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Can CMWs sustain quality services and high coverage as private providers in Chitral? A three-year prospective qualitative study

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Can CMWs sustain quality services and high coverage as private providers in Chitral? A three-year prospective qualitative study

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Abstract

Background: The maternal and neonatal mortality rates of Chitral district of Pakistan are among the highest in the country. One of the factors that found to have positive impact on maternal and newborn health indicators is the availability of quality skill birth attendance because the majority of the poor women cannot access facility-based maternity care. Therefore, in 2006, the Government of Pakistan (GOP) has initiated a program to train and deploy Community Midwives (CMWs) to support safe pregnancies and births. The Aga Khan Health Service' Pakistan, initiated the Chitral Child Survival Program (CCSP) in partnership with the National Maternal Neonatal and Child Health program. The CCSP was an intervention package deploying 28 CMWs in remote villages of the district and supported by several strategies to ensure successful transition of these CMWs in remote settings.

Aim: This study aims to assess the effectiveness of CCSP's package of interventions and to identify the push (facilitating) and pull (hindering) factors that may have an impact on the CMW's service utilization.

Methods: A three-year longitudinal prospective qualitative design, using individual in-depth CMWs and focus group interviews of key informants conducted in Chitral district of Khyber Pakhtunkhwa province, Pakistan in localities where the CMWs were deployed. Using purposive sampling, 27 CMWs (all part of CCSP), key informants and other stakeholders were recruited.

Data analysis was done concurrently with data collection by the researcher, using Creswell's six steps.

Findings: The major themes emerging from this study are: Safe and competent care in isolated villages, community's support and satisfaction from the CMW work, Supportive supervision, dynamics of CMWs with other healthcare professionals, CMW's referral systems and its challenges, CMW remuneration and fee for service , and Sustainability of the CMW services

Recommendations: Continued support, ongoing in-service education of CMWs and constant engagement of the community, certainly plays a crucial role. The GoP could consider incorporating CMWs in the service structure with a salary based on their scope of practice. This may ensure the sustainability of the CMW model and would allow community to access the MNCH services provided by them.

Keywords: *Community midwives, midwifery knowledge and skills, assessment of midwives*

Background

Pakistan, a developing country in South Asia, has had a slight improvement in Maternal Mortality Ratios (MMR), from 391 in 1990 to 348 in 2016.[1] Similarly, the country's Neonatal Mortality Rate (NMR) remained 55 per 1000 live births between 2006 and 2012 and gradually stagnated to 42 /1000 live births in 2018; while one in every 14 children dies before the age of five.[2-4] Factors found to have had positive impact on reducing the above mentioned statistics include number of antenatal visits, facility births and presence of Skill Birth Attendants (SBAs) at the time of birth.[5] SBAs have been advocated as the intervention to reduce maternal and neonatal deaths, especially during birth and for the first 24 hours postpartum.[6] Investing in midwifery education, with deployment to community-based services, can yield a 16-fold return on investment in terms of lives saved and costs of caesarean sections avoided.[7] Highlighting the increased number of maternal health problems in rural areas and the higher proportion of MMRs and NMR in Pakistan resulted in a need to train and deploy midwives, especially for rural communities. In 2006, the Government of Pakistan (GoP) initiated a program to train and deploy Community Midwives (CMWs) as a remedy to lapse in the country's healthcare delivery infrastructure to support safe pregnancies and births.[8] With an increased availability,

accessibility, acceptability and quality of CMWs, it is intended to stem thousands of preventable maternal, neonatal, and child deaths.[9]

