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Use of most significant change (MSC) technique to evaluate health promotion training of maternal community health workers in Cianjur district, Indonesia

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ABSTRACT

Maternal health promotion is a defined activity in the community integrated posts (Posyandu) in Indonesia. However, it is often neglected due to limited knowledge and skills of the community health workers (kader). We conducted health promotion training for the kader and village midwives in four villages in Cianjur district. This study describes the use of "most significant change" (MSC) technique to evaluate impact of health promotion to the beneficiaries and community at large. The MSC uses stories as raw data. Through interviews focused on perception of change, stories were collected from four pregnant women, eight kader and three village midwives. A Panel consisting of policy and programme managers and implementers read all the stories. The story by a pregnant woman who routinely attended Posyandu was selected as the story with most significant change. Her story highlighted changes in kader's knowledge and communication of health messages and attitude towards pregnant women. She expressed these changes impacted community awareness about health and to seek help from kader.The MSC technique enabled stakeholders to view raw data and evaluate the impact of health promotion from the beneficiary's perspective. At the same time, recipients of health promotion contributed to the decision process of evaluation through their stories. The different perspectives on the MSC reflected individual's objectives of the health promotion. The application of this technique is limited in maternal health promotion programme in Indonesia, and none have been published in peer reviewed journals.

1. Introduction

Health promotion is emphasised in the Indonesian primary health system. Ministry of Health of Indonesia has established four strategies of health promotion to prevent and to tackle illnesses and diseases in the community. Those strategies are partnership, advocacy, empowerment and creating supporting environment (Kesehatan, 2010, 2011). Subsequently, the initiation of "Healthy Indonesia 2010 Paradigm" (Bahar, 2015; Gultom, 2001) has led the health promotion becoming a priority service in the community health centres (*Puskesmas*) and in the community integrated posts (*Posyandu*) held monthly in the villages (Kesehatan, 2011).

The *Posyandu,* where antenatal care is provided is the focal point for maternal health promotion. The community health workers (hereafter denoted by the Indonesian term *kader,* for both singular and plural form) and the village midwives who work in the *Posyandu* are expected to provide health promotion. However, Nasir et al. (2014, 2016) found that health promotion was neglected in the *Posyandu* and the reasons the *kader* avoided health promotion activities were inadequate skills and knowledge for them to confidently deliver health messages. For the midwives, it was lack of time during the *Posyandu*. Thus, opportunities to increase awareness of pregnant women about antenatal and delivery health issues and the importance of health facility deliveries were missed due to the lack of health promotion in the *Posyandu*.

Health promotion is important in improving community awareness of maternal health and behaviour changes (Kyomuhangi, Biraro, Kabakyenga, Muchunguzu, & MacDonald, 2015). In order to reduce the current maternal mortality rate in Indonesia, (359 per 100,000 live births) (Statistics Indonesia (Badan Pusat Statistik [BPS]), National Population and Family Planning Board (BKKBN), Indonesia Ministry of

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Health (Depkes RI), & ICF International, 2013), the national maternal health policy promotes health facility delivery. In line with the empowerment strategy of the Ministry of Health and our findings on the needs to revitalise health promotion activities in the *Posyandu*, we considered to provide health promotion training to the *kader* and village midwives. This training was aimed to provide adequate health promotion skills including communication skills of the *kader* that could improve community awareness of maternal health issues with the end goal the changes in the behaviour and attitudes of the community towards health facility delivery. Here we describe the health promotion workshops and the technique used to evaluate changes following health promotion training through participation of the recipients and stakeholders of health promotion program.

1.1. Health promotion training

To assist the Cianjur district to incorporate regular health promotion in the *Posyandu,* we conducted training as part of the quality improvement cycle in the REACHOUT project. REACHOUT is a five-years programme of multi-country consortium, aimed at improving the role of health providers who work closely with the community (REACHOUT, 2017). In Indonesia, in line with national health priority to reduce the maternal deaths, REACHOUT aims to improve the delivery of maternal health services provided by the close-to-community (CTC) providers: *kader* and village midwives. In 2013, we conducted context analysis in two districts that nationally had high maternal deaths: Southwest Sumba in East Nusa Tenggara province and Cianjur in West Java province. The aims of the context analysis are to identify community context, health policy and how the interactions between these two influence the equity, effectiveness and efficiency of the CTC providers' services, and to develop interventions potentially improve the CTC services. This analysis revealed that the low facility delivery associated with high maternal deaths. One of the root causes is poor perception of benefits of delivery at health facility caused by health promotion in the *Posyandu* was barely conducted (Nasir et al., 2014). Based on these findings, we opted to hold health promotion training for the *kader* and village midwives.

