

# BMJ Open Emerging role of traditional birth attendants in mountainous terrain: a qualitative exploratory study from Chitral District, Pakistan

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## ABSTRACT

**Objectives:** This research endeavours to identify the role of traditional birth attendants (TBAs) in supporting the maternal, newborn and child health (MNCH) care, partnership mechanism with a formal health system and also explored livelihood options for TBAs in the health system of Pakistan.

**Setting:** The study was conducted in district Chitral, Khyber Pakhtunkhwa province, covering the areas where the Chitral Child Survival programme was implemented.

**Participants:** A qualitative exploratory study was conducted, comprising seven key informant interviews with health managers, and four focus group discussions with community midwives (CMWs), TBAs, members of Community Based Saving Groups (CBSGs) and members of village health committees (VHCs).

**Results:** The study identified that in the new scenario, after the introduction of CMWs in the health system, TBAs still have a pivotal role in health promotion activities such as breastfeeding promotion and vaccination. TBAs can assist CMWs in normal deliveries, and refer high-risk cases to the formal health system. Generally, TBAs are positive about CMWs' introduction and welcome this addition. Yet their livelihood has suffered after CMWs' deployment. Monetary incentives to them in recognition of referrals to CMWs could be one solution. The VHC is an active forum for strengthening co-ordination between the two service providers and to ensure an alternate and permanent livelihood support system for the TBAs.

**Conclusions:** TBAs have assured their continued support in provision of continuum of care for pregnant women, lactating mothers and children under the age of 5 years. The district health authorities must figure out ways to foster a healthy interface vis-à-vis roles and responsibilities of TBAs and CMWs. In time it would be worthwhile to do further research to look into the CMWs' integration in the system, as well as TBAs' continued role for provision of MNCH care.

## INTRODUCTION

Despite all advances towards Millennium Development Goals (MDGs) 4 and 5, every

## Strengths and limitations of this study

- A study, the first of its kind, which has expounded on the subject of traditional birth attendants (TBAs)' role and livelihood after the introduction of trained maternal, newborn and child health providers in Pakistan.
- The use of qualitative methods provided rich insight into women's interpretations and decision-making regarding healthcare seeking during and after pregnancy in a relatively conservative setting of Pakistan. The study presents the views of all stakeholders involved in the intervention.
- The findings represent a specific sample size, study site and sociocultural milieu and therefore may not be generalised for the entire province or country.
- Health providers involved in the study were mainly from the Aga Khan Health Services Pakistan (AKHSP) and government who were already exposed to this intervention.
- Only few TBAs could be gathered for discussion, because most of them were remotely located, and weather and family constraints did not allow them to travel. Moreover, the prospective role of TBAs is discussed in a special context, whereby a community midwife was trained and deployed in the area for increasing skilled birth attendance.

year 6.6 million children die before 5 years of age (44% as newborns) and 289 000 maternal deaths occur, mostly from preventable causes.<sup>1</sup> This state of affairs has raised serious global concern over the years in developing countries to ensure the availability and accessibility of human resources for ensuring continuum of care for expecting mothers. Uniform availability and distribution of skilled birth attendants is critical to consider while looking at health service utilisation trends.<sup>2</sup> The Millennium Declaration in 2000, signed by 189 nations, recognised

the proportion of births assisted by trained birth attendants as an important indicator to track maternal and child survival indicators.<sup>3 4</sup> To increase the availability and accessibility of maternal and child healthcare services, training of traditional birth attendants (TBAs) and strengthening the partnership between community midwives (CMWs) and TBAs are widely acknowledged worldwide.<sup>5 6</sup> Nonetheless, the role of the TBAs cannot be effective in a weak primary healthcare system and in an unplanned referral mechanism.<sup>7</sup>

