Improvement of Self-Efficacy of Mothers Inpostpartum Period Through Home Visit by Health Workers in Aceh

Said Usman[1], DewiMarianthi[2], Irwan Saputra[1], T.M. Rafsanjani[3]

[1]Assistant Professor, Universityof Syiah Kuala, Magister Program of Public Health, Medical Faculty, Banda Aceh, Aceh, Indonesia,[2]Associate Professor, Department of Nursing, Health Polytechnic Faculty of Health Minister, Aceh Besar, Aceh, Indonesia, [3]Instructor,University of SerambiMekkah, Public Health Faculty, Banda Aceh, Aceh, Indonesia

Abstract

World Health Organization recorded that about 44% of infant deaths in 2012 happened in the first 28 days after birth, and 78.5% of deaths happen in the first week after births. It was estimated that 80% of infant deaths happen at home (with little or no contact with health workers). Good quality care service for infants especially newborns at home is a serious challenge, thus an effort that could be performed is to optimize the role of health workers in the community by doing homevisit.The goal of this researchto identify the self-efficacy of postpartum mothers before home visit and after home visit, to compare the self-efficacy of intervention group and control group on newborn care by means of health workers role during home visit. This research use quantitative research with quasi-experimental non-equivalent control group design method. The sample of the research was health workers; each with responsibility of one fostered family of a mother in postpartum period. The research site for the intervention group was the working area of UleeKareng Health Center, and for the control group was the working area of Baiturrahman Health Center. The result of the research revealed that there was a change in self-efficacy of postpartum mothers on newborn care after three home visits by the health workers. The difference of the average efficacy score was 12.5, with p value of 0.0001. When the efficacy of postpartum mothers from the intervention group (who received home visits) was compared to that of mothers from the control group, there was a significant difference found, with p value of 0.003. Home visit executed by the health workers can improve self-efficacy of the postpartum mothers on newborn care. This can be seen from the difference between self-efficacy of the postpartum mothers before and after home visit by the health workers.

Keywords: Health workers, home visit, newborn care, self-efficacy.

Introduction

World Health Organization [(1)] recorded that about 44% of infant deaths in 2012 happened in the first 28 days after birth. The deaths of newborns, especially of age one day to two months, are relatively higher than older infants, both with or without complication, and 78.5% of deaths happen in the first week afterbirths [(2)].

Health profile of Aceh in year 2015 [(3)]documented that the NMR (Neonatal Mortality Rate) was 11 per 1.000 live births, IMR (Infant Mortality Rate) was 15 per 1.000 live births, and UFMR (Under-Five Mortality Rate) was 16 per 1.000 live births.

In National average, data obtained from Indonesia ministry of health 2017 revealed that IMR (Infant Mortality Rate) have started to decline from 2015 to the first semester of 2017. IMR decreased from 33.278 cases in 2015 to 32.005 in 2016. Meanwhile, in first semester of 2017 there were 10.295 cases of infant mortality. According to WHO, in year 2019, Indonesia recorded in the top 10 countries with the highest cases of neonatal mortality (NMR) with 60.000 cases.

Moreover, UFMR was recorded decrease in 2017 with 32 cases out of 1000 lives compared to UFMR in 2012 in which 36 cases out of 1.000. Meanwhile, the MMR (Maternal Mortality Ratio) was 149 per 100.000 live births. While the coverage of *neonatal visit* (NV)

in Aceh in 2015 the NV-1 obtained was 83.67%, with the complete NV coverage of 80.53%. This data shows a number slightly below the Indonesian standard, which is 83.74%. However, the coverage of neonatal complications treatment in Aceh is still very low, at50.51%.

The profile of Banda Aceh City Health Office (2016)[4] stated that the cause of infant deaths in the city of Banda Aceh was *asphyxia* and *low birthweight*. There are also other causes that are not easily identifiable. Various factors allegedly contributed to this include the lack of skilled health workers and lack of appropriate equipment in the health facilities, the lack accessibility and the willingness of the community to change their traditional unhealthy life patterns to healthier lifestyles.

According to WHO and UNICEF[2], 80% of infant deaths happen at home (with little or no contact with health workers). Good quality care service for infants especially newborns at home is a serious challenge. An effort that can be made to optimize the role of health workers in a community is by visiting houses (homevisit) to give education, provide counseling and perform early detection of newborns at risk [5].