Between February and April 2015, we held 14 health promotion workshops (4 days each) and trained 188 *kader* and seven village midwives from four villages in *Puskesmas* Ciranjang area, in Cianjur. The aim of the training was to improve the knowledge and communication of maternal health and negotiation skills, particularly of the *kader*. The topics covered in the training were antenatal and post-natal care, labour and delivery, danger signs during these periods and the importance of health facility delivery and birth preparedness. We also addressed topics on breast feeding, neonatal care, contraception, sexual and reproductive health, community mapping and *Posyandu* management. A participatory approach (Chatty, Baas, & Fleig, 2003; Komáromi, Kiss, Pálinkás, & István, n.d.) was used during the training with emphasis two-way communication in delivering health messages, including ways to negotiate behavioural changes and practices during pregnancy and delivery. Pictorial aids were utilised and participants were asked to do role play to practice their communication and negotiation skills with the pregnant women who were invited in the training.

At the end of the training, we wanted to evaluate the impact it had on the beneficiaries: the health service providers (*kader* and village midwives) and the service recipients (pregnant women). Both quantitative and qualitative methods were employed to assess the impact of the training. A longitudinal study on motivation was conducted over a three-year period. With aim to assess the changes of providers' motivation, a self-filled questionnaire using Likert scale was administered to a total of 100 samples at four-time points. The other quantitative approaches that we used were a pre- and post-test on the knowledge about maternal health during the training period to all training participants and *Posyandu* observation. *Posyandu* observation was conducted in eight consecutive months after the training to collect data on the frequency of health promotion and to assess the communication skills of the providers delivering health promotion using a set of scoring criteria. Qualitative methods were also used to compliment the quantitative methods. In-depth interview (IDIs) and focus group discussions (FGDs) were conducted three months before (baseline) and five months after the training (endline). A total of 44 IDIs and two FGDs was conducted at the baseline, and 43 IDIs and three FGDs at the endline. The objectives of these methods were to explore the experiences of the beneficiaries towards health promotion and other REACHOUT interventions (supervision and community engagement), to compare the situation in the Posyandu before and after interventions, and to triangulate the quantitative findings.

Besides evaluating the impacts of the training on the beneficiaries, we aimed an approach that incorporate a loop of feedback to the beneficiaries and REACHOUT as program implementer. At the same time, we reflected that was important to empower the policy and management level stakeholders from the District Heath Office (DHO) and the *Puskesmas* to directly engage in the evaluation process. By having a direct access to the raw data from the beneficiaries, these stakeholders can have better understanding on how the beneficiaries of health promotion in the *Posyandu* experienced the changes. Based on these reasons we opted to use the "most significant change" (MSC) technique which uses as data stories narrated by the beneficiaries.

1.2. Most significant change

The MSC is a participatory monitoring and evaluation data collection and analysis technique that could assess intermediate outcomes and program impact. Since its development in 1996 (Davies & Dart, 2005), MSC has been used in several countries for monitoring and evaluation of different projects (Alliance, 2007; Carrie, 2007; ; Fontes, Wilson-Grau, & Rick Davies, 2010; Kotvojs and Lasambouw, 2009; Pitt, 2006; Waters, James, & Darby, 2011; Wrigley, 2006). Unlike the traditional evaluation methods, MSC does not use prescribed and measurable indicators. Instead, MSC uses personal stories that indicate change (Davies & Dart, 2005). Prior to program implementation, the implementers define 'domains of change' to group the expected changes after the intervention into categories (Carrie, 2007; Davies & Dart, 2005). In addition, an 'open window' domain is included to capture changes that may not fit into the pre-defined domains (Davies & Dart, 2005).

The benefits of the MSC technique are that it encourages organisational learning, provides a rich description of the changes, captures unexpected changes (Davies & Dart, 2005), and indirect and process outcomes that cannot be recorded by indicator-based evaluations (Chandurkar, Negi, Mukherji, (n.d.)). It is also beneficial as a monitoring tool that can record the evolution of change over the years (Polet et al., 2015). The MSC approach seeks feedback from all stakeholders; i.e. program beneficiaries, implementers and policy makers. With MSC, the data comes from narrated stories and the beneficiaries have the opportunity to express how they experienced the impact of change. These stories are analysed by a Panel of program implementers and policy and management stakeholders. The Panel selects the story that they consider representing the most significant change, giving the reasons why that particular story was selected, while taking into account general lessons across all stories (Davies & Dart, 2005).

After the selection panel, the next steps are to provide feedback and to verify the story. The feedback to those who provided the significant story is important in this technique. The aim of feedback is to let the beneficiary knows that his/her story is read and valued by the local stakeholders. Besides, it can expand the view of the beneficiary on the reasons behind the collective judgements made by the Panel and facilitate change. Story verification is useful to ensure the data validity.

2. Method

2.1. Defining the domains of change

Prior to the health promotion training, the REACHOUT team (the program implementer) anticipated three domains of change that could occur resulting from completion of health promotion training. These included: restart of previously neglected health promotion in the *Posyandu*, change in knowledge and skills of the trained providers in the maternal health promotion, and lastly a change in community awareness and behaviour towards antenatal care and delivery. Analysis of stories considered these domains of change and unexpected change (the 'open window' approach).

