

## Original Research Article

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# Analysis of Indonesia's community health volunteers (*kader*) as maternal health promoters in the community integrated health service (*Posyandu*) following health promotion training

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## ABSTRACT

**Background:** Maternal health promotion is a task allocated to the *kader* (community health volunteers) in the community integrated health services called *Posyandu*. Yet, they are inadequately trained to perform this task. We present an analysis of the *kader* as maternal health promoters after their health promotion training with use of counselling card.

**Methods:** Between March-April 2015, 14 participatory workshops were conducted and 188 *kader* in four villages in Ciranjang sub-district were trained. Data were collected through in-depth interviews and focus group discussions from community members, health care providers and policy makers in the four villages. A total of 44 interviews were conducted prior to health promotion training and 48 interviews post- training. In 46 *Posyandu*, *kader* were observed during their practice of health promotion within 3 consecutive months of post training. Data was transcribed and analysed in NVivo 10.

**Results:** Most *kader* acknowledged that health promotion training improved their knowledge of maternal health and counselling skills and changed their attitude towards pregnant women at the *Posyandu*. They could confidently negotiate health messages and importance of health facility delivery with antenatal women. The *kader* also found the counselling cards helped pregnant women understand the health messages more clearly. The participatory training method involving role play and direct discussions boost *kader* confidence to deliver health promotion. As a result, the *kader* gained community appreciation which enhanced their motivation about their job.

**Conclusions:** Appropriate health promotion training, provided the *kader* with adequate knowledge and skills to become resourceful maternal health promoters in the community.

**Keywords:** Health promotion, Participatory training, Community health volunteers, *Kader*, Maternal health, Indonesia

## INTRODUCTION

Indonesia faces challenges in the area of maternal health and is working towards decreasing its current maternal

mortality ratio (MMR) of 305 maternal deaths per 100,000 live births, to attain the target MMR figure of <70 maternal deaths per 100,000 live births by 2030 set out in the SDGs.<sup>1</sup> The nation aims to achieve this by

promoting healthy pregnancies and safe childbirth, using the health care system which was developed with an emphasis on community health and community empowerment. Under this, three services, namely the Community Health Centres (*Puskesmas*), the village midwife programme and, the community integrated health services at the village level called *Posyandu* have brought maternal health care closer to the community.<sup>2</sup> The result of these programs has improved the maternal health services, specifically the antenatal care (ANC) service and the proportion of births assisted by health providers.<sup>3</sup>

These health services also provide curative, disease management and rehabilitative services with focus on promotive and preventive services to improve maternal and child health care in the community.<sup>2</sup> The preventive and promotive health activities mainly take place in the *Posyandu*. The key health care providers in the *Posyandu* are the village midwives and the community health volunteers (known in the community as the *kader*). The task of the village midwife in the *Posyandu* is to offer reproductive health services through antenatal and postnatal care. The *kader* on the other hand is the agent to engage the community and promote the utilisation of the *Posyandu* services.

The *kader* is a community member who lives and works in the villages they serve. Typically, a *kader* has basic literacy with school certification. They are selected by the village head and the village community, with involvement of the *Puskesmas*. Most of the *kader* are members of the Family Welfare Movement (PKK), an organisation under the Ministry of Home Affairs, which is formed in the community level to assist the family in improving their welfare including revitalisation of the *Posyandu* services.<sup>4</sup> They receive a monthly financial incentive of 50,000 Rupiah (US\$4) for their volunteering work. Once appointed, they should receive a 30 hours training about their tasks in the *Posyandu*.<sup>5</sup> This usually takes place in the form of lectures. Their tasks include registration of *Posyandu* attendees, weighing children under five and pregnant women, fill in the record book, provide health promotion and nutritional counselling and help the village midwives in maternal health services.<sup>6</sup> Each *Posyandu* is served by 3–5 *kader* and the tasks are divided between them.