Home visit executed by the health workers is expected to be a solution to the problems stated above. In Aceh, there is a culture for the mothers named *'madeung'*, in which the mothers are prohibited to step out of home 44 days after the birth delivery. In mean time, health workers are expected to visit mothers at homes as a way to improve the healthcare access for the mothers and their babies. The purpose of home visit is to maintain the health status of and prevent disease among the infants through growth monitoring, breastfeeding monitoring and immunization. One of the indicators of a healthy infant is that the growth is in synchronization with the age. Additionally, home visit by the health workers also can improve mothers' knowledge of *postpartum*, these visits are also to ensure that the *postpartum* mothers are capable of taking care of themselves and theirbabies [6].

The capability of *postpartum* mothers in taking care of themselves and their babies cannot be separated from the efficacy of the mothers themselves. Self-efficacy is the *postpartum* mothers' belief of their own capability to perform the tasks or actions needed to achieve certain outcomes. Bandura [7] explained that self-efficacy is the result of cognitive process in the form of decisions, beliefs, or rewards on how far an individual estimate his or her own ability in performing a certain required task or action to achieve the desirableoutcome.

People with high self-efficacy believe that they are able to do something in order to change their situations, while people with low self-efficacy regard themselves as incapable of doing anything [8]. This is proven in a study by Rahayuningsih [9] on the relation between preparation training for *postpartum* period with self-efficacy of the *postpartum* mothers in the Regency of Sragen, Central Java. The result of the study revealed that the preparation training for *postpartum* period effectively improved the self-efficacy of *postpartum* mothers.

As stated above, self-efficacy of postpartum mothers linked with mothers' abilities in taking care of their babies and themselves. One of the factors that can increase the postpartum mothers' self-efficacy is by home visiting. However, the quantity of health workers is limited to cover all of the home visiting, hence, social workers are prepared to cover this shortage. This research was obtained to identify self-efficacy of postpartum mothers can be increased by social workers home visit.

Method

This is a quantitative research with quasi-experimental *non-equivalent control group design*[10] method. The sample of the research was 48 health workers in the working area of UleeKareng Health Centre, Banda Aceh. A self-administered questionnaire was used in this study to measure postpartum mothers' Self-efficacy level. The measurement was consist of 22 items, adapted from Bandura's General Self-Efficacy Scale and has been tested for reliability and validity. Further, the design of the research can be depicted as follows:

PretestHome-visitsposttest

Intervention Group O_1 ---$X_{1,2,3\_}$ O_2ControlGroup O_3 O_4

from the scheme above, self-efficacyquestionnaire was given two times (in the beginning and ending of the experiment) to the both intervention and control group of *postpartum* mothers. However, in the intervention group, three times of home visit was done by social workers before the second test of self-efficacy was administered.

This research assessed any change in efficacy of the *postpartum* mothers on newborn care before and after three home visits by the health workers. The health workers, accompanied by local midwives, visited the homes of the *postpartum* mothers in their own villages. The schedule of the visits was adjusted to the schedule of neonatal visits, where NV-1 is the first visit executed on the 3rd to the 7th day after childbirth. NV-2 is the second visit on the 8th to the 28th day. NV-3 is the last neonatal executed on the 29th day to the 44th day after childbirth [11].

On the home visits, the health workers accompanied by the midwives held a discussion on condition during *postpartum* period by using the mother and baby's health book (pink book) [12].Meanwhile, for the control group, the *postpartum* mothers studied the materials in the mother and baby's health book given by the health centre during their pregnancy on theirown.

The research for the inter vention group was conducted for *post partum* mothers in the area of Ulee Kareng HealthCentre, while for the control group was in the area of Baiturrahman Health Centre. The sampling wastakenusing *samplesizemeanin dependent*[13] technique. 44 samples were required from the calculation. To anticipate drop out, 10% was added which resulted in 48 samples.

Results

In this research, there was a change in the number of the research subjects, due to *dropouts* in every stage of the execution. On the first visit, according to the sample calculation, the supposed number of the research subjects was 48 respondents, but only 45 respondents acquired fostered family. Meanwhile, out of 48 respondents for the control group, only 46 respondents agreed to join theresearch.

Furthermore, to learn the characteristics of the research subjects, the result of the demographic data of the research subjects is displayed in the table below.

