



OPTIMIZING THE ROLE OF CADRES IN INCREASING THE KNOWLEDGE OF WOMEN OF CHILDBEARING AGE ABOUT PRECONCEPTION HEALTH

Wiwin Widayani ^{1,2*}, Kurniaty Ulfah², Viena Rusmiati¹, Uyu Wahyudin¹, Iip Saripah¹

¹Universitas Pendidikan Indonesia Jl. Dr. Setiabudi No. 229 Kota Bandung Jawa Barat

²Midwifery Department, Politeknik Kesehatan Kemenkes Bandung

Jl. Sederhana No. 2 Bandung Indonesia

Email: wiwinwidayani22@upi.edu

Abstract

Introduction: The preconception period is a very important period to prepare before facing pregnancy so that health during pregnancy is optimal. Many health problems during the preconception period can increase the likelihood of death and morbidity for mother and child. Cadres as a driving force in society who are responsive to health need to have their capacity increased through training activities as pre-conception health instructors. This research aims to determine the effect of training on increasing cadres' knowledge about preconception health.

Objectives: This partnership program is to increase the knowledge and skills of cadres and women of childbearing age regarding preconception health.

Method: The community partnership program is a community service activity carried out in Cimerang Village, Padalarang District. Partner built is 18 cadres and 20 women of childbearing age. This partnership program was implemented in 14 activities. Cadre receives training on preconception health and skills material to provide education to women of childbearing age. The "Preconception Health Training" module is used as media training and education cadre assistance to women of childbearing age. Cadre Which has given training provided assistance aimed at evaluating cadres in their understanding of preconception health which is implemented when providing counseling to women of childbearing age. Evaluation of this activity is by measuring cadres' knowledge before and after training, observing cadres' skills in providing education to women of childbearing age.

Result: After training cadres on preconception health care and ways/techniques of providing counseling, cadres carried out preconception health care counseling activities for women of childbearing age (WUS) to observe and assess the performance of cadres in providing counseling. The results of the analysis of cadre knowledge before and after training obtained a p-value of $0.003 < 0.05$, meaning that there was a significant difference between cadre knowledge before and after training. The results of observations and performance assessments showed that cadre performance in conducting counseling was quite good.

Conclusion: Training for cadres about preconception health and assistance in providing education can increase cadres' knowledge about preconception health

Keywords: Cadres, preconceptions, training

INTRODUCTION

The preconception period is a very important period to prepare both biomedically, behaviorally, and socially so that you are optimally prepared before facing pregnancy. Therefore, preconception health needs to be prepared so that health during pregnancy is optimal. Many health problems occur and develop during the preconception period which can increase the possibility of death and morbidity for mothers and children, including nutritional disorders and deficiencies, diseases that can be prevented by immunization,

smoking behavior, environmental risks, genetic disorders, early pregnancy, pregnancies that unwanted, preterm pregnancy, sexually transmitted diseases including HIV, infertility and subfertility, mental health disorders, use of psychoactive substances and sexual violence.^{1,2}

In line with the facts expressed by WHO, health problems related to preconception also occur in Indonesia. The results of the latest Riskesdas survey released by the Indonesian Ministry of Health in 2018 show several very significant problems. Regarding nutritional problems, the proportion at risk of chronic energy deficiency in women of childbearing age (WUS) aged 15-19 years was 36.3% in 2018, and the proportion of overweight and obese adults (>18 years) was 13, respectively. 6% and 21.8%. This has increased from previous years. The proportion of tobacco consumption (smoking and chewing) among the population aged 15 years and over is 62.9% for the male population and 4.8% for the female population. The proportion of alcoholic beverage consumption among the population aged 10 years and over is 3.3%. The proportion of households with family members who have mental disorders (schizophrenia/psychosis) is 7%, the prevalence of depression in residents ≥ 15 years is 6.1%, and the prevalence of emotional mental disorders is 9.8%. Apart from that, the trend of non-communicable diseases such as diabetes mellitus and hypertension increased in 2018 with a prevalence of 2% and 34.1% respectively.