Presence of well-trained *kader* in the *Posyandu* is important for providing quality maternal health promotion services, especially in rural areas. In a country context analysis done by us in the year 2013 and reported elsewhere, we found that maternal health was not prioritised during the *kader*'s induction training.<sup>3</sup> The *kader* also stated that due to inadequate training and lack of knowledge and skills for conveying health messages they lacked confidence to provide health promotion. For these reasons the *kader* neglected the health promotion task and they continued with other assigned tasks which were easier, such as registering and weighing children.<sup>3</sup>

This qualitative study draws on broader community health worker research undertaken in the framework of the five-year (2013-2018) REACHOUT research project, focusing on community health worker performance. REACHOUT is a multi-country consortium with partners in Africa, Asia and Europe, ([www.reachoutconsortium.org](http://www.reachoutconsortium.org)). In Indonesia, REACHOUT aims to strengthen maternal health services. In our context analysis we found that low attendance at health facilities for childbirth was due to poor perception by the community on the benefits of giving birth in the health facility.<sup>3</sup> The majority of rural women attend the *Posyandu* for antenatal care; therefore enabling staff to deliver proper safe motherhood and reproductive health messages would benefit the community and improve facility deliveries.

In order to maximise the potential of *kader* to promote maternal health at community level, we provided health promotion training to the *kader* in Cianjur district in West Java as part of the REACHOUT research intervention. The current study presents the outcomes of the training and an analysis of the viewpoints of different stakeholders and *kader* themselves regarding provision of maternal health promotion to community after completing the health promotion training.

## METHODS

A qualitative study was conducted in Ciranjang sub-district in Cianjur district in West Java Province after health promotion training was completed.

### Study sites and setting

*Kader* in four villages in Ciranjang sub-district participated in the health promotion trainings and follow-up activities. Ciranjang sub-district has nine villages and a population of 77,134 people.<sup>7</sup> In this sub-district, antenatal attendance defined by first antenatal contact was 106.5% and completion of four antenatal visits and health facility deliveries were 104.58% and 86.98% respectively.<sup>8</sup> The four villages included in the study were Ciranjang, Mekargalih, Karangwangi and Sindangsari. These villages are where REACHOUT has been conducting research and were chosen based on their maternal health indicators (antenatal attendance and health facility deliveries) and distance to the sub-district health centre.<sup>9</sup>

### Participants

All the *kader* (233) in the four selected villages were invited to participate in the health promotion training, and out of them 188 (80.6%) *kader* attended. The breakdown of the proportion of *kader* trained in each village is shown in Table 1. Most of the *kader* were females (97%); age ranged from 30 to 60 years. Their educational levels varied: 52% completed primary school, 26% completed secondary school, and 5% completed higher education whereas 11% and 4%, respectively, had not finished their primary and secondary schooling. Their work experience as a *kader* ranged from 1-10 years.

**Table 1: The number of health promotion trainings and proportion of *kader* trained in each study village.**

Village	No. of trainings	Number of <i>kader</i> trained	Total <i>kader</i> in village	Proportion of <i>kader</i> trained (%)
<b>Ciranjang</b>	6	72	96	75
<b>Karangwangi</b>	3	39	49	79.5
<b>Mekargalih</b>	3	49	56	87.5
<b>Sindangsari</b>	2	28	32	89.6
<b>Total</b>	14	188	233	80.6

**Table 2: Distribution of participants across data collection methods.**

Stakeholder	Type of participant	Data collection method	Number of participants
<b>First round of data collection (November 2014)</b>			
Community members	Women (mothers)	IDI	13
	Village leaders	IDI	6
Health care providers	<i>Kader</i>	IDI	12
	Village midwives	IDI	3
	Private midwives	IDI	2
Health system staff	Policy makers	IDI	5
Non-health system staff	Policy makers	IDI	1
<b>Total IDIs</b>			42
Community members	Women (mothers)	FGD	1 (12 participants)
	Men	FGD	1 (8 participants)
<b>Total FGDs</b>			2 (20 participants)
<b>Second round of data collection (September 2015)</b>			
Community members	Women (mothers)	IDI	16
	Village leaders	IDI	6
Health care providers	<i>Kader</i>	IDI	13
	Village midwives	IDI	5
Health system staff	Policy makers	IDI	4
Non-health system staff	Policy makers	IDI	1
<b>Total IDIs</b>			45
Community members	Women (mothers)	FGD	1 (12 participants)
	Men	FGD	1 (9 participants)
Health care providers	<i>Kader</i>	FGD	1 (12 participants)
<b>Total FGDs</b>			3 (33 participants)

