Effect of training to knowledge and practices of dasa wisma activists as pregnant women assistants in preventing low birth weight

by Sri Achadi Nugraheni

Submission date: 21-Sep-2021 09:22AM (UTC+0700)
Submission ID: 1653501275
File name: as_pregnant_women_assistants_in_preventing_low_birth_weight.pdf (458.81K)
Word count: 3251
Character count: 16373

DOI Number: 10.5958/0976-5506.2019.03797.5

Effect of Training to Knowledge and Practices of Dasa Wisma Activists as Pregnant Women Assistants in Preventing Low Birth Weight

Sri Achadi Nugraheni[1], Anung Sugihantono[2], D. Izwardy[2], R. G. Wurjandaru[2], Etik Sulistyawati[1], Ike Johan Prihatini[3], Nurhasmadiar Nandini[1]

[1]Faculty of Public Health, Diponegoro University, Semarang, Indonesia, 50275, [2]The Ministry of Health, Republic of Indonesia, Jakarta, Indonesia, 12950, [3]Faculty of Health Science, Darul Ulum Islamic Boarding University, Jombang, Indonesia, 61419

Abstract

The number of Low Birth Weight (LBW) in Indonesia is still high because of, among others, the lack of mothers' knowledge to prevent LBW case. The solution proposed is to encourage *Dasa Wisma (Dawis)* activists to assist pregnant women as one of the strategic actions. The aim of the research was to analyze the effect of assistance training towards the knowledge and practices of *Dawis* activists related to the prevention of LBW case in pregnant women. Method of this research was pretest and posttest without control group design of Quasi-experimental were applied. The population sampled using purposive random sampling was 37 *Dawis* activists in Tlogosari Wetan District, Semarang. The distance between pretest and posttest was approximately one month. Test result of Wilcoxon Match Paired test revealed that there were significant differences in the knowledge ($p < 0.05$) and practices ($p < 0.05$) of *Dawis* Activists before and after the intervention of assistance training. In the end of this research, the knowledge of *Dawis* Activists increased 5.97 points, while their practices increased 3.97 points. The recommendation from this research is that assistance training for *Dawis* Activists is necessary, even if it is only for a day, in order to increase the competence of *Dawis* Activists in assisting pregnant women to prevent Low Birth Weight case in one month.

Keywords: *Training, Knowledge, Dasa Wiswa Assistance, Pregnant Woman, Birth Weight.*

Introduction

The number of Low Birth Weight (LBW) case in Indonesia is still high. LBW has been considered the primary factors in the increasing number of mortality and morbidity of neonatal, infants, and children, which may lead to long-term effects in the future[1]. In Indonesia, the high rate of malnutrition cases in pregnant women contributed to that of LBW case, which was estimated to be more than 350.000 infants per annum, and it has been predicted that 17 million LBW babies per annum might also be exposed to. Meanwhile, in Central Java, the percentage of LBW tended to be increasing since 2012 to 2015, and it decreased in 2016[2]. According to the report of the Health Office of Semarang City in 2016, there were 506 infants (1.9%) of LBW infants in 2016, consisted of 260 male infants and 249 female infants[3]. One of the districts identified to be low nutrition infants and toddlers was Tlogosari Wetan District. Realizing the possible danger of LBW, several strategies have been implemented to reduce LBW cases, yet, the results have not been maximum. Meanwhile, the government has not prioritized community empowerment programs.

Cadres, the closest persons to the community and pregnant women, have been empowered to be able to assist pregnant women for the last few years. In addition to the cadres, some people may voluntarily assist pregnant women, such as the *Dasa Wisma* (*Dawis*) activists. Until recently, *Dawis* activists have not joined such training regarding their function to assist pregnant women within their area. The assistance of *Dawis* activists to pregnant

Corresponding Author:
Sri Achadi Nugraheni
Public Health Faculty, Diponegoro University, Jl. Prof. Sudarto, SH, Tembalang, Semarang, 50275
e-mail: nugraheni.sa.undip@gmail.com

women is one of the strategic moves that significantly leverage in solving LBW problems. The general purpose of this research was to analyze the changing paradigm from PLC to CLC with evidence-based proof that the *Dawis* activists could be educated with the prevention of LBW through assistance training, in order to raise their confidence and possess sufficient knowledge as pregnant women assistant.