2.2. Participant selection

We purposely selected to interview fifteen beneficiaries of the health promotion training from the four intervention villages: four pregnant women, three village midwives and eight *kader* (all female). They came from four villages (Ciranjang, Mekargalih, Karangwangi and Sindangsari) served by the *Puskesmas* Ciranjang catchment area in Cianjur district, where health promotion training was conducted. Only the *kader* and village midwives who had completed our health promotion training and subsequently were promoting maternal health in the *Posyandu* were included. The pregnant women were selected if they routinely attended the *Posyandu* for antenatal care prior to, and after the *kader* and village midwives completed our health promotion training. We excluded pregnant women who had their first antenatal visit at the *Posyandu* after we held the health promotion workshops. We limited the number of interviewed participants to 15 people because of time limitation of data collection as we conducted other qualitative methods and quantitative methods as well.

2.3. Story collection

Stories were collected during September 2015 by two researchers through interviews conducted in Indonesian language. The two researchers were part of REACHOUT programme, and both obtained skills in conducting interviews from their post-graduate study and refreshing training prior the data collection. The objectives of employing two researchers in this method is to hasten the data collection process since we collected other qualitative and also quantitative methods. The interviews were held at the participants' home to provide a comfortable environment for them to narrate their stories. During the interview, the interviewer took notes and read back the story to the participant to check if any points were misunderstood or missed. Interviews were recorded on a voice recorder to capture verbatim and the changes expressed by the narrators' own words. Each interview lasted between 15 and 30 min. During the interview, the participants were prompted with questions shown in Table 1. The two researchers transcribed and translated the stories into English.

2.4. Ethical considerations

Written informed consent was obtained to participate in the study, interviews to be tape-recorded and to state the actual name in the narrated story and in any publication of their story. Out of fifteen participants, eleven participants gave full consent. One participant refused the interview to be tape-recorded, but agreed for her name to be stated in the publication. The other three agreed to be tape-recorded, but refused names to be mentioned in any publication. Their consent requests were duly adhered.

2.5. Story selection process

We invited local policy stakeholders and health programme implementers to form the MSC story selection Panel. They were the Head of Family Health section and the Head of Maternal and Child Health section from DHO representing district level policy decision makers. The sub-district officials were the Head of *Puskesmas*, the Midwife Coordinator and the Head of Health Promotion from *Puskesmas* Ciranjang who represented sub-district managerial officials where the study and intervention was applied. To represent programme implementer, the Principal Investigator and Senior Research Associate of the REACHOUT project were included in the Panel. These two REACHOUT Panel members had not been engaged with story collection and did not have prior knowledge of the contents of the stories. We had a total of seven Panel members in this story selection process.

A one-day meeting was held to select the MSC story. The Panel members were divided into two groups (A & B) on the basis of power to minimise the impact of power dynamic on group decision making. Group A consisted of four Panel members and Group B had three Panel members received seven and eight stories respectively. Each group member was asked to select one story. The shortlisted stories were discussed within the group and one story considered the most significant story was selected to present in the full Panel. After the two shortlisted stories were discussed, the Panel voted by show of hands to select a single story they considered to reflect the most significant change. The selection process is shown in Fig. 1.

2.6. Feedback of the selected MSC story

The pregnant woman whose story was selected for most significant change was informed about the selection process, the Panel members who were involved in the story selection process and the points they considered to select her story. In addition, the staff of the *Posyandu* (*kader* and village midwife) where the she attended for antenatal care, were informed about the story with the most significant change and why it was selected. The feedback was gratefully accepted by the pregnant woman and empowered the *kader* and village midwife to be consistent to deliver health promotion in the *Posyandu*. It appears to have improved the health promotion activities in the *Posyandu* as follow-up observations indicated regular health promotion activity was delivered in that *Posyandu*.

2.7. Story verification process

The selected story was verified by both stakeholders and the program implementer (REACHOUT members). The Head of Health Promotion from *Puskesmas* Ciranjang and researchers from REACHOUT visited the *Posyandu* several times where the selected story took place and observed the health promotion activity. This observation was including taking notes on the health promotion activities and assessing *kader's* health promotion delivery skills using a set of scoring criteria as *Posyandu* observation was also a part of other program evaluation process.

3. Results

The presented results are divided into two parts: (1) story selection including Panel discussion process and selected significant story, and (2) the domains of change.

3.1. Story selection

The selection process of the significant change story of the Panel members is elaborated below.

3.1.1. Group A story selection process

In Group A, seven stories were distributed (one story from village midwife, four from *kader* and two from pregnant women). Each member read all seven stories and chose one story and discussed within

Table 1
Interview questions to capture changes.

Question for village midwife and *kader*	Question for pregnant women	Purpose of the question
1a. What positive or negative changes have you experienced after participation in our health promotion training?	1b. You have attended *Posyandu* for antenatal services before we trained the *kader* and village midwives. Have you noticed any change in the *Posyandu* after the *kader* and the midwife attended the training? *If yes*, what positive or negative changes have you experienced?	This introductory question aimed to capture a range of changes experienced by the beneficiaries.
2. Could you describe the most significant changes you found?		This question focused on the beneficiaries' personal judgment on what was the most significant change of all stated changes. This question reflects the participatory approach that empowered the beneficiaries to have a voice on what they thought was the most important change.
3. What were the *Posyandu activities* like before the *kader* and village midwife had health promotion training? What was the *Posyandu* like after the training?		This question clarified the details of what happened before and after the health promotion training by asking the beneficiaries to compare and contrast the services provided in the *Posyandu*.
What was the *Posyandu* like after the training?		
4. What do you think has brought the change you describe?		This question aimed to identify the perceived reasons for the change by the beneficiaries.