**Table 3: Overview of topic guide contents per participant type.**

Topic addressed	Community members	Health care providers	Policy makers
<b>Role and responsibility</b>		X	
<b>Motivation factors</b>		X	
<b>Health promotion</b>	X	X	X
<b>Supervision</b>		X	X
<b>Coordination/partnership</b>	X	X	X
<b>Community engagement</b>		X	X
<b>Equity</b>	X	X	X
<b>REACHOUT intervention</b>	X	X	X
<b>Awareness of health system and health policy</b>			X

**Health promotion training**

A total of 14 participatory health promotion training workshops, of five days each, were conducted during

March and April 2015, involving 10-15 participants per workshop. The aim of the workshops was to improve *kader*'s knowledge, communication and negotiation skills to enable *kader* to undertake maternal health promotion

as part of their current role in the *Posyandu*. During the workshops, teaching counselling card, other materials and facilitation methods were used to help participants to discuss health messages with their community clients (women) to overcome barriers to attend antenatal care, understand danger signs of pregnancy and identify complication that occur during childbirth. In addition, the trainings involved role play by the *kader* with women from the community, to get the *kader* prepared for situations that could occur in the *Posyandu*.

A training manual and counselling card was developed by the REACHOUT team for use in the training.<sup>10</sup> The manual consists of sections on basic communication, negotiation techniques, the use of counselling card, topics of antenatal and postnatal care, danger signs in pregnancy, birth preparedness, labour signs, nutrition in pregnancy and contraception. In addition, there were sections on newborn care, danger signs in newborns and roles, responsibilities and management of the *Posyandu*. Counselling cards addressed similar maternal health topics covered in the training manual.

After completion of training, the study team observed the *kader* providing the health promotion in the *Posyandu* and assessed them delivering health messages and interaction with antenatal women. Three rounds of observations were carried out. The first round was in July-August 2015, two months after completion of training, second round in October-November 2015 and third round in January-February 2016. During these sessions, the study team provided support and feedback to the *kader*.

#### **Data collection**

Qualitative data was collected at two-time points. First round was in November 2014, before the health promotion workshops. A total of 42 in-depth interviews (IDIs) and two focus group discussions (FGDs) were conducted with community members, health care providers and policy makers (Table 2). The IDIs and FGDs aimed to explore the understanding and perceptions regarding health promotion and its implementation at the *Posyandu*. The IDIs assured that participants could be interviewed in their rural homes and offices, allowing sensitive areas to be probed and avoiding issues of hierarchy affecting group discussion. On the other hand, the FGDs used group interaction to generate findings to help understand community and organisational norms, common health issues and the need for access and use of healthcare services.<sup>11-13</sup> Second round of interviews (45 IDIs and three FGDs) were conducted in September 2015, almost six months after the *kader* completed training.

Sampling of study participants was based on their involvement in community health programmes; variation in respondents was achieved based on demographic and geographical characteristics; community members and

health care providers came from across the four communities where *kader* came for the trainings.

The REACHOUT Consortium had developed a conceptual framework, modelling the factors influencing community health worker performance, reported on elsewhere.<sup>14,15</sup> Using this unifying framework approach,<sup>16</sup> the Indonesia REACHOUT team developed topic guides for the study IDIs and FGDs. These were developed for the various types of informants, with some differences in topics based on whether they were community members, health care providers or policy makers (Table 3).

For health care providers (*kader* and midwives), the objective was to explore the practice of health promotion, before and after their training by the REACHOUT team, the motivational factors and the experiences with supervision they received. The objectives of the interviews for the community members and policy makers were to explore their understanding regarding the implementation of health promotion by health care providers and its impact on the community, before and after the training. Since our interest was on the ability of *kader* to provide health promotion, in this study the findings related to the *kader* only are presented.

The IDIs and FGDs were conducted in Indonesian language and lasted between one to two hours. Written informed consent was obtained from the participants before the interview or FGDs. All IDIs and FGDs were digitally recorded, transcribed by field staff, translated to English by external translators and checked by the research assistants regarding any diversion in meanings of the content of the interviews. The coding process used open-coding, combined with a pre-defined framework of factors that could influence community health workers' performance.<sup>17</sup> Transcripts were coded using NVivo 10 software and emerging themes were discussed, and the coding refined based on research team consensus. The coded transcripts were further analysed, "charted" and summarised in narratives for each theme and sub-theme.

## **RESULTS**

There were four main themes that emerged from our analysis. They were: 1) increased knowledge and skills regarding health promotion; 2) improved *kader*'s motivation and confidence; 3) the usefulness of counselling card in providing health promotion; 4) the benefit of participatory training approach. They are presented with illustrative quotes.