Method

This was quasi-experimental research, with pre and posttest without control group design. The population of this research was the *Dawis* Activists in the working area of PHC Tlogosari Wetan, Semarang City, especially in Kecamatan Tlogosari Wetan. The sampling method has been done through purposive random sampling to 37 *Dawis* Activists.

Intervention in this research was through a training for a whole day, led by an expert in Mothers and Child Health from the Faculty of Public Health Diponegoro University, as a provision for the *Dawis* Activists to assist pregnant women related to LBW prevention. Data about the knowledge and practices was obtained from a structured interview by trained enumerators. Data analysis used Wilcoxon Match Paired test (data obtained distributed abnormally) to analyze the difference or alteration in the result in the knowledge and practices of the *Dawis* Activists before and after intervention.

Results and Discussions

According to distribution table from the *Dawis* Activists, all 37 participants in this research were females (100%) with following composition: 75% of participants were above 35 year old including four 50 year old participants. Most of them has been joining *Dawis* for 10 years or less (84%), which the biggest population were 5 years and 10 years' experience as *Dawis* members (5 people in each population). The latest education was mostly Senior High School or equal (56%) with following professions: 54% housewives, 54% private sector workers as tailors, entrepreneurs, and company workers.

The Knowledge of *Dawis* Activists: The table 1 showed the increase and decrease number of participants who understand the knowledge related to maternal and child health.

Table. 1 The difference of participants' knowledge before and after intervention

No.	Statement	Before intervention				After intervention			
		Understand		Unversed		Understand		Unversed	
		n	%	n	%	n	%	n	%
1	Pregnancy development	26	70.3	11	29.7	37	100	0	0.0
2	Signs of pregnancy	34	91.4	3	8.1	36	97.3	1	2.7
3	Blood pressure check during pregnancy	32	86.5	5	135	34	91.9	3	8.1
4	TT immunization during pregnancy	22	59.5	15	40.5	32	86.5	5	13.5
5	Iron tablets for pregnant women	29	78.4	8	21.6	33	89.2	4	10.8
6	Pregnant women and fetus health	23	62.2	14	37.8	32	86.5	5	13.5
7	Pregnancy gymnastics	27	73.0	10	27.0	37	100.0	0	0.0
8	Pregnant women nutrition	37	100.0	0	0.0	37	100.0	0	0.0
9	Alarming signs during pregnancy	8	21.6	29	78.4	14	37.8	23	62.2
10	Contact health provider when the alarming signs appear during pregnancy	36	97.3	1	2.7	34	91.9	3	8.1
11	Regular Pregnancy check	9	24.3	28	75.7	29	78.4	8	21.6
12	Carbonated drinks	25	67.7	12	32.4	37	100.0	0	0.0
13	Counselling during pregnancy	23	62.2	14	37.8	35	94.6	2	5.4
14	Resting period for pregnant women	26	70.3	11	29.7	36	97.3	1	2.7
15	Pregnant women medicines	36	97.3	1	2.7	37	100.0	0	0.0

Table. 2 The score difference of participants' knowledge

Participants knowledge related to LBW prevention	Before intervention		After intervention	
	N	%	N	%
Give 75% or less right answers	27	73.0	1	2.7
Give more than 75% right answers	10	27.0	36	97.3
Total score	37	100.0	37	100.0
Mean	1[illegible]2		13.51	
Wilcoxon test	p= 0.001 (p < 0.05)			

This study showed that intervention through the *Dawis* Activists as an action to prevent obstetric outcomes of LWB, then after the *Dawis* Activists implemented pregnant women assistance, it showed a significant result. Difference test used Wilcoxon test showed significant difference of knowledge during before and after intervention (p=0.001). The result of normality test showed irregular distribution pretest variables (p=0.020) and irregular distribution posttest variables (p=0.002), thus Wilcoxon test was selected. From the results of difference test using Wilcoxon test, it showed a significant difference of knowledge in before and after intervention (p=0.001).

This result was in accordance with the previous study in Australia, which shows that 70% - 97% participants achieve an increasing rate of confidence through training and 83% - 91% participants achieve an increasing rate of knowledge in mothers and children health topic from pre-training score 11 to post-training score 15[4]. Another literature shows that output targets from the training in health program counselor communication techniques, it increases the confidence of participants who have limitations in delivering health information[5,6]. The keys of success in health training are delivering health education with confidence, good communication techniques, giving positive stigma, and educate people naturally for counselors[7].