Question 1a was asked only from village midwife and kader. Question 1b was asked only from pregnant women. Question 2,3,4 were asked from all participants.

the group the points for selecting it.

The story-1 narrated by a village midwife was chosen by the Head of Maternal and Child Health section of the DHO and Midwife Coordinator from *Puskesmas*. The selected story reflected how the midwife had changed her way of supervision and the effect it had on the way the *kader* performed her duty.

> **Story-1 (village midwife)**: The most significant change that happened is the implementation of kader supervision. Prior to the training from REACHOUT, I never did supervision. I used to go back home immediately after Posyandu services finished. Thus, the problems in the Posyandu had never been discussed. Now, I allocate half an hour to supervise and to evaluate the kader. Now the kader are more responsible, not only in performing, but also in planning and evaluating Posyandu activities.

These two Panel members, felt story-1 captured changes in the management skills of the village midwife, which resulted in the *kader* showing more responsibility towards her work.

The Head of Health Promotion chose the story-13 in which a pregnant woman expressed how the introduction of counselling services affected her.

> **Story-13 (pregnant woman)**: The most significant change I experienced is the counselling at Posyandu. After the kader attended the training, now the counselling is conducted in Posyandu. Moreover, the counselling is routinely conducted. During the Posyandu services, there is a specific time allocated for pregnant women to receive counselling. Previously, pregnant women were examined only by a midwife. I feel happy with this new activity, the counselling, because I got new knowledge and experience.

She felt that the story-13 illustrated important points of change in service. First, the *kader* was engaged in counselling and contributing to the care of pregnant women. Second, the story narration enabled the pregnant woman to express her feelings about acquiring new knowledge. Third, the story gave the real picture of change through the words of the pregnant woman, who is an important beneficiary of *Posyandu* and the community at large.

The REACHOUT principal investigator who represented the program implementer selected the story-5 told by a *kader*. The story illustrated the impact of effective health promotion in bringing behaviour change among pregnant women.

> **Story-5 (kader)**: The most significant change happened as the effect of the health promotion training is pregnant women became more aware on the importance of giving birth in a health facility. After the counselling, when I asked, "Where will you give birth?", the pregnant women said, "At the health facility because the instruments are sterile. If the bleeding happens, I will get complete medications and if I have anaemia I will get blood supplies." Previously they prefer to give birth assisted by the Traditional Birth Attendant (TBA) at their (women's) home.

The way the pregnant woman explained her preference to deliver at the health facility was an indication that health promotion practiced by the *kader* was effective. One of the objectives of the health promotion training was to get more women to attend health facilities for delivery. Furthermore, the story illustrated that both the service providers (*kader*) and the service recipients (pregnant women) benefited from health promotion training.

The third step was to reach consensus within the group to select "one" story with the most significant change. The members discussed the strengths and weaknesses of the individually selected stories with a focus on the impact of change, benefit to the community and achievement of the overall objective of health promotion training. The points deliberated 'for and against' change were quality of activities, attitude and knowledge of the beneficiaries and behaviour change. The group agreed that the story-5, narrated by the *kader* highlighted important points (which reflected a change from both the service provider and users) and selected it to present in the full Panel session.

3.1.2. Group B story selection process

In Group B, eight stories were distributed (two stories from village midwife, four from *kader* and two from pregnant women). Similar steps in the selection process described in Group A was used. Briefly, the three members selected a story each and discussed them within the group to shortlist one story for full Panel discussion.

The Head of *Puskesmas* selected story-2 in which the village midwife stated that the *kader* had systematised the *Posyandu* and they could confidently deliver health counselling which previously was a task done by the village midwives. The impact of change demonstrated in this story was the reduction of midwife's workload.

> **Story-2 (village midwife)**: The schedule of Posyandu is now organised and with the new Posyandu schedule, all kader are present during Posyandu services and they do their report after the Posyandu services finished. Even they chase after me for submitting the Posyandu report. But the most significant change is that now the kader do the counselling. Previously, there was no counselling at all. The kader were shy, maybe because their low level of education – most of them only finished elementary school. Previously, I had to deliver the counselling by myself. This change reduces my workload, the midwife workload.

