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Implementation of assistance for one pregnant woman one cadre (OPOC) in Banjarnegara District, Central Java Province, Indonesia

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Abstract

The high maternal mortality rate caused by late detection of risk factors for pregnant women is a major health problem in Banjarnegara District. One of the efforts made to overcome this problem is the implementation of assistance for one pregnant woman by one cadre (OPOC). The application of OPOC consists of four mentoring activities, namely reminders about antenatal care schedule, detecting risk factors, monitoring fetal movements, and carrying out delivery planning and handling complications. Therefore, this study aims to describe the implementation of OPOC as well as to evaluate cadres' performance in Banjarnegara District. A quantitative cross-sectional design was used, where a total of 200 cadres were selected as respondents using a representative purposive sampling method. The results showed that reminding mothers about their antenatal care schedule, detecting risk factors, monitoring of fetal health through movements, and making commitments for birth planning and complications prevention were carried out by 199 (99.49%), 129 (64.84%), 138 (69.05%), and 159 (79.42%) respondents, respectively. More than 92% of them know their duties and responsibilities as companions for pregnant women, but only 28% have knowledge about the benefits of assisting. Furthermore, 93% often carry out OPOC assistance. The knowledge of cadres about OPOC assistance was good, but some of them are not knowledgeable about its benefits. These findings show that they need guidance, training, and motivation from public health centers. *(Afr J Reprod Health 2022; 26[7]: 83-89).*

Keywords: Assistance, pregnant woman, cadres, Banjarnegara, Central Java

Résumé

Le taux élevé de mortalité maternelle causé par la détection tardive des facteurs de risque chez les femmes enceintes est un problème de santé majeur dans le district de Banjarnegara. L'un des efforts déployés pour pallier ce problème est la mise en place de l'assistance à une femme enceinte par un cadre (OPOC). L'application de l'OPOC consiste en quatre activités de mentorat, à savoir des rappels sur le calendrier des soins prénatals, la détection des facteurs de risque, la surveillance des mouvements fœtaux et la planification de l'accouchement et la gestion des complications. Par conséquent, cette étude vise à décrire la mise en œuvre de l'OPOC ainsi qu'à évaluer la performance des cadres dans le district de Banjarnegara. Une conception transversale quantitative a été utilisée, où un total de 200 cadres ont été sélectionnés comme répondants à l'aide d'une méthode d'échantillonnage raisonné représentatif. Les résultats ont montré que le rappel aux mères de leur calendrier de soins prénatals, la détection des facteurs de risque, la surveillance de la santé fœtale par les mouvements et la prise d'engagements pour la planification des naissances et la prévention des complications ont été effectués par 199 (99,49%), 129 (64,84%), 138 (69,05 %) et 159 (79,42 %) répondants, respectivement. Plus de 92 % d'entre elles connaissent leurs devoirs et responsabilités en tant qu'accompagnatrices de femmes enceintes, mais seulement 28 % connaissent les bénéfices de l'assistance. De plus, 93% effectuent souvent une assistance OPOC. La connaissance des cadres sur l'assistance de l'OPOC était bonne, mais certains d'entre eux ne connaissent pas ses avantages. Ces résultats montrent qu'ils ont besoin de conseils, de formation et de motivation de la part des centres de santé publics. *(Afr J Reprod Health 2022; 26[7]: 83-89).*

Mots-clés: Assistance, femme enceinte, cadres, Banjarnegara, Central Java

Introduction

Banjarnegara is one of the districts in Central Java Province, Indonesia, and it has the lowest Community Health Development Index score among the 35 districts in the province[1]. It also has the fifth-highest maternal mortality rate in Central Java between 2017-2019.[2] In 2017, the rate increased to 137.66/100.000 live births, decreased to 58.8/100.000 live births in 2018, and increased again to 139.83/100.000 live births later in the year[3]. Pregnant women's health services are

provided as efforts in the health sector, which help to maintain gestating mothers and childbirth. The average coverage of first-time pregnancy check-ups is more than 95%, while that of fourth-time pregnancy ranges from 85%-88%. The coverage of births by health workers is 98%, but the detection of risk factors in maternal care services by the community is still low, namely 13% to 23%[3]. Therefore, it is important to involve various parties, including health cadres. The empowerment of cadres is an effort to help the community to build a preparedness system, which can deal with emergencies from non-clinical aspects of pregnancy and childbirth[4].