In West Java, the proportion of the risk of chronic energy deficiency in non-pregnant WUS in West Java Province in 2018 was 12%. (Riskesdas, 2018). The risk of health problems can be caused by low energy intake. The proportion of the female population with very less, less, and more calorie intake was 46.7%, 33.4%, and 5.8% respectively. When viewed from the place of residence, the proportion of energy adequacy levels that are very low and low are respectively 42.4% and 34.8% for urban residents, and 49.2% and 32.9% for rural residents. In West Java, the proportion of the population with energy intake in the very low category is 44%, in the less category is 34%, and in the more category is 7% (Health Research and Development Agency, Indonesian Ministry of Health, 2014). The proportion of obesity in adults aged >18 years is 22%. Regarding mental health problems, the proportion of households with family members with mental disorders (schizophrenia/psychosis is 5%, depression at age ≥ 15 years is 7%, and emotional mental disorders is 9%^{3, 4}.

Health cadres according to *the Indonesian Ministry of Health* in the *Directorate of Community Participation Development* are residents from local environmental communities who are selected by the community and also reviewed by the community and can work voluntarily. Cadres are responsible for the local community, especially in the health sector. The role and function of cadres as a driving force in society include providing motivation about environmental sanitation, individual health, and healthy habits in general, providing motivation about diseases, especially infectious diseases, prevention and/or referral, as well as other roles³. To increase the capacity of cadres as driving forces "agents" of change in society who are responsive to preconception health, their capacity needs to be increased through training activities as preconception health educators. It is hoped that this activity will build the cadres' confidence as agents of change which will increase their readiness to mobilize the community in their area so that people know about preconception health.

The training that will be carried out is used as a method to improve the quality of cadres which includes knowledge, skills, and attitudes of cadres in a positive direction. Health care for women during the preconception period is one of the factors that can contribute to improving maternal and child health (reducing the incidence of preeclampsia/eclampsia, bleeding, and infection), and in developing countries. In addition, efforts to support women to have sufficient information and make good decisions regarding their fertility and health can also contribute to the social and economic development of families and communities. Raising awareness about the importance of men's health and behavior on maternal and child health impacts can also increase the potential benefits of

preconception care. However, in reality, programs related to preconception health services are very minimal in developing countries. In addition, many women in developing countries do not have enough access to the preconception care they need.^{5, 6}

An effective intervention for training these cadres is that the team specifically designs a training curriculum that refers to current standards. This cadre training is carried out with the scope of existing health cadres, or prospective cadres who are specifically formed to act as preconception health care cadres. Cimerang Village is one of the villages in the Padalarang District area that has not yet received preconception health information. Therefore, to increase the insight and ability of cadres in providing reproductive health education, especially about preconception health so that they can play a strategic role as mediators between the community and health services, it is necessary to carry out training to increase readiness as health educators regarding preconception health and increase the knowledge of women of childbearing age. about preconception health.

RESULTS AND DISCUSSION

Community service activities were carried out in Cimerang Village, Padalarang District from January to October 2020 with a total of 14 meetings carried out starting from assessment, licensing, cadre training, educational assistance, and evaluation. Activities are carried out offline using interactive lecture methods, brainstorming, demonstrations, and role plays. Partners are provided with various materials through media modules and power points. The activity preparation stages consist of preparing materials, modules, pretest and posttest questionnaires, cadre performance checklists in providing education to women of childbearing age, coordination and licensing to the Cimerang Village, program socialization, cadre recruitment.

Cadre training was carried out in four meetings. The first activity is socialization, and the second activity pretest followed by providing training material related to socialization and pretest, providing material on female reproductive organs and menstruation, factors that influence pre-conception health, preparation for a healthy pregnancy, and counseling concepts as well as techniques for providing counseling, and posttest. Furthermore, demonstrations and roleplay techniques provide education between fellow cadres. The following are the results of data analysis from health cadres and knowledge of women of childbearing age:

Description of Education Level of Health Cadres

The healthcare training activities carried out in community service in 2020 involved 20 health cadres. However, during the process of assisting outreach activities by cadres, two cadres *lost* follow-up because they were unable to carry out health education activities at WUS. For this reason, the cadre data included in the results analysis was 18 people. The educational background of health cadres who participate in cadre training activities on preconception health care is shown in Table 1