The REACHOUT Senior Research Associate had chosen story-7 narrated by a *kader*. The points considered for it to be the most

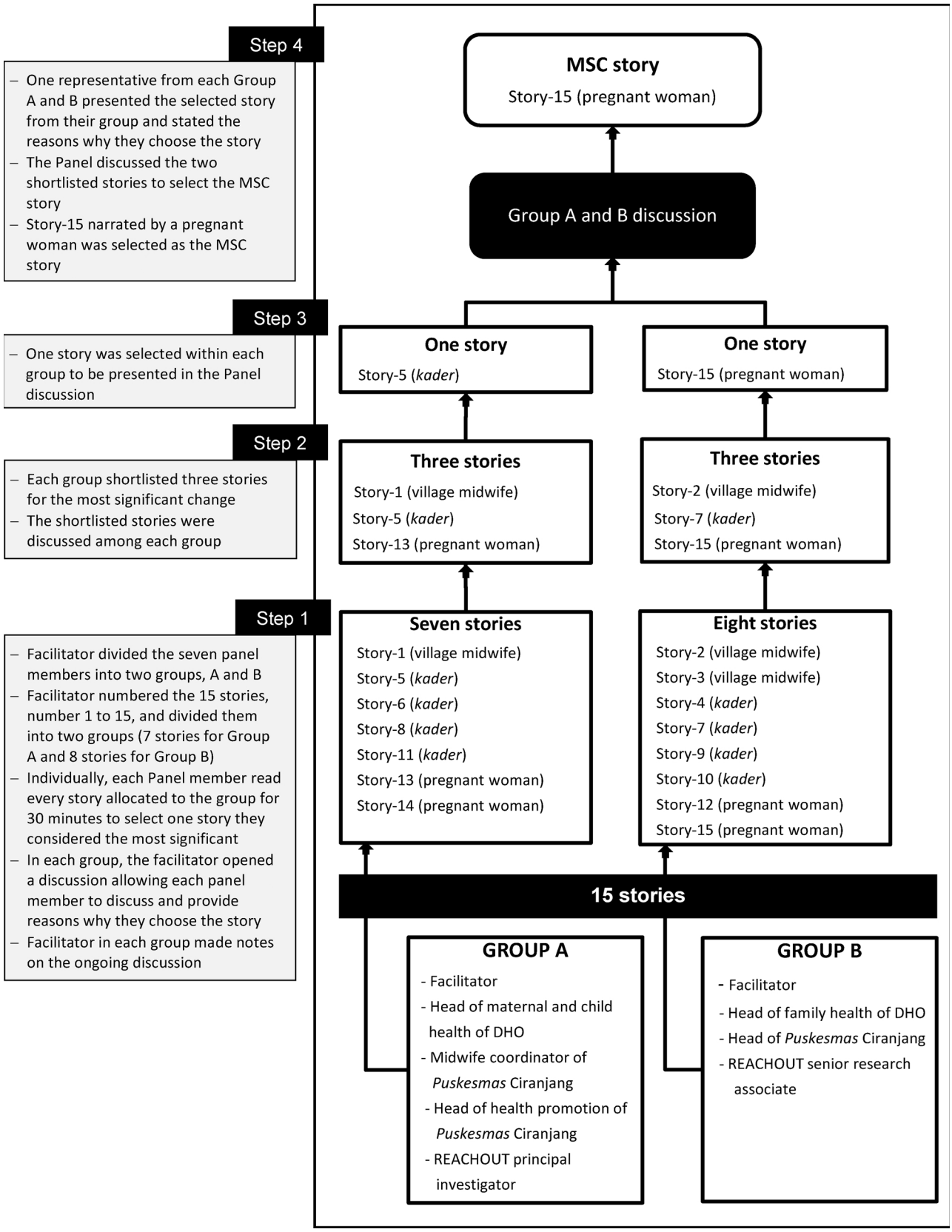

Fig. 1. The MSC story selection process and result.

significant story were *kader's* ability to convince a pregnant woman on the dangers of home delivery which brought a behaviour change. The significant change described in the story is in line with the aim of the local government's mission to increase health facility delivery.

Story-7 (kader): The most significant change and the change I like the most is now mothers give birth with the assistance of the midwife. Previously, they did not want to give birth in the health facility

