation before (+ 500 cal). It because of the AKG recommendation for unpregnant women increased from 1.900 cal (AKG 2004) to 2.250 cal (2).

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Supporting of other elements in successful of women to provide breast feeding is very important. Nowadays, the government have declared the policy No 33/2012 regarding breastmilk providing as a first regulation to arrange several sectors in supporting the successful of providing exclusive breastmilk (3).

According to Huschka's research mentioned that women with late lactation onset have more little chance to provide exclusive breastmilk within 6 months (4). The result of some research shown that influence factors of lactation onset such as; 1. Post partum weight retention, 2. Paritate, 3. Long duration of labour, 4. Type of labour, 5. Providing of baby extrafood, 6.EBI (5-8).

In 2017 mentioned that about 64,4% the percentage of exclusive breast milk providing in Palu, or about only 1.981 babies who received it among of 3.076 total babies in Palu. One of its factor due to late of lactation onset of postpartum women which it become problem that family though less produce of breast milk because of it and other sides family should fulfil the baby's nutrients needed by providing formula milk and also it is not early breast feeding initiation, women's age, paritate, weight of new baby birth, post partum women's weight. (9) (11) (12) (13) (14) (15).

Based on background taht mentioned by researcher, percentage of breast mil k providing in Palu still about 64,4% of babies who get exclusive braest milk, but percentage targetting of breast milk in Indonesisa about 80%. Lactation onset of post partum women is influencing toward next breast milk providing, early failed in breast milk providing due to lactation onset that lead postponed of it. So, the researcher think that need to research with the title determinant analyses of the onset of post partum women's lactation in Palu.

II. METHODOLOGY

Design that to be used for this research is cross sectional study which done in 13 Public Health Centre (PHC), Palu. Determining babies sampling in 13 PHC by Proportionate Stratified Random Sampling. the sample in this study amounted to 151 postpartum womens lactation. Data collected by descriptive and inferential. Descriptive statistic analyses done toward each variables. Chi square test done to obtain the correlation between each independent variables toward dependent variable. Besides that, logistic regrestion done to find the Odds Ratio (OR) value of independent variable toward dependent variable.

III. RESULTS AND DISCUSSION

3.1 Overview of research Subject

Table 1. Distribution of respondents frequency based on characteristic

Characteristic	Frequence	Precentage(%)
Age		
<20	28	18,5
21-35	93	61,6
>35	30	19,9

Paritate		
1 time	56	37.1
2 times	54	35.8
>3 times	41	27.2
Labour History		
Normal	137	90,7
SC	14	9,3
Education		
Elementary School	12	7.9
Junior High School	36	23.8
High School	88	58.3
Bachelor	15	9.9
Occupation		
House wife	138	91,4
Government employee	2	1.3
Bussinessman	6	4.0
Private sector employee	5	3.3
Income/salary		
<2.123.040	66	43,7
>2.123.040	85	56,3

Respondent characteristic shown that among of 151 respondents, most of them in 21-35 years old are 93 people (61,6%), most of paritate are primipara respondents, about 50 people (37,1%), about 137 people have normal labour history (86,8%). Majority of respondents about 88 people have high school education (58,3%), about 138 people (91,4%) are house wife and 85 people (56,3%) have above of regional minimum salary/income in Palu.

3.2 Data on Understanding and response of research objectives

Table 2. Distribution of New Baby Birth Characteristic

Characteristic	Frequence	Percentage(%)
Weight birth		
2500-4000	119	78,8
<2500	28	18,5
>4000	4	2,6
Gestation		
37-42	135	89.4
<37	15	9.9
>40	1	0.7

Gender		
Male	88	58.3
Female	63	41.7

Characteristic of new baby birth shown that weight of new baby birth among of 151 respondent, about 119 babies (78,8%) have 2.500 – 4.000terbanyak ada diantara 2500-4000 grams, with gestation period within 37 – 42 weeks about 135 people (89,4%), and about 88 baby boys (58,3%).

Table 3. Distribution of Postpartum Characteristic

Characteristic	Frequence	Precentage (%)
PostPartum		
Weight Retention		
Low	54	35.8
Normal	97	64,2
Anxiety		
slight	114	75.5
moderate	28	18.5
heavy	7	4.6
very heavy	2	1.3
Family's Support		
good	109	72,2
moderate	42	27,8
low	0	0
Onsetof Lactation		
fast	89	58.9
slow	62	41.1
EBI		
yes	117	77,75
no	34	22,25
Rooming in		
yes	139	92,1
no	12	7,9
Gender		
male	88	58,3
female	63	41,7
Gestational age		
37-42	135	89,4
<36	15	9,9

>42 weeks	1	7
Weight of Baby birth		
2500-4000	132	87,4
<2500	15	9,9
>4000	4	2,6

Characteristic of post partum women during breast feeding period shown among of 151 respondents who have post partum weight retention after post partum period about 97 people in normal category (64,2%), respondents without having anxiety about 114 people (75,5%), most of respondents have good family support about 109 people (72,7%) and fast onset of lactation about 89 people (58,9%) and slow minorita about 62 people (41,1%).