### ***Increased knowledge and skills regarding health promotion***

Most *kader* acknowledged that the health promotion training provided an opportunity to improve their knowledge and understanding of maternal and child health issues and is illustrated by the following quote:

*“After the training, we are more confident to talk and courageous to ask pregnant women to deliver in the health facility, because now we are capable of giving explanations about the risk of not giving birth in a health facility.”* (IDI, kader, round-2)

Most of the pregnant women who were the recipients of the health promotion also recognised that knowledge of *kader* had improved after they attended the training.

*“I used to ask something to the kader, but only Mrs. E could answer it and other kader were unable to answer. This might be because of their limited knowledge. Now, they are able to provide comprehensive information with examples and what are the things that pregnant women must do if the labour signs starts.”* (IDI, mother, round-2).

Majority of the community members and health care providers also noted an improvement of health promotion skills of the *kader*. The village midwives, expressed that *kader* performed better health counselling, communication and negotiation skills. *Kader*, themselves, mentioned that they could communicate better and deliver the health counselling topics and negotiate better with pregnant women after the training.

*“Relating to the counselling, the kader spoke loudly when they did counselling at the Posyandu. Previously, they just said that they would do it, but in fact they didn’t. But after they got training, they did counselling even if only one or two of them did it. The communication between the kader and the mother is better now. The kader didn’t feel awkward to speak out.”* (IDI, village midwife, round-2)

Additionally, one of the stakeholders from sub-district highlighted that a *kader* from one of the *Posyandu* at Karangwangi village participated in a health counselling competition at district level and used the techniques they learnt during the participatory health promotion training held by the REACHOUT team.

*“Previously the kader didn’t do counselling or didn’t really understand what they should do at a Posyandu, but now they do health promotion with counselling card. Moreover, some of them joined the counselling competition at the district. I was surprised that they still remembered what they got from the REACHOUT training. Now they have the capability to do counselling and thank God, Posyandu Kamboja got ranked in top 6.”* (IDI, health system stakeholder, round-2)

### **Improved motivation and confidence**

Most *kader* acknowledged that the health promotion training played an important role in increasing their motivation. Many *kader* mentioned that they were more enthusiastic in performing their tasks at the *Posyandu*, particularly health counselling, because their knowledge

and skills had improved. Moreover, they also felt motivated because they saw changes in the behaviour and attitude of the community as a result of the health promotion they delivered in the *Posyandu*.

*“Because we know better about the topics of counselling and how to do the counselling, now we are confident to deliver the health promotion. ‘Oh, I have read this topic before. I can do the counselling.’ I feel more motivated to do it again. And when my colleagues see it, they also feel motivated to do the same.”* (IDI, kader, round-2)

All the *kader* stated that the training helped them to deliver information and counselling with courage and confidence while they had been reluctant to do so previously.

*“Before the training, we didn’t have the courage to speak up because we were afraid our knowledge was lacking. However, after the training, we are more confident to talk and courageous to ask pregnant women to deliver in health facility, because now we are capable of giving explanations about the risk of not giving birth in health facility.”* (IDI, kader, round-2)

### **The usefulness of counselling cards**

Most of the *kader* found that counselling cards helped them to provide information on the risk of pregnancy, pregnancy care and the importance of delivering in the health facility to the pregnant women without difficulty.

*“Counselling cards helped me to give explanations to pregnant women and postnatal mothers. The availability of counselling cards for counselling is very helpful to me because I can see the explanation of the topic at the back in case I encounter difficulties when delivering the counselling.”* (IDI, kader, round-2)

The *kader* mentioned that there were various health promotion aids such as the “maternal and child health book”, “toddler’s family coaching (BKB) card” and “healthy card” available at the *Posyandu* previously. Yet, they had not received training on how to use those and therefore, they rarely used it for health counselling. Several *kader* also mentioned that previous counselling cards were not comprehensive with insufficient information on maternal and child health issues, and that the illustrative pictures in those counselling cards were small and not user friendly.

*“There is counselling card about BKB (toddler’s family coaching), but we did not know the order and how to use the counselling card.”* (IDI, kader, round-2)

In contrast, majority of *kader* acknowledged that the counselling cards provided by the REACHOUT team contained information and pictures that were adjusted to the local context. Because of it, the pregnant women could identify their problems and understand their health

issues illustrated in the new cards and it made them want to attend the *Posyandu*.