Chitral is the northern most and the largest district of Khyber Pukhtoon Khuan (KPK) situated at the altitude of 1128 meters making it one of the highest regions in the world. The last reported MMR of KPK was 323,[2] in short health indicators of Chitral district are miserable. Almost 48% of rural population receive skilled birth attendance whereas only 8 doctors and 20 nurses are available per 1 million population.[10] To address the meager maternal and child healthcare needs of the marginalized women the Chitral Child Survival Program (CCSP) was initiated. CCSP is supported under the Child Survival and Health Grants Program (CSHGP) of USAID and is being implemented in the remote and isolated area of Chitral district through several agencies of the Aga Khan Development Network (AKDN) and in partnership with the National Maternal, Neonatal and Child Health (MNCH) Program.[1,2] In 2010, CCSP began midwifery training program for young women of Chitral. After successful completion of their 18 months training of basic midwifery theory and skills which is approved by the Pakistan Nursing Council (PNC), these CMWs were deployed in their respective communities. The main outcome of this program was to provide quality MNCH services to the population through trained and competent midwives with the overarching goal of improved provision and reception of maternal and neonatal care. However, the project implemented an additional set of targeted activities that aimed to improve the uptake of CMW services and foster sustainability over time. They were: a) additional 6 months of internship training before deployment; b) provision of $250 (USD equivalent) to furnish their "Safe Maternity centres"; c) formation of Village Health Committees (VHCs) to support CMWs through mobilization of resources; d) campaigning through Behavior Change Communication (BCC) and male mobilizers to influence the community; e) creating and supporting referral system; f) facilitation in building linkages of CMW with existing community healthcare providers; g) initiation of Community-Based Savings Groups (CBSGs); and h) monthly stipend for CMWs.

The purpose of this study was to assess the effectiveness of CCSP's proposed package of interventions for strengthening deployment and service utilization. And also to identify the push

[1] Chitral District contains 2% of KPK's population scattered over 20% of KPK's area. (Ref: Government of NWFP, 'Important District-Wise Socio-Economic Indicators of NWFP', Bureau of Statistics, Planning, and development dept, Peshawar, 2009.)

[2] AKDN agencies implementing CCSP include: Aga Khan Foundation, Pakistan (AKF,P), Aga Khan Health Services, Pakistan (AKHS,P) and the Aga Khan Rural Support Program (AKRSP)

(facilitating) and pull (hindering) factors that may have an impact on the CMW's service utilization. The study was conducted over the three years i.e. 2011-2013 in three phases: a) before deployment of CMWs; b) at the end of first year post deployment of CMWs; and c) at the end of second year after deployment of CMWs.

Methods

The study used a prospective qualitative exploratory design in Chitral district of Khyber Pakhtunkhwa province, Pakistan, where all the CMWs were trained and deployed. Using purposive sampling for selection, the population included all the 27 CMWs trained by CCSP, the key informants and other relevant stakeholders. The data of the study were collected through individual in-depth CMWs' and key informants' interviews. The Focus Group Discussions (FGDs) interviews were held with different stakeholders of the community villages using semi-structured interview guides. The interviews in Urdu were audio-taped, which were then translated into English. The data was analyzed using Creswell's approach, which is identifying codes, categories, and themes.[11] Triangulation approach was used to cross check the data gathered from each group of participants to obtain in-depth facts and details through interviews. Out of 28 villages, 14 villages were randomly selected for the interviews based on the available list. From each village, one in-depth interview was done from the CMW, and FGDs were done from VHCs, other health care professionals (Community Health Workers, Lady Health Visitors and Traditional Birth Attendants), and women availing and not availing CMW services (four FGDs from each village). In each FGD 6-8 stakeholders participated.

Ethical consideration

An ethical review was undertaken by the Ethical Review Committee (ERC) at the Aga Khan University (AKU), Pakistan. Confidentiality of participants was maintained through anonymous coding. Formal permission was sought from the project director and villages' stakeholders before collecting the data. Inclusion of participants depended on their explicit written consent to participate in the study. Only CMWs who had completed their preliminary training and had a valid license to work from the PNC, and were willing to participate in the study were included. All participants were allowed to withdraw at any stage of the study.

Findings

Participants expressed range of opinions and experiences. The identified themes are supported by quotes below with a detailed discussion after this section.

Safe and competent care in isolated villages

Most of the CMWs reported that they were very well trained through their 18-months training followed by six months of practical internship. Almost all CMWs reported that they considered themselves as safe providers of care and as trained professionals who were able to provide maternal and neonatal care in their community across the continuum of care from antenatal to postpartum as well as new-born care.

A few CMWs even shared that because of their community health education services, they have brought positive changes in the health care practices in their villages. In addition, they also used their entrepreneur skills to enhance their business and services they provide. Few CMWs also expressed that due to their job, they were recognized by the community as care takers. Most CMWs shared that they were satisfied because not only women and children utilized their expertise, their community as a whole also benefitted from their work.