Table 1: Characteristics of the ResearchSamples, HealthWorkers of Intervention groupand Controlgroup in UleeKarengand BaiturrahmanHealth Center

Variable	Sub Variable	N	%	Mean + SD Min-Max
Health workers Group	Intervention Control	45 46	49,5 50,5	
Health workers education	Low Middle High	11 65 15	12,1 71,4 16,5	
Health workers Employment	Not working Working	79 12	86,8 13,2	
Healthworkersage				40,1 + 8,5 23-63
Length of time being health workers				7,7 + 8,2 1-40

In the table 1 above, the number of health workers for the intervention groupwas45 respondents and 46 respondents for the control group. The education level of most of the respondents was middle school, whicwas up to 71.4%. As for the employment6 status, most of the respondents were not working, as 86.8% of them were housewives. The average age of the respondents was 40.1 years, with the youngest being 23 years old, and the oldest being 63 years old. The average length of time of beinghealthworkers were 7.7 years, with the shortest time of 1 year and the longest time of 40 years.

Next, the characteristics of the *postpartum* mothers as the research subjects in intervention group and control group during home visits by the health workers is shown in the table 2below.

Table 2: Characteristics of the Research Samples, Postpartum Mothers of Intervention Group and Control Group in UleeKareng Health Center and Baiturrahman Health Center Banda Aceh

Variable	NV-1				NV-3			
	Intervention		Control		Intervention		Control	
	N	%	N	%	N	%	N	%
Education								
Low	7	58,3	5	41,7	4	50,0	4	50,0
Middle	18	54,5	15	45,4	18	41,9	25	58,1
High	17	53,1	15	46,9	17	53,1	15	46,9
Employment								
Not working	34	51,5	32	48,5	34	47,2	38	52,8
Working	8	72,7	3	27,3	8	57,1	6	42,9

From the characteristics description it was revealed that before the home visit, the number of the *postpartum* mothers who were present on NV-1 from the intervention group were 42, while from the control group were 35 mothers. Most of their education level was middle to high level; with most of them not working, only staying at home as housewives. After home visit, the number of the *postpartum* mothers who were present on NV-3 from the intervention group were still 42 mothers, while from control group were 44 *postpartum* mothers. Their education level was middle to high level; with most of them notworking.

To discover the change in self-efficacy of the mothers on newborn care during *postpartum* period, before and after three home visits by the health workers (NV-1, NV-2, and NV-3), *paired t test*(14)was conducted. *Paired t test* is a paired test on the same subject using the same measuring instruments.

In this research, the researcher only conducted test on the intervention group because no home visit was made by the health workers for the control group. The *postpartum* mothers from the control group were given the mother and baby's health book (pink color) by health workers after their baby delivery. The researcher divided the control group following the same characteristics of

the intervention group, where the *pretest* group was postpartum mothers of day 3 to day 7 after childbirth (NV-1) and *posttest* group was postpartum mothers of day 29 to day 44 after childbirth(NV-)

The result of the home visits executed by the health workers was self-efficacy of the *postpartum* mothers on newborn care. *Pretest* measurement was conducted before NV-1, and *posttest* was conducted after NV-3. The test result of the influence of the home visit for the postpartum mothers is displayed in table 3 below:

Table 3: The Score of Self-Efficacy of the Postpartum Mothers of Intervention Group Before and After Home Visit in UleeKareng Health CenterBanda Aceh (n = 42)

Self-efficacy	Mean+sd	Mean	95% confidence interval of the		t	p
		difference	difference		value	value
			Lower	Upper		
Before visit	82,74+13,633	-12,500	-16,022	-8,978	-7,168	0.000*
After visit	95,24+8,328					

Based on the table 3 above, it was revealed that the self-efficacy of mothers on newborn care during *postpartum* period before and after the home visit has the p value of 0.000. Therefore, it can be concluded that there was a change in the mothers' self-efficacy on newborn care after three home visits by the healthworkers.

Then, to find out the difference between the intervention group and the control group, *independent t test* was conducted. The data of self-efficacy ofthemothers on newborn care for the *independent t test* from the intervention group was only taken after home visit. This is because the data of the mothers in the control group was only taken once, with the division of categories of *postpartum* mothers who were in NV-1 andNV-3.