*“The pregnant women understand the counselling topic easily because I used the picture in the card to make them interested in the topic. Through those pictures, they understood about the information I said, and answered my question related to their problem.”* (IDI, *kader*, round-2)

*“I understood (the information) because the messages concerned our daily life, such as headache. The *kader* also showed us a picture with arrows. In case the symptoms as shown on the pictures appeared, we should go to the midwife’s place or Puskesmas. I just saw the pictures and listened to the explanation.”* (IDI, mother, round-2)

#### ***The benefit of participatory training approach***

Several *kader* mentioned that the participatory approach of the training used by the REACHOUT team was different with the trainings they attended previously. The workshops provided an opportunity for the *kader* to participate actively through discussion during the training, role play and interactive learning, which was different to the long lectures that were used during the earlier trainings, with a much larger number of participants.

*“Training by REACHOUT is different from (former) training for counselling presented by the Puskesmas. During the former training, *kader* were grouped in big numbers and only were taught how to give counselling in general. Meanwhile during REACHOUT training, *kader* were grouped into a smaller size, of maximum 20 persons and were taught to counsel in detail including on how to call the mothers and encounter a lot of people. *Kader* were more focused during this training.”* (IDI, *kader*, round-2)

Furthermore, some of the *kader* stated the different approach to training as well as the *Posyandu* observations conducted after the training helped them remember the topics and conduct better health counselling.

*“The health promotion training by REACHOUT made a significant change because of the way it was presented. In my previous training, we were used to just look at the screen and never had monitoring afterwards. This makes us often forget. Now, the participants are provided with books (counselling cards) and are being observed in the *Posyandu*, so that the participants remember the training materials.”* (IDI, *kader*, round-2)

#### **DISCUSSION**

The provision of health promotion training had substantially improved the health promotion role of *kader* in the *Posyandu*. The *kader* acknowledged their

knowledge and understanding of maternal health topics improved which made them deliver health counselling to pregnant women with confidence. They were able to communicate better and discuss topics on pregnancy issues and benefits of giving birth at health facility with antenatal women. As a result, pregnant women valued *kader*’s counselling which motivated the *kader* to conduct health promotion and counselling during the *Posyandu*. With appropriate training, a positive change of *kader* as health promoters was anticipated and is comparable to what was described in previous studies.<sup>18-20</sup> For example, a study in India described how trained village health workers became the heart of the community programs and plays important role in empowering the women in the rural area towards better health awareness.<sup>21</sup>

The counselling cards in the form of pictorial aids greatly helped the *kader* perform their health promotion task. The pictorial booklet we provided illustrated the counselling topics and made it easier for them to deliver the information and make the pregnant women understand the given information. Similar results on the effectiveness of pictorial aids in improving the knowledge of the recipients were described in past studies.<sup>22,23</sup> A drawback of the previously available counselling cards was that the *kader* had not received training to use them although they were kept in the *Posyandu*. This was indicated in a study conducted about the use of the MCH booklet.<sup>21,24,25</sup> Taking into consideration the shortcomings of the previous trainings, the *kader* were trained to use the counselling cards during the current workshops. It made them familiar with the illustrations and comfortable to use the counselling cards in the *Posyandu* during health promotion.

The type of training and duration is important for effective practice of what is taught. From the *kader*’s point of view, the participatory workshops helped them be prepared for everyday situations of health promotion in the *Posyandu*, unlike previous conventional trainings they attended, and contributed to improve their knowledge and skills of communication. To this effect, several studies have shown the benefits of participatory approach in increasing knowledge, skills, attitude and behaviours of the health providers in providing service.<sup>26,27</sup> Other authors have shown that duration of training matters, and that small group of participants increased the focus of the participants and understanding of the topics discussed.<sup>28,29</sup> Likewise, our findings showed that the *kader* benefited from the participatory training and made them actively practice health promotion.

Despite success of participatory approach, continuous supervision is important to achieve meaningful change and sustainability of health programs.<sup>30</sup> The *kader* indicated that the observations by the study team helped them remember points received during the training and practice it. A study in India showed provision of follow-

up training sessions could reinforce the skills and knowledge learned during the initial training and also building additional knowledge and skills.<sup>27</sup> While supervision helps, *kader's* would need to provide health promotion independent of trainer observations. Although our training has helped the *kader* in the four study villages to actively provide health promotion, our findings may not be generalisable to other areas of Indonesia.