> *Our community gives me respect and honor, and I feel proud of this job of humanity. I also support and help them, visit their places whenever they want my services. (CMW)*

These findings are congruent with the results of the VHCs and the women utilizing the services, who referred to the CMW as a 'being after God' for them. The CMWs were appreciated for their critical thinking and prompt referral of complicated cases.

> *"…Very easy because of CMW, the babies are born here. No complications or fatal illness occur because they are controlled beforehand by CMW. And the most likeable thing is that the baby's birth takes place under privacy". (VHC)*

Almost all the CMWs preferred to attend deliveries at home compared to a birth station. The birth station was used for antenatal assessments, checking vital signs and treating minor illnesses. The reasons given by the CMWs for their preference of home births included: that the expecting mothers felt more comfortable and stress free in their known surroundings, the whole family of the expectant mother would be present for continued support during delivery and the women could be encouraged to walk during her labor and facilitate delivery. In addition, the pregnant woman would not have to travel to the birth station in bad weather or on difficult roads.

Yes, because their family members take care of her, they also arrange food for her and give confidence to the pregnant women… and also due to broken and uneven roads, mother cannot travel in labor pains and also during winter season and snowfall, I prefer mother's home for delivery (CMW)

Besides all this, there are instances where CMWs were still struggling for recognition in their community. Limited acceptability was most likely to occur in the most conservative villages with the highest level of female illiteracy and the lowest level of female autonomy.

"People of this village are not very educated, we follow the birthing practice of our ancestors (VHC)

The presence of other easily accessible free healthcare in the vicinity also reduced women's use of CMW's services.

"In this vicinity, there are other government led healthcare facility and because it's free, than women prefer using them" (CMW)

Community's support and satisfaction for the CMW work

A majority of the women reported that they feel satisfied with the performance of CMWs. Having CMW in their area was labeled as '*God's Blessing'*. Most participants pointed out that the CMWs have been available at all times whether it was day or night. Even in inclement weather the CMWs travelled on foot in order to reach client's home for delivery. Almost all members of VHC reported that they helped CMWs in addressing challenges, such as convincing people to avail the services of the CMW regularly, providing or arranging transportation for home visits and referral. The general impressions of CMWs were positive towards the utilization of their services.

One of the VHC commented,

Before the arrival of CMW, this area had lots of problems, for instance, if there was a problem in delivery then miles had to be travelled on foot due to heavy winter and road blocks. Now thanks to God we have our daughter (CMW) in this area. (VHC)

The professional and ethical behavior of CMWs was pointed out by all the participants. All the women shared that they were comfortable to go to CMWs. One of the women said:

"CMWs are gentle, well mannered, soft spoken, humble, cooperative and understanding."

'Care for woman by woman' came up frequently in the discussions whereby most of the participants felt it easier to share female related issues with the CMW who understood their problems and managed the case accordingly. In interviews the CMWs confidently shared numerous examples where they were able to manage difficult cases of MNCH as well as other health issues, through their knowledge and competences. As one of the CMW said:

> *I can efficiently assess and perform the assessment of the mother during the time of labour and even after her delivery and also in newborn care. I feel very competent after working in my own community.*

According to the VHCs, the villagers were generally satisfied with the CMW's work. The reasons cited were: because the CMW trained for two years, had up to date instruments for delivery and treatment, and had access and knowledge to use genuine medicines.

A major finding of the study was the structured, organized and well planned physical, human as well as administrative support system from the project that has helped immensely in activating and maintaining support for CMWs' services in their respective areas. It was found that the strong support of supervisors, VHCs, other health care professionals, has positively influenced the CMWs' work.

Supportive supervision

All CMWs highly appreciated the support of their supervisors. It was found that the strong support of supervisors has positively influenced the CMWs' work. CMWs were unanimous on the positive influence of having regular supportive supervision not only helped them transition into their practical role after deployment; it also enabled them to manage complicated cases through telephonic mentorship. The organized efforts of supervisors have been widely acknowledged by the participants. The CMWs reported that the supervisors helped them in dealing with normal as well as complicated cases and also gave them immediate feedback or training for improvement. They shared that they felt comfortable in approaching their supervisors at all times. They felt encouraged and motivated to work more due to their supervisor's support.

> *We have a very good support of our supervisor.... Every month she visits me, and during her visit, I discuss with her the cases and the problems that I face while providing services. She assists me to solve issues that I face.*

It has been identified that the supervisors also helped in motivating the people in the community in clarifying misconceptions about CMWs roles and competencies who have negative perceptions against CMWs.