The result of the *independent t test* of self-efficacy of the postpartum mothers on NV-1 and NV-3 is displayed in the table below:

Table 4: The Score of Self-Efficacy of the Postpartum Mothers from Intervention Group and Control Group

Self-efficacy	NV-1			NV-2		
	Mean +Sd	Difference	P.values	Mean +Sd	Difference	P.values
Intervention group	95.24 + 8.328	11.238	0.000*	95.248.328	8.965	0,003*
Control group	84.0011.096			86.2717.285		

Analysis of the *independent t test* of self-efficacy of *postpartum* mothers from the intervention and the control group revealed that there was a significant change with the p value of 0.000 in NV-1 and 0.003 in NV-3. Hence, it can be concluded that there was score difference in self-efficacy of *postpartum* mothers from the intervention group and the control group on newborn care.

Discussion

From the test result, it was discovered that there was a change in attitude of the *postpartum* mothers on newborn care after three home visits executed by the health workers. The difference of the average score of the mothers' self-efficacy was 12.5 with p value of 0.0001. Based on this result, it can be concluded that there was a change in self-efficacy of the *postpartum* mothers before and after home visit by the health workers.

When the scores of self-efficacies of the mothers from both groups were compared, a significant difference was found between mothers from the intervention group who received home visit and mothers from the control group, with p value of 0.003.

Self-efficacy is one's self perception of whether or not he can function well in certain situation. Efficacy is also correlated with the self-belief that one has the ability to perform the expected actions [15]. *Parental efficacy* is the belief of a mother of being capable of doing something according to her ability in certain conditions, as well as the ability of parents to plan and carry out specific actions that can produceresults [16].

Self-efficacy of *postpartum* mothers on newborn care is a crucial aspect in facilitating a mother's adaptation and experience. One of a mother's characteristics that influences self-efficacy is *maternal confidence*[17]. Self-efficacy is also obtained from self-confidence by influence of other people. Health workers as a part of the community and have experiences on childbirth and infant care are considered to have experienced similar condition that the *postpartum* mothers are experiencing. Thus, this condition can improve someone's self-efficacy [18].

Home visit executed by health workers can improve self-efficacy of the *postpartum* mothers. Moreover, in correspondence with previous study by Salonen [19], it was discovered that there was a significant improvement of parenting self-efficacy of *postpartum* mothers who joined parenting program compared to mothers who did self- treatment at home. A visit by people who have capacity in health subject and to be given direct lesson on health care is one way to improve self-efficacy and strengthen the belief of the community that they have capacity to succeed*Systematic literature* conducted by Warren *et al*[20]on *self-efficacy* of mothers who have just given birth during *postpartum* period. The result of the study was that self- efficacy of a mother who has just given birth is the mother's satisfaction in taking care of the baby. A good self-efficacy of a *postpartum* mother can also be associated as a mean to minimize depression of a *postpartum* mother.

The result of this research can be implied in *Puskesmas* Aceh/Health care system by regulating a new policy towards home visit to the postpartum mothers in each area covered by each Puskesmas, in which social workers are prepared as the home visitors for helping, monitoring, and educating *postpartum* mothers in the health care area.

Conclusion

Generally, it can be concluded that there is a correlation between home-visit executed by healthworkerswithself- efficacy of *postpartum* mothers on newborn care. Specifically, the result of the research showed improvement of self-efficacy of the *postpartum* mothers after home visits by the health workers in the area of UleeKareng Health Center, Banda Aceh. There was a differencebetween self-efficacy improvement of mothers in the intervention group and of ones in the controlgroup.

Suggestion

The health workers in the UleeKareng Health Centre Banda Aceh are expected to conduct home visit

as a way to improve self- efficacy of *postpartum* mothers in the community. The health workers could also build partnership with local health workers through referral program during home visit in thecommunity.

Data Availability

The data used to support the findings of this study are available from the corresponding author uponrequest.

Ethical Approval

Ethical clearance for publishing the results of this study has been given by the Department of Ethic,MedicalFaculty at Syiah Kuala University where the writer-researcherswork.

Conflicts of Interest: The authors have all declared that no conflicts of interest exist.

Acknowledgement: The Head of UleeKareng Health Center and the Head of Baiturrahman Health Center who had permitted the researcher to utilize the working area of the health centers as the research sites. Also, to all the health workers and the *postpartum* mothers who agreed to participate in this research.