These results corresponded with the result of a research in rural India, which shows that anemia maternal incident during 3 – 5 months of gestation period significantly related to the high LBW tendency (OR: 0.34, 95% Cl: 0.13-0.92, p=0.03). Approximately 30% of participants experience unplanned pregnancy, thus, it raises the risk of LBW. Therefore, pregnant women need to be provided with nutrition plan education and healthy lifestyle during their pregnancy[8].

Another important subject that should be informed by the *Dawis* Activists to pregnant women was the restriction on consuming medicines. Bocca, et al, stated on the research that Extremely LBW with < 1500 grams birth weight happened because of drugs exposure, which then caused element deficiency or toxicity that affected fetus development, obstructed the absorption of uteroplacental nutrition circulation, and increased oxidative stress[9].

The Practice of *Dawis* Activists in PHC Tlogosari Wetan Working Area: The following table showed the increasing and decreasing number of participants who implemented pregnant women assistance practices.

Table. 3 Practice Differences of the Participants before and after intervention

No	Statement	Before intervention				After intervention			
		Do		Don't		Do		Don't	
		n	%	N	%	n	%	n	%
1	Pregnancy Test	36	97.3	1	2.7	33	89.2	4	10.8
2	Pregnancy Signs	29	78.4	8	21.6	31	83.8	6	16.2
3	Pregnancy check in health facility	22	59.5	15	40.5	35	94.6	2	5.4
4	Pregnant women carry heavy load	23	62.2	14	37.8	36	97.3	1	2.7
5	Resting and small activities for pregnant women	23	62.2	14	37.8	33	89.2	4	10.8
6	No dietary food during pregnancy	24	64.9	13	37.1	30	81.1	7	18.9
7	Pregnancy gymnastic	25	67.6	12	32.4	32	86.5	5	33.5
8	Nutrition for pregnant women	15	40.5	22	59.5	27	73.0	10	27.0
9	Alarming signs during pregnancy	26	70.3	11	29.7	31	83.8	6	16.2
10	Avoidable LBW	29	78.4	8	21.6	32	86.5	5	13.5
11	Pregnant women must avoid cigarette smokes	22	59.5	15	40.5	32	86.5	5	13.5
12	Fruits and vegetables are important for pregnant women	26	70.3	11	29.7	30	81.1	7	18.9

No	Statement	Before intervention				After intervention			
		Do		Don't		Do		Don't	
		n	%	N	%	n	%	n	%
13	Pregnant women should not do heavy works	24	64.9	13	35.1	35	94.6	2	5.4
14	Pregnant women drink water or milk	30	81.1	7	18.9	33	89.2	4	10.8
15	Sports for pregnant women	26	70.3	11	29.7	32	86.5	5	13.5

Table.4 The score difference of participants' practices

Participants practices related to LBW prevention	Before intervention		After intervention	
	N	%	N	%
Give 75% or less right answers	30	81.1	9	24.3
Give more than 75% right answer	7	18.9	28	75.7
Total score	37	100.0	37	100.0
Mean	9.70		13.02	
Wilcoxon test	p= 0.001 (p < 0.05)			

The result of normality test showed irregular distribution pretest variables (p=0.001) and irregular distribution posttest variables (p=0.001), thus Wilcoxon test was selected. From the results of difference test using Wilcoxon test, it showed a significant difference of practice in before and after intervention (p=0.001). This study showed that there was a significant practices change in before and after intervention as the result of comparative test used Wilcoxon test (p=0.001).

The material conveyed by the *Dawis* Activists stated that pregnant women must avoid cigarette smokes is in line with the literature which stated that smoking causes toxicity trace element that could disrupt uteroplacental circulation and increase oxidative stress[9]. In another literature, it shows that cigarette smokes exposure during pregnancy would increase the risk of LBW and premature birth[10–13], and inducing labor in 37 – 38 weeks gestation[14].