"Still there are few people in our community, who don't trust us our competency. I and my supervisor counsel them multiple, that gives me confidence (CMW)

Dynamics of CMWs with other healthcare professionals

Most of the CMWs had positive relationship with Lady Health Workers (LHWs), Lady Health Visitors (LHVs) and Traditional Birth Attendant (TBAs). They reported that the relationship has improved due to continuous efforts of their own, as well as their supervisors. Having interaction among health care professionals on regular basis, setting up of referral fee of US$ 2 (Rs. 200) per client for TBAs, and building strong and supportive VHCs are some of the strategies that have worked well in creating, as well as maintaining, a healthy and collaborative partnership in a majority of instances.

> *My relationship with TBAs is very good, she refers clients to me and we work together and also discuss the antenatal cases among each other. (CMW)*

Moreover, a few CMWs shared half of their remuneration with TBAs who help them in deliveries.

> *The TBAs and LHWs of my community are very cooperative. I share my earned money with her (TBA). If she comes (TBA) and help me in delivery process, I provide her some amount, which I receive from the pregnant women. (CMW)*

In contrast, a few of the CMWs were still facing resistance from TBAs and other health professionals in their areas as they were threatened by CMWs' entry in the field. It is thought that the CMWs are taking away their patients and so decreasing their earnings.

> *In my area TBA is very rigid, they use to tell the women of the community that 'Why are you visiting at CMW work station for your antenatal checkup? She does not know anything; I have passed my whole life performing deliveries. She (CMW) is very young for this work'. (CMW).*

Another participant stated:

> "*The TBA of my community never listens to me, she fights with me. The TBA never refers any clients to me, even though I give them $ 2-4 (Rs. 200) per case but she never refers*." (CMW)

Initially, the arrangement of sharing earnings worked well but later some of the TBAs felt that the referral amount is less compared to caring for the patient on their own and therefore they regarded CMWs as their competitors rather than as colleagues in health care team.

CMW's Referral systems and its challenges

Over the two years since their initial deployment, the CMWs have become more confident and expert in managing complicated cases and referring them immediately to hospitals, or well-equipped clinics. The community also acknowledged the competent efforts of CMWs in dealing and referring complicated cases. The community shared examples whereby the prompt assessment, onsite intervention and referral has helped in saving lives of not only expectant mother but the neonates also.

Three main issues that were identified by all the participants which have affected timely referrals were: transportation, expense of treatment and accommodation for accompanied person at the referral facility. One of the glaring issues raised by the majority of the CMWs, community leaders, VHCs and key informants was the availability and expense of transportation used for referred patients. In some cases the CMWs had to manage complications they would have referred because the roads were blocked due to heavy snow fall.

> *Yes we have transport issue (for referral). Many times due to transport crisis we also have to manage complicated cases instead of sending them for referral (CMW).*

Another participant was cited as saying that:

> *We are facing too many problems as Chitral is located in a mountainous area and the terrain of our area is too tough. I have to make home visits at such high altitudes Many times, I have to walk 1or2 hours away from my home, just to reach the women's homes; we do not have any transport facility.*

In addition, the inclement weather was also found to be a hindrance in transportation of patient to referral site. During the winter or the rainy season, there is a high incidence of roads being blocked or have a land sliding. The issue is further complicated by the distance from the community to the referral point.

Related to referral yes there are difficulties at present... sometimes these tracks are blocked sometimes there is land sliding over these roads and sometimes there is snow fall. ….. if any case of delivery becomes complicated then to refer this case we won't find any vehicle. (Key informant)

CMW remuneration and fee for service

Almost all the CMWs felt that the monthly stipend (approximately $ 50) is not enough due to ever increasing inflation in the country. Most CMWs, who had no other source of earning, were not satisfied with their current stipend. One of the CMW said;

We need monthly salary from government, because I live in non-developed area and not surviving with this minimum amount would be quite difficult for me.

Moreover, the CMWs were expected to generate their own income through their service provision. Although the CMWs' service fees were minimal in most of the areas, majority of the people in the villages still did not pay CMWs' fee. The reasons quoted by the participants was: a) poverty, b) joblessness c) lack of education and awareness, d) lack of inclination to pay due to family relationship with CMW, e) expectation of free health care services, and f) presence of free health care services within the vicinity.