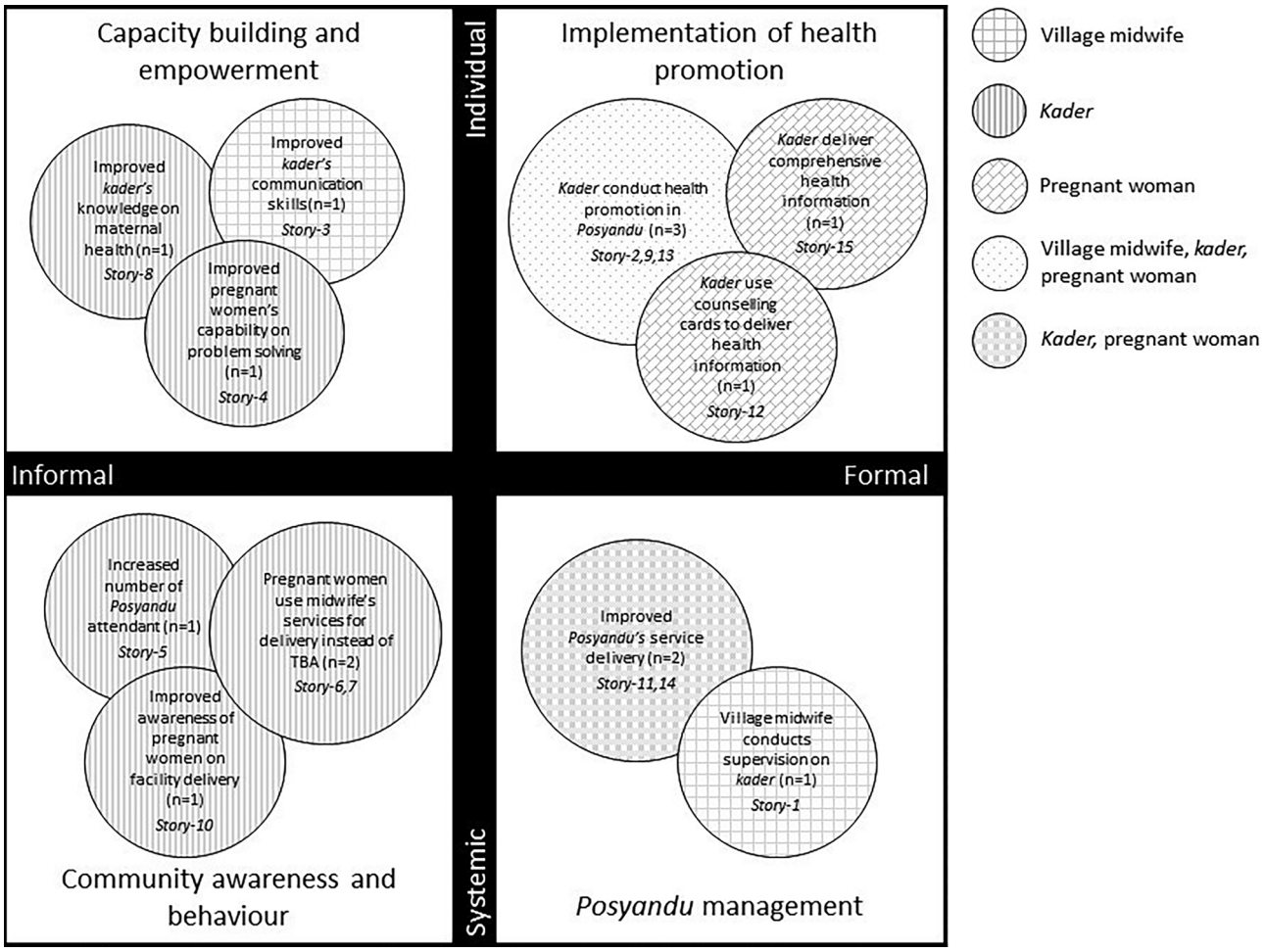

Fig. 2. Domains of change of maternal health promotion training for *kader* and village midwives (Adapted from Batliwala & Pittman, 2010).

and prefer at home with the help of TBA. Yesterday, my neighbour just had a baby. When she felt the contraction, I accompanied her so she would not give birth assisted by the TBA. She was then helped by village midwife, but due to a certain medical condition, she was referred to an obstetrician and the childbirth was assisted by him. The reason why this happened is because now the mothers know the risks of giving birth at home.

The Head of Family Health of DHO selected story-15 narrated by a pregnant woman.

Story-15 (pregnant woman): In my opinion, the most significant change happened in Posyandu is kader deliver more comprehensive information after participation in the training. The way kader communicate the information is better and it makes us understand more about the messages. Previously, kader were less knowledgeable. Now, they can give complete and detailed information to us. For example, previously, the information about the delivery was only delivered as a short notice. Now, kader give information that pregnant women with labour signs should seek help immediately. I think the change in the way kader give information is very helpful because in this village, the community's knowledge about health is still low. If I go for a consultation with a private doctor or midwife, I have to pay. Meanwhile, I can get the same information from Posyandu without paying any fee.

According to her, pregnant women are the most important beneficiaries of health promotion training. In story-15, a pregnant woman has expressed her experience about the changes she observed in *kader's* knowledge and communication skills to deliver health messages in which benefited her and community in general.

The group deliberated the points 'for and against' significance of change in the individually selected stories. Collectively the group agreed that the story-15 by pregnant woman reflected improvement in *kader's* ability to perform health counselling which resulted in a change in the service and had an impact on the community. Group B chose this story to present in the full Panel session.

In this selection process, the objective of giving different stories to the different group was to shorten the Panel discussion duration as the DHO officials were unable to attend a-full day meeting.

3.1.3. Panel discussion

The two shortlisted stories by group A and B were presented to the full Panel to select the story with the most significant change. The story-5 from a *kader* presented by Group A illustrated community empowerment and behaviour change related to improved knowledge. Women became aware of the risks of home delivery and changed their place of childbirth from TBA assisted home deliveries to the health facility. In addition, the story showed that the *kader* benefited from the health promotion training. The story-15 shortlisted by Group B had the following points reflecting significant change: (1) the pregnant woman observed that the *kader* had gained knowledge which enabled them to deliver comprehensive and detailed health information, (2) information given by the *kaders* improved the knowledge of the village community about pregnancy related health problems and (3) pregnant woman felt that the attendance at the *Posyandu* was more beneficial than seeking care privately for which she had to pay. The Panel collectively agreed that pregnant women are the most important beneficiaries and their

views of change mattered most. Through consensus, the Panel selected story-15 (Appendix A) as the single story which reflected several important aspects of change. These were changes in *kader's* attitude and quality of service, which indicated impact on the service provider, community empowerment and behaviour change indicating the impact on the end user of health promotion.