The results of the posttest on cadre knowledge have increased compared to the pretest results. The checklist for the performance of cadre skills in providing education in roleplay can be carried out very well before and after training can be seen in the following Table:

Table 1 Comparison Of The Increase In Cadre Knowledge Scores Before And After Cadre Training

	Average (s.b)	Different (s.b)	CI 95%	P value*
Knowledge score before training (n=18)	53,3 (8,6)	11,3 (13,9)	44,4-18,2	0,003
Knowledge score after training (n=18)	64,6 (14,1)			

*paired t test

Table 1 shows that there is a statistically significant difference in the mean knowledge score of cadres before training (53.3) and the mean score after training (64.6), namely with the average increase in knowledge score after training being 11.3. This shows that the cadre training activities that have been carried out in this community service activity have contributed quite a lot in increasing cadres' knowledge about preconception health care.

According to Robbins, Stephen P, (2001), the training referred to here is formal training that is carefully planned and has a structured training format ⁷,

According to Bernardin and Russell (1998), training is defined as various introductory efforts to develop the performance of workers in the work they are responsible for or something related to their work. This usually means making specific or specific changes in behavior, attitudes, skills, and knowledge. And for training to be effective, training must include learning from experiences, training must be an organizational activity that is planned and designed in response to identified needs. ^{7, 8}

Health training aims in general to change individual and community behavior in the health sector. This goal is to make health something of value in society, helping individuals to be able to independently or in groups carry out activities to achieve a healthy life. The principle of health training is not just class lessons, but is a collection of experiences anywhere and at any time, as long as training can influence knowledge, attitudes, and habits. Training has an important goal of increasing knowledge and skills as criteria for the success of the overall health program. ^{9, 10}

Health cadres have the knowledge and skills to convey information in counseling. This research shows that apart from providing information, cadres are also motivated to attract the interest of preconception women to carry out health checks at the health center by explaining to preconception women and/or their families the benefits of health checks for preconception women. ^{11, 12}

Performance of Cadre Counseling on Preconception Health Care

After training cadres on preconception health care and methods/techniques of providing counseling, activities to provide preconception health care counseling were carried out by cadres to women of childbearing age (WUS) to observe and assess the performance of cadres in providing counseling.

The results of data processing regarding cadre performance in providing counseling are shown in Table 2.

Table 2 Description Of Cadre Performance Scores In Carrying Out Extension Activities

No	Cadre	Cadre Performance Scores	Mean (n=18)	Min-Max (n=19)
1	4	77,0		
2	6	52,8		
3	4	63,9		
4	5	77,0		
5	3	77,0		
6	5	97,2		
7	6	72,2		
8	5	88,9		
9	5	69,4		
10	3	75,0	73,3	51,4-97,2
11	5	61,1		
12	6	86,1		
13	6	77,8		
14	4	91,7		
15	3	86,1		
16	3	63,9		
17	4	51,4		
18	4	51,4		

The results of observations and performance assessments of preconception healthcare outreach activities carried out by cadres show that the average performance score is 73.3. This shows that the performance of cadres in providing counseling is good close to 75%, which means it is included in the quite good category. The role of extension cadres is very crucial in providing information and understanding to the community, including aspects related to preconception health care.

Extension cadres have the responsibility to provide education to the public about preconception health care. They must have adequate knowledge of these concepts, as well as good communication skills to convey information clearly and easily understood i .¹³ Extension cadres need to continuously be provided with training and updated knowledge regarding preconception health care. This may involve regular training, seminars, and exchange of experiences to ensure that cadres have a deep and up-to-date understanding.¹⁴

Apart from knowledge, counseling cadres also need to be guided in forming a positive attitude towards preconception health care. They must be able to provide emotional support to the community and remove the stigma that may be associated with this topic.¹⁵

Knowledge of Women of Childbearing Age (WUS) about Preconception Care

After conducting outreach activities about preconception health care by cadres who have been trained for WUS targets, WUS knowledge score data processing regarding preconception health care is carried out to see whether there is a difference in knowledge between before and after the counseling is given. Before testing the data statistically to compare knowledge between before and after counseling, a data normality test was carried out first. To find out whether the data distribution has a normal distribution or not analytically, the Shapiro-Wilk test is used with the assumption of a small sample (< 50). In the normality test of the difference in knowledge before and after counseling, a p-value <0.040 was obtained. Because the p-value is <0.05, it can be concluded that the distribution of knowledge score differences is not normal (statistical test *output* attached).