One participant highlighted the importance of the remuneration amount which they received by saying,

"It would be very difficult to work without the income of Rs 5000. Sometimes the community women pay me for the services I provide. My fee is not more than Rs 200, which is, most of the time, utilized in buying medications, so there is no profit in that. The money which you are providing is the only source of income for me."(P9)

The case was further made difficult on the part of most of the CMWs who were found to be 'too humble' to ask for their service' fee from the people. Although community-saving-groups were initiated in order to reduce financial barriers however, most of the CBSGs became dormant when emphasis was placed on saving for MNCH services only. Therefore, the approach was changed to 'save for the purpose of saving only' which helped in revitalizing the CBSGs in majority of the areas.

Sustainability of the CMW services

The LHWs and LHVs who work in the government sector from the same community have a better and more secure pay scale and sometimes work less hours. Hence it has further created frustration among CMWs who are trying to make ends meet against all odds under difficult circumstances. This was one of the major reasons for a few participants who reported they were seriously thinking about changing their jobs or finding a position with the government health services.

The analysis of the CMWs highlighted an important challenge of the sustainability of CMWs due to the financial constraints. Interview findings depicted various views of CMWs regarding their intentions to continue their services in the future. Those who were earning adequately by being paid for their services were positive about their continuation of work. There was a minority who planned to continue to offer their services despite a very meagre remuneration and did it out of a personal motivation.

Some VHC members verbalized that they were trying to sustain CMWs by motivating people to go to her and pay for service thus generating more revenue and remuneration.

> *People understand that if CMW stops her services then it will be very difficult for them. Our midwife is the daughter of this village. We do encourage our people to use her services. (VHC*)

Discussion

The study revealed that CMWs felt empowered, competent and confident while performing their roles, independently, in their communities. Working singlehandedly in far flung areas where the only help is the mother's family has enhanced CMW's expertise in normal deliveries which is similar to findings elsewhere.[12] This feeling of empowerment was due to several factors, including: (1) their earning capacity, (2) enhanced competencies and knowledge, (3) the community's acceptance and trust, (4) support they received from their family members, and (5) continuous supportive supervision. Literature also supports the above mentioned findings which have empowered the midwives. A study in North Vietnam, explored some of the factors motivating rural health workers to perform their tasks.[13] Appreciation from the community as well as most of the CMWs' family members were the most significant factors identified in performing the roles effectively. Another study conducted in Pakistan also reported that family

members worked with the CMWs in facing numerous problems while serving the community, thus forming alliances and helping the CMWs feel more empowered.[14,15] The strong support of the project infrastructure has ameliorated CMWs' work in their respective areas. Having an expert advice to lean back on, these CMWs felt that they were able to manage complicated cases independently.

Interestingly if the CMW was supported by VHC and community women, the CW had more clients. Moreover, it is felt that where the community felt the need to change their health care scenario, it had accepted CMW whole heartedly. The presence of CMWs in the community allowed residents to get skilled MCH care. The majority of women expressed a desire for regular checkups and to decrease the risks of poor outcome.

Communities who accepted CMWs' services praised them highly for their competence, expertise, health education sessions and amicable attitude. Nevertheless there are instances where CMWs were still struggling for recognition by the community. Although the CMWs as well as their supervisors have worked hard in creating awareness among all, unsafe deliveries due to TBAs are still taking place in some areas.[16,17] Some of the reasons highlighted were: a) illiteracy, b) decreased female mobility due to traditional restrictions, c) presence of free healthcare services in the vicinity, and d) people being stubborn and not ready to change practices. The above mentioned factors, coupled with the young age and single marital status of midwives in few villages' couple with socio-cultural factors[18], have enhanced the issue of underutilization of CMWs' services. Another resistance came from few of the families of CMWs who either felt that their wife or daughter shouldn't work without proper financial compensation or they shouldn't travel here and there for service provision as it is against tradition.[17,19] Traditionally women in rural Pakistan delivered at home with the help of elderly female members of the family. To change such practice which is part of hundreds of years old tradition will take time with continuous and dedicated efforts on part of all the stakeholders in health care system.[20]