Table 4. Distribution of Onset Post partum Women’s Lactation

Variable	Category	Onset of lactation				Value p
		Fast(<3 days)		Slow(>3 days)		
		n	%	n	%	
Age	<20	16	57,1	12	42,9	0,084
	21-35	50	53,8	43	46,2	
	>35	23	76,7	7	23,3	
Paritate	1 time	33	58,9	23	41,1	0,941
	2 times	31	57,4	23	42,6	
	>3 times	25	61	26	39	
Labour History	Normal	79	57,5	58	42,3	0,319
	SC	10	71,4	4	28,6	
Education	Elementary School	8	66,7	4	33,3	0,925
	Junior High School	20	55,6	16	44,4	
	Senior High School	52	59,1	36	40,9	
	Bachelor	9	60	6	40	
Occupation	House wife	80	58	58	42,0	0,087
	Govt.employee	2	100	0	0	
	Bussinessman	2	33,3	4	66,7	
	Private sector employee	2	100	0	0	
Income/ Salary	<2.123.040	65	98,5	1	1,5	0,000
	>2.123.040	24	28,2	61	71,8	
PostPartum	Low	26	48,1	28	51,9	0,033

Weight Retention	Normal	63	64,9	34	35,1	
Anxiety	No	78	68,4	36	31,6	0,000
	slight	9	32,1	19	67,9	
	moderate	2	28,6	5	71,4	
	heavy	0	0	2	100	
	very heavy					
Family's Support	Good	58	65,2	51	34,8	0,027
	Moderate	31	34,8	11	17,7	
	Less	0	0	0	0	
Weight birth	2500-4000	74	83,1	58	93,5	0,163
	<2500	12	13,5	3	4,8	
	>4000	3	3,4	1	1,6	
Gestation	37-42	80	89,9	55	88,7	0,639
	<37	8	9,0	7	11,3	
	>40	1	1,1	0	0	
Gender	Male	55	61,8	33	53,2	0,293
	Female	34	38,2	29	46,8	
EBI	Done	64	71,9	53	85,5	0,037
	Not done	25	4 28,1	9	14,5	
Rooming in	Done	87	97,8	52	83,9	0,003
	Not done	2	2,2	10	16,1	

Based on Chi-Square test in table 4 found that age, paritate, labour history, education, occupation, baby's weight, gestation, gender have no correlation toward lactation onset with p value >0,05. Based on ytest that lactation onset influenced by monthly family salary, post partum weight retention,during porturition , women's anxiety, family's support, rooming in care, EBI with p value<0,05, it means have correlation toward the lactation onset of post partum women.

Table 5. Analysesof Detreminant Multivariate of Post Partum Women's Onset of Lactation

Variable	Coefisien (B)	WALD	df	P Value	OR	IK 95%	
						min	max
Salary/ income >2.123.040	-3,598	4,367	1	0,000	5,659	1,890	12,490
Postpartum WeightRetention Normal	1.899	5.676	1	0,17	3.540	1.352	9.270

No anxiety	1,506	4,449	1	0,001	4,480	1,781	3,290
Good Family's Support	1,392	4,143	1	0,000	6,185	1,32	12,760
Rooming In done	-2,361	8.179	1	0,040	7.094	1.019	14,476
EBI done	1.052	4.978	1	0,026	2.862	1.136	7.210

Source: Primer Data ,2019

The analyses multivariate result of logistic regression test shown that among of 14 variables, only 6 variables have significant correlation ($p < 0,05$).

Focussing of this research is assessment of correlation of determinant factor post partum women's lactation onset in 13 Public Health Centre with characteristic (women's age, paritate, labour history, education, occupation, salary), characteristic of new baby birth (birth weight, gestation age, baby's gender), Early Breast feeding Initiation (EBI), Post partum weight retention, family's support, women's anxiety level. Theoretically, 14 variables had tested have influences toward onset of lactation. However based on bivariate analyses result to find how much the influences of independent variables toward dependent variable, only 6 variables have influences toward onset of lactation during post partum period. And after multivariate analyses done by using the logistic regression test to obtain the influences of independent variables suddenly toward dependent variable.