In order to attain MDG-5, isolated interventions are not able to reduce maternal mortality sufficiently. It is important to review strategies to maximise the strengths of TBAs and skilled birth attendants. Evidence suggests that skilled birth attendance has increased in regions where TBAs are integrated with the formal health system.<sup>8</sup> However, integration of TBAs with the formal health system may require the capacity development and supervision of TBAs, collaboration skills for health workers, involvement of TBAs at health facilities and improved capacity on communication and referral systems. With this approach, TBAs may positively contribute to maternal and child health outcomes.<sup>9</sup> Training of TBAs not only enhances their knowledge and skills on obstetric care and referral mechanism, but also leads to greater community acceptance and a greater consumer satisfaction. They can play a vital role in birth preparedness and identification of danger signs.<sup>10</sup> Training of TBAs has shown an impact on perinatal and neonatal deaths which can be significantly reduced.<sup>11</sup> Moreover, TBAs have been a critical contributor in providing skilled maternal, newborn and child health (MNCH) care in the rural population of developing countries due to inadequate numbers of human resource for service delivery.<sup>12</sup> Therefore, the role of trained TBAs in healthcare provision cannot be undermined. Developing countries have used TBAs as a key strategy to improve maternal and child healthcare.<sup>13</sup> They have been effective in improving the referral mechanism and links with the formal healthcare system.<sup>14</sup> The literature review has suggested that a TBA is preferred over a midwife who is a young, unmarried girl without children. This trend is more common in countries where fresh CMWs are recently deployed such as Pakistan.<sup>15 16</sup> Another reason for the community acceptance of TBAs is that they are a more affordable option than professional midwives and often accept payment in kind.<sup>17</sup> Moreover, TBAs are always happy to make house visits, warranting a mother's privacy.

Pakistan is among the few countries in South Asia that continues to have dismal maternal and child health indicators. In Pakistan, the maternal mortality ratio (MMR) is high, ranging from 240 to 700 per 100 000 live births. The top three causes of maternal death are postpartum haemorrhage, eclampsia and sepsis. Approximately two-thirds of all births (61%) take place at home due to limited access to health facilities. Home-based deliveries are usually attended by a TBA and now newly deployed

CMWs in some rural parts of the country.<sup>18</sup> While some maternity care indicators appear to have improved over the past two decades, women's access to prenatal healthcare continues to be low in Pakistan.

Realising the need for a community health workforce, the Government of Pakistan launched the national MNCH programme in 2006 to help the rural women deliver safely.<sup>19</sup> Although the programme has been successful in countries such as Malaysia and Indonesia, the challenges faced by the CMW programme of Pakistan are multifaceted. These challenges are related to acceptance by the community, competition with other service providers, a weak referral system, an inadequate skill set and a lack of community involvement.<sup>20</sup>

## THE INTERVENTION

To address the health system constraints, the Chitral Child Survival Program (CCSP) of Aga Khan Foundation Pakistan (AKF-P) deployed CMWs, supported a community financing scheme, improved referral linkages and implemented a behaviour change communication campaign from 2008 to 2014. CCSP was implemented in close partnership with the Department of Health, Khyber Pakhtunkhwa, the Aga Khan Health Services Pakistan (AKHSP) and the Aga Khan Rural Support Program (AKRSP). The CCSP interventions, especially the role of community-based savings groups, village health committees (VHCs) and community-based emergency maternal referral mechanisms to achieve project results, showed that CCSP had attempted to engage the TBAs proactively. The project empowered TBAs on Birth Preparedness and Complications Readiness (BPCR) plans and integrated referral mechanisms. The involvement of TBAs in the project was meaningful to generate the community acceptability for young CMWs, identification of high-risk cases, and referrals of complications to CMWs and transporting pregnant women to a health facility in time.

This research paper endeavoured to identify the role of TBAs in supporting the MNCH care, partnership mechanism with the formal health system and also explored livelihood options for TBAs.

## METHODOLOGY

### Study site

The study was conducted in Chitral district, north western border of Pakistan, from March to April 2014. The population of the intervention area is 200 000, about 57% of the total population of the district and residing in 243 villages. The government department of health and AKHSP are the two primary formal sector healthcare providers in Chitral. The public sector healthcare infrastructure in the district includes 22 civil dispensaries, 21 basic health units, 3 tehsil headquarters and 1 district headquarter hospital.<sup>21</sup> AKHSP operates its own 32 health facilities in Chitral which include 17 health centres, 8 family health centres, 4 dispensaries

and 3 secondary care facilities, covering 60% of Chitral district. The MMR in the province is 275/100 000 live births, whereas the under 5 mortality is 75/1000 live births.<sup>19</sup> Despite the presence of skilled birth attendants under the MNCH programme, a large proportion of the deliveries is still attended to by TBAs in Chitral district.

### Study design and data collection

The project documents and other relevant studies were thoroughly reviewed and the collated information guided to design the qualitative data collection instruments. A qualitative exploratory study entailed seven key informant interviews (KIIs) and four focus group discussions (FGDs) conducted with different study participants. The questions for FGD and KIIs explore the role of TBAs in supporting MNCH care and CCSP project activities, community experience with TBAs, TBAs' relationship and co-ordination with the CMWs, referral of cases, remuneration and livelihood sources of TBAs, ways to engage TBAs in continuum of care, working relationships and linkages with the formal health system and sustainability/livelihood of TBAs. Using a participation diagram in FGDs, it was ensured that nobody was missed out and that all the participants had to speak on each question. To ensure quality control, information collected through note taking was cross-checked for completeness and consistency before and during data processing by the research team.