Assistance for one pregnant woman by one cadre (OPOC) is an effort to reduce maternal and infant mortality rates. These personnel are the spearhead of resources, who are at the forefront to improve the health status of mothers and children. They are also capable of acting as companions for pregnant women because of their presence in various areas. Cadres also have good emotional and social closeness with mothers[5,6]. The model for assisting pregnant women has been carried out by midwives and nursing students at the Midwifery and Nursing College of Central Java, namely One Student One Client (OSOC). However, there are several weaknesses in the implementation of the OSOC model, such as assisting students without the use of forms, incompatibility of the schedule with the academic calendar of the institution, refusal from clients, and difficulty finding the address of pregnant women to be accompanied[7].

OPOC is an innovative development of the OSOC model, which uses a continuity of care approach. It also involves several activities, which assist mothers from pregnancy to birth. The objectives of its mentoring activities include (1) preventive and promotive efforts to improve maternal health; (2) assisting women from early pregnancy; (3) early detection of risk factors and complications during pregnancy; and (4) coaching public health centers (PHC) and cadres on maternal health. The cadres that were given the training include villagers or members of the local community living in the vicinity of pregnant women who have been registered by the PHC. Their duties are to remind gestating mothers of their scheduled ante-natal visits, detect risk factors during pregnancy, monitor fetal health through movements, and make commitments to the delivery planning and complications handling program[8]. Therefore, this study aims to describe the implementation of OPOC as well as to evaluate the performance of cadres in Banjarnegara District.

Methods

This study was carried out in 7 PHC in Banjarnegara District by considering the geographical conditions, namely highlands and lowlands. The implementation time was June to November 2020. Furthermore, a quantitative cross-sectional design was used, and the sample population consists of all health cadres in the 7 selected PHCs. A total of 200 respondents were then selected using the representative purposive sampling method. Each cadre was responsible for accompanying a maximum of 4 pregnant women who live around them. Monitoring was carried out with an illustrated form containing four monitors, which are the cadre's task. The form of pregnant women who have given birth was collected at the PHC, and they were then used to evaluate OPOC assistance. The performance of the cadres was assessed using a questionnaire. Data analysis was carried out descriptively using tables and figures. Ethical clearance was obtained from the Health Research and Development Agency with reference number LB.02.01/2/KE.159/2020. Licensing and study coordination were also carried out with the local government of Banjarnegara District at the Health Office and the PHC used.

Results

Table 1 shows that 99.49% of the cadre had already reminded pregnant women of their antenatal care schedule. Furthermore, 64.84% were able to detect risk factors, where Bawang I had the highest percentage of 96.43%, and Susukan I had the lowest of 40.00%. The results show that 69.05% of the cadre can monitor fetal health through movements, where Klampok II had the highest percentage of 85.71% and Bawang I had the lowest of 54.50%. A total of 79.42% already ensured the commitments of birth planning and complication prevention with Batur I having the highest percentage of 92.86% and Bawang I having the lowest of 67.86%.

The success of OPOC assistance depends on the active role of cadres and pregnant women as objects. Based on the evaluation results, the cadres'

Table 1: Percentage of implementation of 4 monitoring pregnant women by cadre in Banjarnegara District

PHC	Total Cadres	Reminding the schedule of antenatal care		Detecting risk factors		Monitoring fetal health through fetal movements		Making commitments to birth planning & complications prevention	
		Freq	%	Freq	%	Freq	%	Freq	%
Bawang 1	28	27	96.43	18	64.29	15	54.50	19	67.86
Klampok II	28	28	100.00	27	96.43	24	85.71	25	89.29
Wanayasa 1	28	28	100.00	17	60.31	18	64.29	21	75.00
Sigaluh 1	28	28	100.00	21	75.00	17	60.31	18	64.29
Kalibening	30	30	100.00	15	50.00	19	63.33	24	80.00
Susukan 1	30	30	100.00	12	40.00	23	76.67	26	86.66
Batur 1	28	28	100.00	19	67.86	22	78.57	26	92.86
Total/average	200	199	99.49	129	64.84	138	69.05	159	79.42