To find out the comparison of WUS knowledge before and after counseling, an analysis of the knowledge scores was carried out as stated in Table 3

Table 3 Comparison Of Increase in WUS Knowledge Scores Before And After Counseling

	Median (Minimum-Maksimum)	P value*
Knowledge score before counseling (n=35)	10 (2-13)	0,007
Knowledge score after counseling (n=35)	11 (5-14)	

*Wilcoxon test.

The results of cadre counseling to WUS about preconception health care as listed in Table 3 show that there is a statistically significant difference regarding WUS' knowledge about preconception care between before and after being given the counseling ($p < 0.05$). However, the difference in knowledge scores (median=1) is only slightly different. This shows that clinically there is no significant difference in knowledge between before counseling and after counseling.

Knowledge of women of childbearing age about preconception care is a key factor in maintaining reproductive health and preparing for pregnancy. Women of childbearing age need to understand their menstrual cycle. This includes knowledge about the ovulation period, namely when the egg is mature and ready to be fertilized. Understanding of the importance of balanced nutrition and nutrition in supporting reproductive health. This includes consuming certain vitamins and minerals, such as folic acid, which are important for embryo development.¹⁶

Awareness of the impact of stress on reproductive health and the ability to manage stress well. Uncontrolled stress can affect ovulation and the possibility of pregnancy. Additionally Knowledge of STDs, prevention methods, and the importance of sexual health testing. PMS can affect fertility and reproductive health in general. Women need to understand the importance of healthy and safe sexual relations. This includes an understanding of positive attitudes towards sexuality, prevention of unwanted pregnancy, and protection from STDs.¹⁷

Know risk factors that can affect reproductive health, such as smoking, excessive alcohol consumption, or exposure to dangerous substances. Know when and why it is necessary to consult a health professional, including a midwife, obstetrician, or reproductive health expert, for further advice and examination.^{17, 18} Know the early signs of pregnancy, the importance of prenatal care, and actions you can take to ensure a healthy pregnancy. Although this topic relates to preconception, understanding the different methods of contraception and when they can be discontinued is important for planning a pregnancy.¹⁹

Awareness of reliable sources of information and education related to preconceptions. This may include literature, seminars, and online resources that can help improve knowledge and understanding.²⁰ It is important to remember that this knowledge can vary between individuals. Therefore, outreach and education efforts need to be tailored to individual needs and backgrounds to ensure maximum understanding.

CONCLUSION

1. The cadre training activities that have been carried out in this community service activity have made quite a contribution in increasing cadres' knowledge about preconception healthcare
2. After training cadres on preconception health care and methods/techniques of providing counseling, activities to provide preconception health care counseling were carried out by cadres to women of childbearing age (WUS) to observe and assess the performance of cadres in providing counseling. The results of observations and performance assessments show that the cadres' performance in providing counseling is quite good.
3. The results of the cadre's counseling to WUS regarding preconception health care showed that there was no difference in knowledge between before the counseling and after the counseling.

REFERENCES

1. WHO. Meeting to develop a global consensus on preconception care to reduce maternal and childhood mortality and morbidity. WHO Headquarters, Geneva Meet report Geneva 2013;78.
2. Ukoha WC, Mtshali NG, Adepeju L. Current state of preconception care in sub-Saharan Africa: A systematic scoping review. *African J Prim Heal Care Fam Med*. 2022;14(1):1–11.
3. Kemenkes RI. Pedoman Pencegahan dan Penanggulangan Anemia pada Remaja Putri dan Wanita Usia Subur (WUS). Jakarta; 2018.
4. Kurniawati W, Afiyanti Y, Prasetyo S, Achadi EL, Kumboyono K. The perspective of healthcare practitioners on preconception care at primary healthcare in Jakarta: A qualitative study. *Int J Africa Nurs Sci*. 2021;15:100351.
5. WHO. Preconception Care to Reduce Maternal and Childhood Mortality and Morbidity. Geneva; 2012.
6. Dalapati A, Gafur S. Pelatihan sebagai Sarana Peningkatan Pengetahuan Penyuluh. 2019;(62):4–6.
7. Ridho Mahfud Riyadi. Pengaruh Pelatihan Dan Kompensasi Terhadap Kinerja