This highlighted that the MSC selection process surfaces the different values among Panel members. This provides a basis for future discussions on priorities and direction of future health promotion training.

3.2. Domains of change

The collected stories brought out three previously anticipated changes: changes in implementation of health promotion in the *Posyandu*, changes in providers' knowledge and skills to conduct health promotion, and changes in community awareness and attitude. In addition, one unexpected change was identified: change in the *Posyandu* management.

The domains of change were categorised into informal and individual, formal and individual, informal and systemic, and formal and systemic level (Fig. 2). First, informal changes at individual level were changes in the capacity building and empowerment. Second, formal changes at individual level were changes in implementation of health promotion. The next domain includes the informal changes at systemic level, which were the changes in community's awareness and behaviour. The fourth was the unexpected observation which was categorised as a formal change at systemic level: changes in the *Posyandu* management. The *Posyandu* services had improved after the health promotion training and the village midwife was doing supervision of *kader's* work.

4. Discussion

The MSC technique enabled the beneficiaries to express what happened in the *Posyandu* since the health promotion training was completed by the *kader* and village midwives. The stories also helped the stakeholders to evaluate change taking into consideration the beneficiaries' view point. In addition, with the MSC technique, the unexpected changes can be captured and it allowed participation of the receiver, provider and the higher level of stakeholders to contribute to evaluation of health promotion. Different perspectives of significant change from beneficiaries and stakeholders are elaborated below.

4.1. Significant change from beneficiaries' perspectives

The stories brought out the different experiences and significant changes to different beneficiaries. When the significant changes were grouped into domains of change, it appeared that the majority of pregnant women felt the most significant change was the implementation of health promotion in the *Posyandu*. They were glad that health promotion was being practised in the *Posyandu* and that the *kader* could deliver health messages comprehensively. These points emphasised the value that the four-day training has had in boosting the confidence of *kader* to promote maternal health. Furthermore, comparable with past studies (Mafwiri, Jolley, Hunter, Gilbert, & Schmidt, 2016; Puchalski Ritchie et al., 2016) the increased knowledge and skills gained from the training helped the *kader* to bring about an improvement in the *Posyandu* services.

Each group of CTC providers, village midwives and *kader* highlighted different perspectives of change. The midwives described the change in *kader's* capability to conduct health promotion. Midwives also identified that improvements in *kader's* organisational and counselling skills made more time available for their work. As a result, the midwives were able to spare time for supervision of *kader*. These changes had not been expected to occur in the short period between training and evaluation. Nonetheless, it is important to note that it was the qualitative nature of MSC that helped identify these unexpected changes. Overall, the midwives' narrations emphasised points relating to the domain of implementing change.

Unlike pregnant women and village midwives, it was the *kader* who highlighted the changes in community awareness of maternal health and behavioural changes. They observed an increase in attendance of pregnant women in the *Posyandu*, improved awareness of the importance of facility delivery and a behavioural change to use midwife services for delivery instead of TBA. The proximity of the *kader* to the community and the pregnant women might be what made them notice these changes. Community awareness, behavioural change and empowerment were some of the anticipated domains of change and the *kader's* stories indicated that these changes could be achieved with appropriate health promotion.

4.2. Significant change from stakeholders' perspectives

In this study, the stories are the raw data. With MSC, program implementers and policy stakeholders analysed the raw data (through the Panel selection process) to evaluate the impact of health promotion training. Interestingly, both program implementers, although they were in different groups of the Panel, chose stories in which the salient points were willingness of pregnant women to attend the health facility for delivery and improved skills of *kader*. In addition, their shortlisted stories reflected the *kader's* ability to practice what they learned during the training, which indicated the benefit of proper training. It suggests that for the programme implementers, the most significant impact of health promotion was improved community awareness and behavioural changes of the pregnant women.

Local policy stakeholders on the Panel brought out different perspectives of significant change related to the training. Three of the five local policy stakeholders selected stories which showed how *Posyandu* management was transformed by both the midwife and the *kader*. This indicates that these stakeholders consider the way the midwife and *kader* conduct the *Posyandu* services important. In contrast, the views of the other two local policy stakeholders were entirely different. They considered that pregnant women were the most important recipient of health promotion and that the experience of these women revealed the most important impact of the training *kader* and midwives received. After deliberations, the panel selected the most significant change as the story narrated by a pregnant woman which included several points of change in *kader* actions that led to benefits for the service receiver and the broader community.

5. Limitations and suggestions

There are three limitations to this study's findings. First, story collection was only conducted at one point in time. Therefore, the change over time in health promotion practice could not be evaluated. Second, stories were collected from only a small number of participants. This limits generalisability of findings. Third, the data was only analysed through the Panel process; no secondary analysis was applied. Consequently, the findings identify changes considered to be most significant and may not identify all areas of change or areas where no change occurred. These limitations were addressed by other quantitative and qualitative methods used as part of the programs broader monitoring and evaluation.