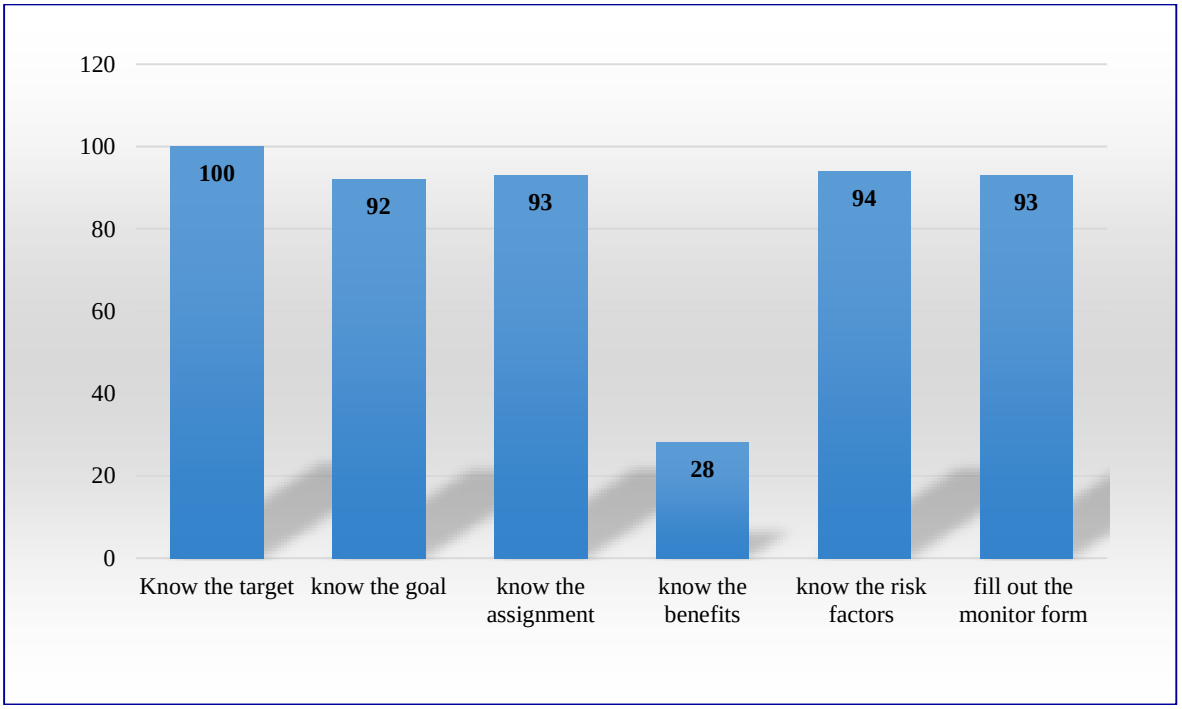

Figure 1: Ability percentage of OPOC cadre

Table 2: Percentage of pregnant women accompanied by cadres

PHC	Total of Cadre	Pregnant women accompanied	Total of Pregnant women	Percentage
Bawang 1	28	112	253	44.3%
Klampok 2	28	79	176	44.9%
Wanayasa 1	28	97	192	50.5%
Sigaluh 1	28	74	111	66.7%
Kalibening	30	127	321	39.56%
Susukan 1	30	80	345	23.2%
Batura 1	28	47	248	18.9%
Total	200	616	1646	

Table 3: Percentage of Cadres who don't understand filling out the monitoring form

PHC	Total Cadre	Wrong Risk Factor		The date & fetal movement are not filled		Making commitments of birth planning & complications prevention Not Complete	
		Freq	%	Freq	%	Freq	%
Bawang 1	28	6	21.43	2	7.14	2	7.14
Klampok 2	28	2	7.14	1	3.57	1	3.57
Wanayasa 1	28	1	3.57	1	3.57	0	0.00
Sigaluh 1	28	0	0.00	5	17.86	2	7.14
Kalibening	30	7	23.33	0	0.00	0	0.00
Susukan 1	30	2	7.14	0	0.00	0	0.00
Batur 1	28	3	10.71	1	3.57	6	21.43
Total/ average	200	21	10.47	10	5.10	11	5.61

Table 4: Maternal and Child Health (MCH) programs before and after the OPOC assistance

	Before	**After**
1.	Health checks of pregnant women were carried out irregularly/inconsistently.	Health checks for pregnant women was according to the schedule because the cadres reminded them.
2.	Health monitoring for pregnant women is only performed by health workers.	Health monitoring of pregnant women was carried out by cadres who are accompanied by health workers.
3.	The method of assistance by midwives was not optimal because the proportion of midwives and the number of pregnant women were not balanced.	Methods of assistance for one pregnant woman with one cadre are area-based.
4.	There is no form of monitoring for cadres.	Using pictorial illustration monitoring form for cadre.
5.	Incomplete assistance.	Assistance focuses on four things to be monitored: Reminders about health check schedules, detection of risk factors, monitoring of fetal health, and making commitments to birth planning and complications prevention.
6.	There is no assistance guidance book.	There is a guidebook/handbook for OPOC assistance.

abilities were good in carrying out mentoring, as shown in Figure 1. More than 92% of them know the target, goal, and assignment of the assistance program. Approximately 93-94% were able to identify the risk factor and fill out the monitoring form. However, the weakness of the program is that 28% do not understand the benefits of OPOC. In the process of implementing assistance by cadres, it was observed that there were obstacles from the seven PHCs, as shown in Table 2. This indicates that not all pregnant women were accompanied. For example, Bawang I had a total of 28 cadres, but only 44.3% of the mothers were accompanied. The PHC with the highest number of accompanied mothers was Sigaluh I with 66.7% and the least accompanied was Batur I with 18.9%.