Except for a few instances, the relationship of CMWs with LHWs and LHVs was reciprocal. In case of TBA the relationship was either good, lukewarm or no relationship at all. TBAs in some areas felt that the CMWs are competing for clients.[21] To reduce this fissure in their relationship, TBAs were paid by the project for referral or for assistance in birth. This practice has proved to be useful in UNICEF funded 'maternal health in Indonesia' program

2007,[22] where midwives shared their compensations with TBA. Moreover TBA continued giving postpartum care, herbal and spiritual care to mothers while midwives dealt with medical procedures. This proved to be a win-win situation for both the parties who work together to prevent maternal morbidity and mortality.[23]

The GoP has introduced CMW as private independent practitioner who are to generate money through services charges from their consumers. In Pakistan, traditionally the government as well as some NGOs provides free health care services while the providers are paid a salary. In such scenario, CMW is the only cadre that is to work on a private entrepreneur-based model. Although the CMWs' service fee is low, most people could not afford it. CMWs in many areas are either not being paid at all or were paid in kind.[19,23] The GoP should consider incorporating CMWs in the service structure with a defined salary scale based on their scope of practice. This may ensure the sustainability of the CMW model and would allow community to access the MNCH services provided by them.[24] Most rural agricultural communities in Chitral have a subsistence economy. It means that they use what they produce. In such economy paying in kind is as important as paying in cash. Since CMWs belong to those communities, receiving payment in form of one chicken or meat portion for one delivery is not favorable to them. This leads to decreased earning and increased resistance for CMWs at home since their total earning barely supports their family. Similar findings were echoed in studies conducted in Afghanistan on future retention of CMWs including, family disagreement, increased workload without financial compensation and better salary package offered at NGOs.[25-27]

Conclusion

A healthcare system of 'health for communities by the communities' and in specifically 'care by the women for the women' has evolved in this project. The goal of the CCSP was to develop a CMW model that enhances utilization of CMW services and can be replicated in other parts of Pakistan. The project has not only effectively implemented the deployment guidelines laid down by the GOP but had also executed an additional set of targeted activities that aim to improve the uptake of CMW services and foster sustainability over time. The overall impression of the study is that the seedling has just begun, tree is in a process to flourish and fruits will appear later, hence, continued support and ongoing in service education of CMWs and constant engagement of the community, certainly plays a crucial role.

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References

1. Kassebaum NJ, Barber RM, Bhutta ZA, Dandona L, Gething PW, Hay SI, Kinfu Y, Larson HJ, Liang X, Lim SS, Lopez AD. Global, regional, and national levels of maternal mortality, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. The Lancet. 2016 8;388(10053):1775-812.
2. Demographic P. Health Survey 2006-07. Islamabad, Pakistan, National Institute of Population Studies and Macro International Inc; National Institute of Population Studies (NIPS) and Macro International. 2008.
3. Demographic P. Health Survey 2013-2014. Islamabad and Calverton, Maryland: National Institute of Population Studies and ICF International. 2013.
4. Demographic P. Health Survey 2017-18. Islamabad, Pakistan, and Rockville, Maryland, USA: National Institute of Population Studies and ICF International. 2019.
5. Miller S, Abalos E, Chamillard M, Ciapponi A, Colaci D, Comandé D, Diaz V, Geller S, Hanson C, Langer A, Manuelli V. Beyond too little, too late and too much, too soon: a pathway towards evidence-based, respectful maternity care worldwide. The Lancet. 2016;388(10056):2176-92.
6. World Health Organization. Midwives voices, midwives realities. Findings from a global consultation on providing quality midwifery care. Geneva WHO, 2016. https://www.who.int/maternal_child_adolescent/documents/midwives-voices-realities/en/
7. Day-Stirk F, McConville F, Campbell J, Laski L, Guerra-Arias M, ten Hoope-Bender P, Michel-Schuldt M, de Bernis L. Delivering the evidence to improve the health of women and newborns: State of the World's Midwifery, report 2014. Reproductive Health. 2014;11(1):89.
8. Government of Pakistan Ministry of Health. 2006 November National Maternal Newborn and Child Health, (MNCH) Program 2006 - 2012).