### Study participants

All the study participants were purposively sampled from the intervention areas in the district, with the help of the implementing agencies on ground. Community-based health workers, that is, CMWs and TBAs; members of the VHC and Community Based Saving Group (CBSG), were included in the discussion. The participants were encouraged by the moderator (PI) to interact with each other and comment on experiences and perceptions regarding the role of TBAs, partnership with the formal health system, and the livelihood of TBAs. KIIs were conducted with two

government health managers, two AKF-P managers and three AKHSP managers. All the FGDs were conducted in the community, whereas KIIs were conducted in the respective offices of health managers. [Table 1](#) presents the details of the methods employed for the study.

The purposive sampling technique was adopted, inviting the participation of those CMWs and TBAs who had been serving actively in their local communities for the past 2 years. These health workers were identified with the help of health managers of the AKHSP and government. Likewise, only those members of the VHC, who had been active for the past 2 years, were invited for the FGD. Each participant of the FGD and KII was given the verbal information about the study by the research team and was given a consent form prior to participation.

### Data analysis

A qualitative content analysis was applied to analyse the information manually from all the FGDs and KIIs. A stepwise approach was adopted for the content analysis. The analysis aimed to find manifest and latent meaning of data. The transcribed data were initially read several times by the principal researcher in order to find the sense of the whole. In the first stage, the segmentation of information was done, that is, segments and subsegments of information were organised. Subsequently, the significant information was extracted which was related to research questions. In the second stage, the common views of the respondents were put together in one place. In the third stage, data were coded (different responses highlighted) and then these codes were grouped into categories and abstracted into subthemes and a main theme. In the final stage, the meanings of themes/descriptions were interpreted by keeping in view and considering the cultural context of the participants.

## RESULTS

The main theme which came out was the “emerging role of TBAs to improve Maternal, Newborn and Child Health.” After content analysis, the following subthemes were identified as shown in [table 2](#):

**Table 1** Details of methods employed in a qualitative study

| Cadre                                         | Method | Total number of respondents | Village                                                                                                                                                              |
|-----------------------------------------------|--------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CMWs                                          | FGD    | 10                          | Mori Lshat, Barini, Awi, Miragarm, Sore Laspoor, Raman, Terich Payeen, Lot Owir Bala, Lot Owir Payeen, Gohkir, Parsan, Owir Lasht Arkari, Besti Arkari, Khuz, Phashk |
| TBAs                                          | FGD    | 5                           | Lower Porth, Brock Kalaway, Porth Bala, Raman, Brock Baraman Deh                                                                                                     |
| VHC                                           | FGD    | 8                           | Morder                                                                                                                                                               |
| CBSG                                          | FGD    | 10                          | Morder                                                                                                                                                               |
| Health managers (AKHSP, AKF-P and Government) | 7 KIIs | 07                          | Chitral city                                                                                                                                                         |

AKHSP, Aga Khan Health Services Pakistan; AKF-P, Aga Khan Foundation Pakistan; CMWs, community midwives; CBSG, Community Based Saving Group; FGD, focus group discussion; KII, key informant interview; TBA, traditional birth attendant; VHC, village health committee.

**Table 2** Matrix of qualitative research analysis

| Nodes                                          | Subnodes                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Community experience with CMWs and TBAs        | <ul style="list-style-type: none"> <li>▶ Availability of CMWs have empowered women for healthcare seeking</li> <li>▶ The community has trust and faith in TBAs and their services</li> </ul>                                                                                                                                                                     |
| Linkage of TBAs with a formal health system    | <ul style="list-style-type: none"> <li>▶ TBAs have a pivotal role in health promotion activities such as health messages on breast feeding, mother and child immunisation.</li> <li>▶ TBAs must assist the CMW who is naïve to reproductive health matters.</li> <li>▶ TBAs can be involved in linking high-risk cases to the CMW and health facility</li> </ul> |
| Role of TBAs in supporting obstetric care      | <ul style="list-style-type: none"> <li>▶ TBAs assist the CMW in delivery, identify expectant mothers with high risks, refer such cases to the formal health system, and support postnatal care</li> </ul>                                                                                                                                                        |
| Linkages and co-ordination among TBAs and CMWs | <ul style="list-style-type: none"> <li>▶ Mixed responses in terms of relationship between CMWs and TBAs</li> <li>▶ VHC is an active forum for co-ordination</li> <li>▶ Co-ordination is better at places where TBA gets some share of CMW income</li> </ul>                                                                                                      |
| Livelihood of TBAs                             | <ul style="list-style-type: none"> <li>▶ CMWs could offer some incentives to TBAs to strengthen referrals and assistance in skilled delivery</li> <li>▶ VHCs decide TBA incentive share of CMW income</li> <li>▶ The community pays in-kind contribution to recognise the services of TBAs</li> </ul>                                                            |

CMWs, community midwives; TBA, traditional birth attendant; VHC, village health committee.