The result showed that some of the respondents filled out the monitoring form incorrectly, as shown in Table 3. The cadres who incorrectly or did not fill the risk factors were mostly in Kalibening with 23.33% and Bawang I with 21.43%, while the lowest was in Wanayasa I, namely 3.57%. A total of 17.86% did not fill in the date of monitoring activity of fetal movements in Sigaluh I. Meanwhile, all cadres filled the form correctly in Kalibening I and Susukan I. The majority of respondents in Batur I, namely 21.43% did not fill the commitments of birth planning and complications prevention forms correctly, while all cadres in Wanayasa I, Kalibening, and Susukan I did. The assistance of pregnant women makes coordination between cadres and midwives more

intensive. When problems are found in the mothers, the cadres immediately report them to the midwives. The roles of midwives in the implementation of OPOC include monitoring cadre activities when accompanying pregnant women, following up reports when there are health problems, as well as conducting socialization about maternal and child health to both parties through several media, such as classes, posyandu, and WhatsApp groups. The benefits and advantages of assisting one pregnant woman by one cadre are presented in Table 4.

Discussion

Pregnant women are a vulnerable group that requires special attention in obtaining health services. This is very important to improve mother and child health, which prevent maternal deaths[9]. The assistance of one pregnant woman by one cadre (OPOC) is an innovation carried out by

Banjarnegara District to provide health services to gestating mothers. It has been carried out since 2016 in one public health center (PHC), and was then applied by all PHCs in the district. The OPOC has developed several models based on the situation and needs of the PHC. However, it is still carried out with the four existing monitoring principles[8].

The success of the assistance program cannot be separated from the role of health cadres as the spearhead of health services who are responsible for assisting a maximum of 4 pregnant women living close to them. Some only accompany 1 or 2, while others monitor up to a maximum of 4 based on the number of mothers in their area. This shows that they have an important role in providing health services as representatives of the limited number of PHC midwives. It also shows the lack of an equitable distribution of cadres in an area.

The evaluation results revealed that their abilities were already good in carrying out the mentoring program. Cadres who understand the duties and objectives of OPOC's assistance can identify risk factors, and are able to fill out the monitoring sheets. However, not all of them understand the benefits of the assistance program. The average frequency of monitoring is not comparable to the evaluation results. This shows that the cadres cannot practice the knowledge they have acquired fully due to the lack of understanding about the benefits of OPOC.

The limited number of health workers/midwives[10], especially in the delivery of educational information and communication (KIE), is still an obstacle in health services. This makes the OPOC assistance an alternative strategy for effective communication with the ability to provide information to people in complex geography. Health service information can be passed directly or virtually using WhatsApp or Line. Cadres can also get direct feedback from pregnant women without delay[11].

The assistance of pregnant women by cadres can increase the knowledge of mothers about antenatal care (ANC). This is consistent with Suparmi's study, where assistance provided by students caused a 33% increase[12]. Similar results were also obtained in a previous study, where mentoring of pregnant women in Semarang through the one student one client (OSOC) program, increased maternal knowledge[13]. A study in Canada revealed that providing assistance can increase knowledge as well as the ability of mothers to provide care[14]. Furthermore, mentoring increases mothers' sensitivity to complications and risk behavior during gestation. Ratna Dewi reported that gestating mothers who are highly educated are predictors of danger signs of pregnancy. The higher the education level, the higher the level of knowledge. Other indicators include occupational and socioeconomic status[15].

The empowerment of health cadres in the early detection and management of pregnancy risk factors requires support from various parties, such as the government, private sectors, and the community, including moral and financial support[16]. One of the difficulties often faced during the implementation of the process is the lack of funds. In this OPOC assistance, financial support for cadres was mostly obtained from village funds or prize money from competitions.

The one pregnant woman one cadre program has a good effect on MCH, namely a decrease in maternal mortality in 2020 compared to

the previous year. It also increased the sensitivity of mothers, which helps to minimize the factors that cause maternal death.

Conclusion

The mentoring program for one pregnant woman by one cadre is an innovative effort to provide health services to mothers during pregnancy. The implementation of the program by cadres is going well because they have good knowledge about OPOC, but some of them do not know the benefits of the assistance program. Therefore, they still need coaching or guidance from midwives in PHC as well as attention from various parties, both morally and financially.

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Competing interest

The authors declare no competing interests. The funding sponsors had no role in the design, collection, analysis, interpretation of data, writing of the manuscript; or decision to publish the results of this study.

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