9. Rehman SU, Ahmed J, Bahadur S, Ferdoos A, Shahab M, Masud N. Exploring operational barriers encountered by community midwives when delivering services in two provinces of Pakistan: A qualitative study. Midwifery. 2015;31(1):177-83.
10. Pakistan Poverty Alleviation Fund. Situation Analysis & Baseline Surveys For Poverty Reduction through Rural Development in KPK, FATA & Balochistan. 2015. Available from, http://www.ppaf.org.pk/doc/programmes/Situational%20Analysis%20Report%20of%20PPR%20-%20District%20Profile%20Chitral.pdf
11. Creswell JW, Plano Clark VL, Gutmann ML, Hanson WE. Advanced mixed methods research designs. In A. Tashakkori, & C. Teddlie (Eds.), Handbook of Mixed Methods in Social and Behavioral Research. Thousand Oaks, CA: Sage. 2003;209-240.
12. Shahnaz S, Jan R, Lakhani A, Sikandar R. Factors Affecting the Midwifery-Led Service Provider Model in Pakistan. Journal of Asian Midwives (JAM). 2015;1(2):33-45.
13. Dieleman M, Cuong PV, Martineau T. Identifying factors for job motivation of rural health workers in North Viet Nam. Human resources for health. 2003;1(1):10.
14. Rasool G. Emerging Role of Community Based Midwife (CMW) in Pakistan: A Case of District Lasbela, Balochistan Province (unpublished Master thesis). Aga Khan University, Pakistan. 2010.
15. Mumtaz, Z., Salway, S., Waseem, M., & Umer, N. (2003). Gender-based barriers to primary health care provision in Pakistan: the experience of female providers. Health Policy and Planning, 18(3), 261-269.
16. Rukanuddin RJ, Ali TS, McManis B. Midwifery education and maternal and neonatal health issues: challenges in Pakistan. Journal of Midwifery & Women's Health. 2007 ;52(4):398-405.
17. Jaffer MQ, Jan R, Kaufman K, Lakhani A, Shahid S. Exploring community midwives' perceptions of their work experience after deployment in the rural areas of Chitral, Pakistan. British Journal of Midwifery. 2017;25(6):372-8.
18. Filby A, McConville F, Portela A. What prevents quality midwifery care? A systematic mapping of barriers in low and middle income countries from the provider perspective. PloS One. 2016;11(5):e0153391.

19. Mumtaz Z, Levay A, Bhatti A, Salway S. Good on paper: the gap between programme theory and real-world context in Pakistan's Community Midwife programme. BJOG: An International Journal of Obstetrics & Gynaecology. 2015;122(2):249-58.
20. Safdar S, Inam, SN, Omair A, & Ahmed, ST. (2002). Maternal health care in a rural area of Pakistan. Journal of the Pakistan Medical Association, 2002;52(7):308-311.
21. Sarfraz M, Hamid S. Challenges in delivery of skilled maternal care–experiences of community midwives in Pakistan. BMC Pregnancy and Childbirth. 2014;14(1):59.
22. *Traditional Birth Attendants and midwives partner for women's health in Indonesia. 2008.* UNICEF. from https://www.unicef.org/chinese/infobycountry/indonesia_43515.html
23. Faisel A. *Are CMWs Accessible in Punjab. Maternal and Newborn Health Program Research and Advocacy Fund (RAF).* 2012. Available from, *http://r4d.dfid.gov.uk/pdf/outputs/raf/Are_Community_Midwives_Accessible_RAF_Final Report.pdf*
24. Mubeen K, Jan R, Sheikh S, Lakhani A, Badar SJ. Maternal and newborn outcomes of care from community midwives in Pakistan: A retrospective analysis of routine maternity data. Midwifery;79:102553.
25. Mansoor GF, Hashemy P, Gohar F, Wood ME, Ayoubi SF, Todd CS. Midwifery retention and coverage and impact on service utilisation in Afghanistan. Midwifery. 2013;29(10):1088-94.
26. Wood ME, Mansoor GF, Hashemy P, Namey E, Gohar F, Ayoubi SF, Todd CS. Factors influencing the retention of midwives in the public sector in Afghanistan: a qualitative assessment of midwives in eight provinces. Midwifery. 2013;29(10):1137-44.
27. Sakeah E, McCloskey L, Bernstein J, Yeboah-Antwi K, Mills S, Doctor HV. Can community health officer-midwives effectively integrate skilled birth attendance in the community-based health planning and services program in rural Ghana? Reproductive Health. 2014;11(1):90.