In conclusion, proper training has equipped the *kader* with knowledge and skills and motivated them to confidently function as maternal health promoters. The pregnant women and the community, both benefited from the health promotion *kader* practiced in the *Posyandu* using the counselling cards. A comprehensive participatory training accompanied with regular supportive supervision should be considered for *kader* in Indonesia for them to be resourceful maternal health promoters that could engage the community.

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## REFERENCES

1. World Health Organisation. Health in 2015: from MDGs to SDGs. 2015. Available at [http://apps.who.int/iris/bitstream/10665/200009/1/9789241565110\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/200009/1/9789241565110_eng.pdf?ua=1). Accessed on 19 December 2017.

2. Heywood P, Choi Y. Health system performance at the district level in Indonesia after decentralisation. *BMC Int Health Hum Rights*. 2010;10(3).
3. Nasir S, Ahmed R, Kurniasari M, Limato R, De Koning, K, Tulloch O, et al. Context analysis: close-to-community maternal health providers in South West Sumba and Cianjur, Indonesia. REACHOUT linking communities and health system, 2014. Available at: <http://www.reachoutconsortium.org/media/1831/indonesiacountryanalysisjuly2014compressed.pdf>. Accessed on 29 September 2017.
4. Kementerian Kesehatan Republik Indonesia. Pedoman umum pengelolaan Posyandu. 2011. Available at: <https://www.google.co.id/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwi4zpGZq9HWAhVJX5QKHQDIBJ4QFggoMAA&url=http%3A%2F%2Fperpustakaan.depkes.go.id%3A8180%2Fbitstream%2F123456789%2F1649%2F2%2FBK2011-170912-4.pdf&usg=AOvVaw0amk827CK2qpDam4gTMT-y>. Accessed on 2 October 2017.
5. Kementerian Kesehatan Republik Indonesia. Kurikulum dan modul pelatihan kader Posyandu. 2012. Available at: [https://slidedokumen.com/kurikulum-dan-modul-pelatihan-kader-posyandu\\_59fca5d31723dd9e40a32e01.html](https://slidedokumen.com/kurikulum-dan-modul-pelatihan-kader-posyandu_59fca5d31723dd9e40a32e01.html). Accessed 29 September 2017.
6. Nasir S, Magdalena A, Limato R, Tumbelaka P, Syafrudin D, Ahmed R. Impact of health promotions training of community health providers on community maternal health services in Cianjur, Indonesia. Presented at: 4th Global Symposium on Health Systems Research; November 16, 2016; Vancouver, Canada. Available at: [http://www.reachoutconsortium.org/media/9993/pac00288\\_impact-of-health-promotion-trainings-of-community-health-providers.pdf](http://www.reachoutconsortium.org/media/9993/pac00288_impact-of-health-promotion-trainings-of-community-health-providers.pdf). Accessed on 29 September 2017.
7. Badan Pusat Statistik Kabupaten Cianjur. Kabupaten Cianjur dalam angka. 2015. Available at <https://cianjurkab.bps.go.id/index.php/publikasi/85>. Accessed 10 August 2017.
8. Dinas Kesehatan Kabupaten Cianjur. Laporan Akhir Tahun Kesehatan Ibu Kabupaten Cianjur. 2015.
9. Nasir S, Ahmed R, Kurniasih M, Limato R, Tulloch O, Syafruddin D, et al. Challenges that hinders parturients to deliver in health facilities: a qualitative analysis in two districts of Indonesia. *Makara J Health Res*. 2016;20(3):79-87.
10. REACHOUT Consortium. New maternal health promotion resources from Indonesia. 2017. Available at: <http://reachoutconsortium.org/news/new-maternal-health-promotion-resources-from-Indonesia/>. Accessed on 15 January 2018.
11. Pope C, Mays N. Qualitative research: reaching the parts other methods cannot reach: an introduction to

qualitative methods in health and health services research. *BMJ*. 1995;3(11):42-45.