The authors thank the Aceh Health Polytechnic for funds provided to do this research amounting toRp.30,900,000{about US$ 2,060}.

References

1. WHO, CORE, UNICEF. Child Health in Community, Community IMCI, Briefing Package for Facilitators. 2004.
2. UNICEF. Summary of the Study of Maternal and Child Health in Indonesia. Indonesia : UNICEF, 2012.
3. Health, Indonesia Ministry of. Indonesia Health Profile 2015. Jakarta : Indonesia Ministry of Health , 2016.
4. Office, Banda City Health. Banda Aceh City Health Profile 2016. Banda Aceh : Banda Aceh City Health Office, Program and Reporting Division, 2017.
5. Affairs, Ministry of Home. Minister of Home Affairs Regulation No. 7 2007, Community Empowerment Cadres. Jakarta : Ministry of Home Affairs, 2007.
6. Director General of Nutrition and MCH, Ministry of Health, Republic of Indonesia. Community-Based Guidelines for Integrated Management of Toddler Sick (MTBS-M). Jakarta : Ministry of Health, Republic of Indonesia, 2013.
7. Bandura, A. Self Efficacy in Changing Societies. s.l. : University Press: Cambridge, 1999,.
8. Self Efficacy Mechanism in Psychobiologic Functioning. In R. Schwarzer (ed)., Self Efficacy Thought Control of Action. Washington. DC : Hemisphere: Washington. DC, 1992.
9. Rahayuningsih, F, B. Relationship between Postpartum Preparation Training and Postpartum Self Efficacy in Sragen Regency, Central Java: Faculty of Health Sciences. Surakarta : Muhamadiyah University, 2014.
10. Campbell, D, T, Stanley, J, C. Experimental and Quasi Experimental Designs for Research. . USA : Houghton Mifflin Company: USA, 1963.
11. Factors Associated with Visiting Neonates in the Work Area. Puskesmas Lubuk Kilangan. Zuraida, J. 2, s.l. : Journal of Human Care, 2016, Vol. 1.
12. Indonesia, Ministry of Health of the Republic of. Maternal and child health books. Jakarta : Ministry of Health and Japan International Cooperation Agency, 2016.
13. Azwar, S. Reliability and validity, 3rd edition, Xth printing. Yogyarkarta : Student Library, 2010.
14. Hastono, SP. Health Data Analysis. Basic Data Analysis for Health Research Training. Jakarta : Faculty of Public Health University of Indonesia, 2007.
15. Bandura, A. Perceived Self Efficacy in Kognitive Development and Functioning. s.l. : Educational Psychologist. 28, 117-148, 1995.
16. Effects of an Educational Program of Pregnancy and Delivery on Pregnancy Related Knowledge, Newborn Care Knowledge and Postpartum Care Self- Efficacy of Marriage Immigrant Women. Kim, E, H, Lee, E, Kim, M, J, Park, D, Y, & Lee, S, H. 1, s.l. : Journal of Korean Academy of Nursing, 78-87.doi:10.4040/jkan.2010.40.1.78., 2010, Vol. 40.
17. Marital and Parenting Satisfaction and Infant Care Self Efficacy During the Transition to Parenthood: the Effect of Infant Sex. Elek, S, M, Hudson, D, B

& Bouffard, C. 1, s.l. : Issue Compr Pediart Nurs, : 45-57, 2003, Vol. 26.

18. First-Time Mother: Social Support, Maternal Parental Delf Efficacy and Postnatal Depression. Leahy-Warren, P, Mccarthy, G, & Corcoran, P. s.l. : Doi: 10.1111/j. 1365-2702-2011-03701.x., 2011.
19. 2009, 'Parenting Self Efficacy After Childbirth. Salonen, A, H, Kaunonen, M, Astedt-Kurki, P, Jarvenpaa, A, L, Isoaho, H, Tarkka, M, T. 11, s.l. : Journal of Advanced Nursing Page 2324-2336. Doi: 10.1111/j. 1365-2648.2009.05113.x, Vol. 65.
20. Warren-Leahy, P, McCarthy, G, Mc Auley, C. Maternal Parental Self-Efficacy in the Postpartum Period. s.l. : Midwifery 802–810, 2010.