To address these limitations, the following approaches are proposed. First, apply MSC repeatedly so that stories can be collected and analysed at more than one-time point. This would reveal changes in stakeholder's perspectives over time and the significant changes achieved at different points in a project's life-cycle. Second, increase the number of interviewed participants as a larger number of participants can increase the confidence in generalisability of the findings. Third, specifically asking about negative changes would increase the breadth

of change identified, and assist surface potential problems. Inclusion of secondary analysis of data would also enable broader analysis of change, areas of no-change and the mechanism that facilitated change.

6. Lessons learned and conclusions

The main lesson from using the MSC technique to evaluate the outcome of maternal health promotion training for *kader* and village midwives is the value gained from involving the beneficiaries and stakeholders in program evaluation. Direct access to beneficiaries' stories brings new perspectives to the stakeholders' (program implementers and local decision makers) on the health promotion training. Through the story selection process, stakeholders gained an understanding of the perspective of the village midwife on *kader* responsiveness to the midwife's work, the receptiveness of pregnant women to health promotion and how *kader* observed changes in the community. Without the selection process, they would not have gained this understanding. As a result, program implementers and local decision makers recognised that beneficiaries may have a different, but no less important, perspective on the worth of the program to their own. Program implementers and local decision makers also came to realise the importance of adequate training for community health workers and village midwives and the need to be open to the unexpected outcomes resulting from program implementation.

Techniques that enable beneficiaries to have a voice in identifying the changes they experienced as a result of the health promotion training are limited; even within participatory evaluations. A literature review of participatory evaluations of health promotion programs found evaluations involving beneficiaries were scarce. Those identified were primarily limited to involving beneficiaries in the dissemination of findings (Nitsch et al., 2013). In contrast, the MSC technique emphasised the importance of beneficiaries' involvement in the analysis process (selection Panel) to evaluate the program implementation. It allowed stakeholders to engage with the raw data rather than simply engage with an analysis report. It was this process that elicited the benefits identified.

The MSC technique has had limited application to evaluation of maternal health promotion programs in Indonesia, and none have yet been published in peer reviewed journals. This research found that application of the MSC technique provided significant value to program implementers and local decision makers through illuminating stakeholder's perspective. The MSC technique has potential for future monitoring and evaluation of health programmes in Indonesia.

Ethical approval

The study protocol was approved by the Ethics Committee of Research in Health, Medical Faculty of Hasanuddin University, Makassar, Indonesia (No. 02260/H4.8.4.5.31/PP36-KOMETIK/2014).

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Competing interest

None declared by the authors.

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Appendix A. The most significant change story

Type of participant : Pregnant woman.
Name : Ms. Santi.
Village of origin : Ciranjang.
Story title : Changes in *Posyandu* Kamboja.

I think *Posyandu* Kamboja has become more convenient and organised since the *kader* attended training. Back then, the service schedule of pregnant women and toddlers was not separated. It made *Posyandu* disorganised and had hectic long queue. When the *Posyandu* schedule of pregnant women and toddlers was not divided into two different times, *Posyandu* visitors were scramble one another to be served first. Now, after the schedule of pregnant women and toddlers was divided into two different times, *Posyandu* is more organised and pregnant women feel more comfortable to share their complaints because there is no disturbance of babies crying. Moreover, nowadays I see that the *kader* are more frequently giving the counselling. Back then the counselling in the *Posyandu* was only given by *kader* E. Now the condition is different since all *kader* are confident in giving counselling.

The most significant change in the *Posyandu* is the information conveyed by *kader* now become more comprehensive. The way *kader* deliver the information is better, making us understand it better. *Kader* used to be less knowledgeable. For instance, there was a woman telling a *kader* about her complaint, the *kader* would go blank for a while. Nowadays, *kader* provide more comprehensive and detailed information. Previously, it was only Mrs. E who had the knowledge, the other *kader* just helping around. *Kader* duties are already well-distributed like do recording in the KMS (patient record book), measuring weight and do recording in the report book. Previously, all tasks were done by Mrs. E alone. Now everything is organised because all *kader* are capable to carry out their tasks.

Furthermore, after the *kader* received training, I observed *kader* are showing more attention to *Posyandu* visitors. For example, previously, the information about delivery was only delivered as a short notice. *Kader* also give information that pregnant women with labour signs should seek helps immediately. I used to ask something to *kader*, but only Mrs. E could answer it and other *kader* were unable to answer. This is maybe because of their limited knowledge. Now, they are able to provide comprehensive information with some examples, and what the pregnant women must do if the labour signs occur. Like when I asked about my kid's nutrition status, the *kader* gave food examples, which food should I and my kid consume. I think, this change happened because of the willingness of the *kader* to improve their knowledge.

The other thing that I observe is, after the training, *kader* are more prepared to answer our complaints. If someone is sick, *kader* are ready to escort him/her to the *Puskesmas* (community health centre) and tells us to contact them if we need help. I think the change in how *kader* give information is very helpful, because in this village, the community knowledge about health information is still lacking. If I consult a private doctor or midwife, I have to pay. Meanwhile, I can get the same knowledge from *Posyandu* without paying any fee.

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