12. Mack N, Woodsong C, MacQueen KM, Guest G, Namey E. Qualitative research methods: a data collector's field guide. 2005. Family Health International. <https://www.fhi360.org/sites/default/files/media/documents/Qualitative%20Research%20Methods%20-%20A%20Data%20Collector%27s%20Field%20Guide.pdf>. Accessed 19 December 2017.
13. Ritchie J, Spencer L, O'Connor W. Carrying out qualitative analysis. In: Ritchie J, Lewis J, eds. *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. London: SAGE; 2003: 219-261.
14. Kok MC, Dieleman M, Taegtmeier M, Broerse JEW, Kane SS, Ormel H, et al. Which intervention design factors influence performance of community health workers in low- and middle-income countries? A systematic review. *Health Policy Plan*. 2015;30:1207-27.
15. Kok MC, Kane SS, Tulloch O, Ormel H, Theobald S, Dieleman M, et al. How does context influence performance of community health workers in low- and middle-income countries? Evidence from the literature. *Health Res Policy Syst*. 2015;13:13.
16. Dixon-Woods M. Using framework-based synthesis for conducting reviews of qualitative studies. *BMC Med*. 2011;9:39.
17. Charmaz K. *Constructing grounded theory*. 2nd ed. London: SAGE; 2014.
18. Limato R, Ahmed R, Magdalena A, Nasir S, Kotvojs F. Use of most significant change (MSC) technique to evaluate health promotion training of maternal community health workers in Cianjur district, Indonesia. *Evaluation and Program Planning*. 2017;66(2018):102-10.
19. Gunanti IR, Devi SR, Adriani M. Pemberdayaan kader posyandu melalui penerapan metode konseling gizi dalam upaya meningkatkan kualitas pembinaan program keluarga sadar gizi (KADARZI). *Buletin Penelitian Sistem Kesehatan*. 2005;8(1):47-58.
20. Sukiarko E. Pengaruh pelatihan dengan metode belajar berdasarkan masalah terhadap pengetahuan dan keterampilan kader gizi dalam kegiatan Posyandu: studi di kecamatan Tempuran kabupaten Magelang. Masteral thesis, Universitas Diponegoro Semarang. 2007.
21. Kermode M, Herrman H, Arole R, White J, Premkumar R, Patel V. Empowerment of women and mental health promotion: a qualitative study in rural Maharashtra, India. *BMC Public Health*. 2007;7:225.
22. Setiyarini T. Efektivitas Pendidikan kesehatan menggunakan media leaflet dan penyuluhan individual terhadap pengetahuan pencegahan kekambuhan asma. Bachelor thesis, Universitas Muhammadiyah Surakarta. 2016.
23. Yustisa PF, Aryana IK, Suryasa ING. Efektivitas penggunaan media cetak dan media elektronika dalam promosi kesehatan terhadap peningkatan pengetahuan dan perubahan sikap siswa SD. *Jurnal Kesehatan Lingkungan*. 2014;14(1):29-39.
24. Widagdo L, Husodo BT. Pemanfaatan buku KIA oleh kader Posyandu: Studi pada kader Posyandu di wilayah kerja Puskesmas Kedungadem Kabupaten Bojonegoro. *Makara J Health Res*. 2009;13(1):39-47.
25. Sistiarani C, Nurhayati S, Suratman. Peran kader dalam penggunaan buku kesehatan ibu dan anak. *Kemas*. 2013;8(2):99-105.
26. Fu C, Zhu M, Yu TSI, He Y. Effectiveness of participatory training on improving occupational health in small and medium enterprises in China. *Int J Occup Environ Health*. 2013;19(2):85-90.
27. Tripathy P, Nair N, Barnett S, Mahapatra R, Borghi J, Rath S et al. Effect of a participatory intervention with women's groups on birth outcomes and maternal depression in Jharkhand and Orissa, India: a cluster-randomised controlled trial. *Lancet*. 2010;375:1182-1192.
28. Hien LTT, Takano T, Seino K, Ohnishi M, Nakamura K. Effectiveness of a capacity-building program for community leaders in a health living environment: a randomized community-based intervention in rural Vietnam. *Health Promot Int*. 2008;23(4):354-364.
29. Javanparast S, Baum F, Labonte R, Sanders D, Rajabi Z, Heidari G. The experience of community health workers training in Iran: a qualitative study. *BMC Health Serv Res*. 2012;12:291.
30. Kaysin A. Empowerment of community health workers as agents of change. Masteral thesis, Johns Hopkins Bloomberg School of Public Health, Baltimore. 2010.

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