Family good income/salary influenced the family nutrient state itself, because the ability to buy the food if family have good income. During post partum period, they have increasing of nutrients needed in breastfeeding preparation for their baby, it become main reason how important the enough income to fulfil food demand especially during pregnant till post partum period²⁴, most of the amount of respondent's monthly income above minimum regional income level, about 85 people (56,3%) that influences the onset of lactation with p value $< 0,05$.

Early Breastfeeding Initiation (EBI) is providing of breastfeeding soon as at least one hour after labour²⁵ with the main aim to build the bonding between women and baby¹ that could stimulate to produce oxytocin hormon that influence toward onst of lactation after labour. Based on the test mentioned that women who perform EBI soon as after labour have 2,9 times to produce the oxytocin hormon in post partum period with significant value $OR = 2,862$ and $p \text{ value} = 0,037$.

Post partum weight retention is gaining weight during pregnancy and it stagnant after labour by calculating difference body weight after labour and pre pregnant, with average 5-10 kg. It have correlation with fat storage in breastmilk production. Women who have good fat storage will get more chance in stimulate and providing EBI earlier. This research result shown that post partum weight retention about 97 people (64,2%) and onset of lactation about 63 people (64,9%) with p value $< 0,005$ that means have significant correlation between the variables of post partum weight retention.

In enough month of Gestational age (37-42 weeks) when labour could influenced the breastmilk production during post partum period²⁷. Based on statistic test have influence between gestational age with onset of

lactation because about 55 people (88,7%) women who have late of lactation onset along with low economical state family's support²⁸. By statistically test found that p value $>0,05$, it means no influences between gestationla age with onset of lactation during post partum period.

Anxiety is mind disorder with signs such as agitation and worry without any reason, and they could not solve that psychological stress. Bivariate test result found p value $<0,05$, it means have correlation between anxiety and onset of lactation. Good mood and mind could influence the women's psychologic, more they get psychologic pressure will reduce oxytocin hormon production in promoting let down reflex process. Reggression test result OR value = 4,480. It means that women who have no anxiety in post partum period will lead fast onset of lactation and nutrient state as will.

Family's support especially husband, become main factor in breast milk providing. The aims of support to stimulate the women in willing it earlier during post partum period. Based on research found about 109 people (72,2%) of post partum women have got family support, but only 42 people (27,8%) have poor family's support, it due to they stay away from family and relatives with poor support²⁸.

Low birth weight have low sucking power of breastmilk rather than normal weight of birth (2500-4000 grms). Based on research found about 132 babies (87,4%) have normal body weight and good onset of lactation, and about 74 women (83,1%) have normal birth weight and good lactation onset, and 58 women(93,6%) have late lactation onset even have normal birth weight. Bivariate test result by chi square test found p value $>0,05$, it due to exhausted after labour that could influences onset of lactation.

Rooming in is baby and women stay in the same room, so baby have enough mercy and care from mother especially when baby crying and it promote her happiness. This condition will improve their psychologic that influence the onset of lactation²⁷. Bivariate test result shown have correlation between rooming in with onset of lactation with p value = 0,003, and regresion logistic statistic test shown that women who received rooming in care have 7,1 times chance in produsing of breastmilk with OR value = 7,094.

Bivariate test result found p value $> 0,05$, means have no correlation between age with lactation onset, have 43 people (46,2%) have slow lactation onset. One of precipation factor of it is anxiety and paritate of women during labour time. Women under 20 years old have immature psychologic state that have correlation with their percepton regarding breastfeeding. And it research have contra with Novitasari research in 2015 that mention have correlation between age adn onset of lactation²⁹, baut the main causes is anxiety and partate of women.

IV. CONCLUSION

Conclusion of this research mentioned that have significant correlation between Early Breastfeeding Initiation (EBI), rooming in, post partum weight retention, family's support, anxiety level and family's income toward lactation onset of post partum women toward 151 respondents with the bigger and smaller correlation are implementation of rooming in (OR=7,094) and EBI (OR=2,862) and p value $<0,05$. But independent variables that tested in bivariate by chi square test found have no correlation with p valiuie $> 0,05$ between women's age, oparitate, gender, labour history, birth weight, occupation and education. Suggestion for health worker to improve the

knowledge regarding how important of lactation onset of post partum women, because it is very essential for the first 6 months of babies life.

Acknowledgment

With the completion of this research, i would like to thank Direktorat Riset dan Pengabdian Masyarakat and Widya Nusantara Palu who have helped me a lot until the completion of this research

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