- Dengan Motivasi Sebagai Mediasi Karyawan PT PAL Indonesia Persero Divisi Kapal Perang (The Effect Of Training And Compensation To The Performance With Motivation As Mediation Employees Of PT PAL Indonesi. 2016;
8. Ahmed KYM, Elbashir IMH, Mohamed SMI, Saeed AKM, Alwad AAM. Knowledge, Attitude, and Practice of Preconception Care Among Sudanese Women in Reproductive Age About Rheumatic Heart Disease. *Int J Public Heal Res.* 2015;3(5):223–7.
 9. Notoatmodjo. *Promosi Kesehatan Dan Perilaku Kesehatan*. Rineka Cipta; 2012.
 10. Gondowahjudi LE, Ratri DR, Hakim L. Pengaruh Pelatihan Komunikasi Efektif terhadap Peningkatan Pengetahuan Karyawan RSUD Kota Malang. *J Ilm Adm Publik.* 2018;4(2):100–5.
 11. Thaha AR. Peran Kader Posyandu Pada Pelayanan Terpadu Wanita Prakonsepsi Di Wilayah Puskesmas Pattigalloang. *J Mkm.* 2014;102–9.
 12. Ukoha WC, Mtshali NG. Preconception Care Recommendations, Training, and Competency of Primary Healthcare Nurses in South Africa: A Quantitative Descriptive Study. *SAGE Open Nurs.* 2023;9.
 13. Grady CM, Geller PA. Effects of Self-Efficacy and Locus of Control on Future Preconception Counseling Plans of Adult Women With Type 1 Diabetes. *Diabetes Spectr.* 2016 Feb;29(1):37–43.
 14. Febthia Rika Ramadhaniah OFRS. Pengetahuan dan Sikap Calon Pengantin Sebelum dan Sesudah Diberikan Penyuluhan Tentang Nutrisi Prakonsepsi. *J Kebidanan Sorong.* 2022;Vol 2, No(eISSN: 2807-7059):39–50.
 15. Adrianto HP. Pengaruh Penyuluhan Gizi dengan Media Audiovisual Terhadap Perubahan Pengetahuan, Sikap dan Praktik Gizi Seimbang Pada Wanita Usia Subur Pra Nikah di KUA Wilayah Kota Pariaman Tahun 2019. *J Chem Inf Model.* 2019;53(9):1689–99.
 16. Shinta RSMPFMTMIAR, Nani A. Edukasi Kesehatan Wanita Usia Subur Dalam Mempersiapkan Kehamilan Di Desa Tegorejo Kendal dan Kelurahan Cigugur Cimahi. *SEMAR (Jurnal Ilmu Pengetahuan, Teknol dan Seni bagi Masyarakat).* 2022;11(2):223.
 17. Paratmanitya Y, Helmyati S, Nurdianti DS, Lewis EC, Hadi H. Assessing preconception nutrition readiness among women of reproductive age in Bantul, Indonesia: findings from baseline data analysis of a cluster randomized trial. *J Gizi dan Diet Indones (Indonesian J Nutr Diet Vol 8 ISSUE 2, 2020.* 2021 Feb;
 18. Fransen MP, Hopman ME, Murugesu L, Rosman AN, Smith SK. Preconception counseling for low health literate women: an exploration of determinants in the Netherlands. *Reprod Health.* 2018;15(1):192.
 19. Ayalew Y, Mulat A, Dile M, Simegn A. Women's knowledge and associated factors in preconception care in aAdet west gojjam, northwest Ethiopia: a community-based cross-sectional study. *Reprod Health.* 2017;14(1):15.
 20. Emam EAER, Rheem AHA EI, Ghanem NMA, Hassan HE. Knowledge and Attitude of Women and Nurses regarding Pre-Conception Care: A Comparative Study. *Am Res Journals.* 2019;5(1):1–15.