This research also in accordance with following literatures, that LBW case prevention could be implemented through prenatal care program evaluation, pregnant women mapping, assistance, education, and elevate the knowledge about mother and children health[15]. Implementation of the *Dawis* Activists assistance to pregnant women through education and motivation is flexibly conducted based on the activities of the *Dawis* Activists and pregnant women, including home visit. This could be optimized according to the research from Krans, et al. in the United States, which states that optimum prenatal check for LBW prevention through education and home visit which is the fittest model for pregnant women because of its flexibility[16].

Home visitation in New York according to Lee, et al. is conducted as pregnant women service strategy, including in the case of teenage pregnancy which has limited social and family support[17–19]. Furthermore, home visit program becomes the core program that has a significant impact to decrease the risk of pregnancy complication, including LBW[20].

Conclusions

The result of this study shows that there are differences in the knowledge of the *Dawis* Activists before and after intervention regarding the training on LBW prevention in pregnancy with p=0.001 and the average increasing point is 3.11 point. There are also differences in the practices of the *Dawis* Activists before and after intervention regarding the training on LBW prevention in pregnancy with p=0.001 and the average increasing point is 3.32 point.

The role of the *Dawis* Activists is also crucial to convey information and to monitor public health level by monitoring pregnant women health. Also, PHC needs to assign more active programs and activities to the *Dawis* Activists under its working area to provide monitoring and information regarding health issues, especially for pregnant women.

Conflict of Interest: The authors declare that they have no conflict of interest within this research.

Acknowledgements: The writers send gratitude to the Heath Department of Semarang, the staff of Tlogosari Wetan PHC, the *Dawis* Activists from Pedurungan sub-district, Tlogosari Wetan District, and all participants who help the authors completing this research. Our highest gratitude to the Faculty of Public Health Diponegoro University and the Directorate General of Public Health the Indonesian Ministry of Health, specifically the Directorate of Public Nutrition and all its ranks.

Ethical Clearence: This research has been approved by the Health Research Ethics Committee Faculty of Public Health Diponegoro University Number 046/EC/FKM/2018 on 25th April 2018.

References

1. Setiyaningrum E, Aziz ZB. *Family Planning Services and Reproductive Health*. Jakarta: CV. Trans Info Media, 2014.
2. Provincial Health Office of Central Java. *Health Profile of Central Java Province 2016*. Semarang: Provincial Health Office of Central Java, 2016.
3. Semarang City Health Office. *Health Profile of Semarang 2016*. Semarang: Semarang City Health Office, 2016.
4. de Jersey SJ, Tyler J, Guthrie T, et al. Supporting healthy weight gain and management in pregnancy: Does a mandatory training education session improve knowledge and confidence of midwives? *Midwifery* 2018; 65: 1–7.
5. Furness PJ, Arden MA, Duxbury AMS, et al. Talking about weight in pregnancy: An exploration of practitioners' and women's perceptions. *J Nurs Educ Pract*; 5. Epub ahead of print 2014. DOI: 10.5430/jnep.v5n2p89.
6. Heslehurst N, Russell S, McCormack S, et al. Midwives perspectives of their training and education requirements in maternal obesity: A qualitative study. *Midwifery* 2013; 29: 736–744.
7. Basu A, Kennedy L, Tocque K, et al. Eating for 1, Healthy and Active for 2; feasibility of delivering novel, compact training for midwives to build knowledge and confidence in giving nutrition, physical activity and weight management advice during pregnancy. *BMC Pregnancy Childbirth*; 14. Epub ahead of print 2014. DOI: 10.1186/1471-2393-14-218.
8. Ahankari AS, Myles PR, Dixit J V., et al. Risk factors for maternal anaemia and low birth weight in pregnant women living in rural India: a prospective cohort study. *Public Health* 2017; 151: 63–73.
9. Bocca B, Ciccarelli S, Agostino R, et al. Trace elements, oxidative status and antioxidant capacity as biomarkers in very low birth weight infants. *Environ Res* 2017; 156: 705–713.
10. Wahabi HA, Alzeidan RA, Fayed AA, et al. Effects of secondhand smoke on the birth weight of term infants and the demographic profile of Saudi exposed women. *BMC Public Health*; 13. Epub ahead of print 2013. DOI: 10.1186/1471-2458-13-341.
11. Fantuzzi G, Aggazzotti G, Righi E, et al. Preterm delivery and exposure to active and passive smoking during pregnancy: A case-control study from Italy. *Paediatr Perinat Epidemiol* 2007; 21: 194–200.
12. Crane JMG, Keough M, Murphy P, et al. Effects of environmental tobacco smoke on perinatal outcomes: A retrospective cohort study. *BJOG An Int J Obstet Gynaecol* 2011; 118: 865–871.
13. Díez-Izquierdo A, Balaguer A, Lidón-Moyano C, et al. Correlation between tobacco control policies and preterm births and low birth weight in Europe. *Environ Res* 2018; 160: 547–553.
14. Vicedo-Cabrera AM, Schindler C, Radovanovic D, et al. Benefits of smoking bans on preterm and early-term births: A natural experimental design in Switzerland. *Tob Control* 2016; 25: e135–e141.
15. Dubay L, Joyce T, Kaestner R, et al. Changes in prenatal care timing and low birth weight by race and socioeconomic status: implications for the Medicaid expansions for pregnant women. *Health Serv Res* 2001; 36: 373–98.
16. Krans EE, Davis MM. Preventing Low Birthweight: 25 years, prenatal risk, and the failure to reinvent prenatal care. *Am J Obstet Gynecol* 2012; 206: 398–403.
17. Carabin H, Cowan LD, Beebe LA, et al. Does participation in a nurse visitation programme reduce the frequency of adverse perinatal outcomes in first-time mothers? *Paediatr Perinat Epidemiol* 2005; 19: 194–205.
18. Ciliska D, Mastrilli P, Ploeg J, et al. The effectiveness of home visiting as a delivery strategy for public health nursing interventions to clients in the prenatal and postnatal period: A systematic review. *Prim Heal Care Res Dev* 2001; 2: 41–54.
19. Guterman N. *Stopping Child Maltreatment before it Starts: Emerging Horizons in Early Home Visitation Services*. Thousand Oaks California: SAGE Publications Inc, 2012. Epub ahead of print 2012. DOI: 10.4135/9781452220635.
20. Lee E, Mitchell-Herzfeld SD, Lowenfels AA, et al. Reducing Low Birth Weight Through Home Visitation. A Randomized Controlled Trial. *Am J Prev Med* 2009; 36: 154–160.

Effect of training to knowledge and practices of dasa wisma activists as pregnant women assistants in preventing low birth weight

ORIGINALITY REPORT

6%	4%	4%	2%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	garuda.ristekdikti.go.id Internet Source	1%
2	doaj.org Internet Source	1%
3	Submitted to Universitas Indonesia Student Paper	1%
4	www.internetworkingindonesia.org Internet Source	1%
5	Cristina Lidón-Moyano, Jose M Martínez-Sánchez, Marcela Fu, Montse Ballbè et al. "Impact of the Spanish smoking legislations in the adoption of smoke-free rules at home: a longitudinal study in Barcelona (Spain)", Tobacco Control, 2017 Publication	<1%
6	Yuan Zhang, Meng Xia, Yunjie Song, Jing Wang, Yundong Mao, Jiayin Liu, Xiang Ma. "Long-term pituitary downregulation before	<1%

frozen embryo transfer improves clinical outcomes in women positive for serum autoantibodies", European Journal of Obstetrics & Gynecology and Reproductive Biology, 2021
Publication

7	researchonline.rvc.ac.uk Internet Source	<1%
8	vet-erinar.vet.bg.ac.rs Internet Source	<1%
9	"Proceedings of the Andalas International Public Health Conference 2017", BMC Public Health, 2017 Publication	<1%
10	Aditi Apte, Rutuja Patil, Pallavi Lele, Bharat Choudhari, Tathagata Bhattacharjee, Ashish Bavdekar, Sanjay Juvekar. "Demographic surveillance over 12 years helps elicit determinants of low birth weights in India", PLOS ONE, 2019 Publication	<1%
11	Dini Rima Fadilah, Shrimarti Rukmini Devy. "Antenatal Care Visits and Early Detection of Pre-eclampsia among Pregnant Women", International Journal of Public Health Science (IJPHS), 2018 Publication	<1%

12	docplayer.net Internet Source	<1%
13	mafiadoc.com Internet Source	<1%
14	ejournal2.undip.ac.id Internet Source	<1%

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	On		