1. Community experience with CMWs and TBAs;
2. Views of participants on the utilisation of TBAs in the formal health system;
3. Role of TBAs in supporting obstetric care;
4. Linkages and co-ordination among TBAs and CMWs;
5. Livelihood of TBAs.

### COMMUNITY EXPERIENCE WITH CMWS AND TBAS

The availability of CMWs and the supportive role of TBAs in obstetric care have, by and large, benefited communities. Most of the respondents shared that the availability of CMWs has empowered women in order to seek essential and emergency obstetric care in rural communities. Members of the VHC appreciated the binding relation of CMWs with TBAs. Despite the availability of CMWs, the community members still have greater trust and faith in TBAs who have lived and dealt with village women since ages. Some of the respondents mentioned that they availed the services of TBAs due to their rich experience as compared with CMWs who are young and yet naïve to various reproductive health matters.

TBA still has the critical role as being more in proximity to the village women. She enjoys far more trust of the communities. She has a years' long rapport with the families. People tend to follow her advice. (Director Health, AKF-P)

I consider the role of TBAs important for two reasons; firstly they have been trusted by the communities, so they need to be taken on board for enhancing referrals to CMWs. Secondly, if they are not engaged properly then they will do more harm by doing deliveries and might spread negative propaganda too about the CMWs. (KII-AKF-P Senior Program Officer)

I take my wife and child to CMW to see for medical help or treatment for maternal and child health problems? In

our village, Dai (TBA) enjoys good relationship with the CMW. (FGD-VHC, Morder)

My family often seeks services from a TBA...she has all the experience. (FGD-VHC, Morder)

The TBAs are working since long time and they have developed trust in the communities. (KII, AKHSP Manager)

### LINKAGE OF TBAS WITH THE FORMAL HEALTH SYSTEM

Viewpoints of participants revealed that TBAs can be mainstreamed in a formal health system by assigning health promotion activities and for referring high-risk cases to CMWs and the health facility.

The TBAs have role in referring of high risk cases and expectant mothers for delivery to CMWs. TBAs are also playing very good role in the community in identifying pregnant mothers during 1st trimester in the community, arranging TT vaccinations and providing education on nutrition during pregnancy. (GM, AKHSP)

They (TBAs) must be linked with the formal health system especially for health promotion, referrals and assisting deliveries with CMWs, when needed. (FGD-VHC, Morder)

### ROLE OF TBAS IN SUPPORTING OBSTETRIC CARE

TBAs have a pivotal role in terms of identifying pregnancy-related complications and assisting safe obstetric care services with CMWs. Traditionally, TBAs have been involved in the promotion of better nutrition practices for pregnant mothers, breastfeeding practices, tetanus toxoid vaccination of expectant mothers, prevention of neonatal hypothermia, and postnatal care including family planning. TBAs have a crucial role in strengthening referral and co-ordination mechanisms with CMWs and with the health facility. Findings of the



KIIs and FGDs revealed that some TBAs were even involved in assisting deliveries with CMWs.

Many TBAs, no doubt have a sound folk wisdom, which can be used for various health promotion messages, especially where there is no other community health worker. Moreover, TBAs can be trained in providing antenatal care, TT vaccine, Misoprostol administration, recognizing the danger signs of pregnancy etc. This will give her a feeling that she still has a role to play in saving women's lives. (Director Health, AKF-P)

TBAs promote breastfeeding and healthy nutritional practices in our community for mother and children; and they can keep on doing that. (FGD-VHC, Morder)

In my village, TBA assists delivery with me and refers cases to me. I have to say that she is of great help for me. (FGD-CMWs, Parsan)

They (TBAs) said, they do refer cases to them and in many cases have joined CMWs for conducting deliveries. (KII-AKF-P Senior Program Officer)

#### LINKAGES AND CO-ORDINATION MECHANISMS AMONG TBAS AND CMWS

Lack of role clarity, physical inaccessibility, professional rivalry and few income opportunities are key factors for weak linkages between TBAs and CMWs. Some of the CMWs expressed that they encountered problems and resistance from TBAs and the community during the initial phase of deployment. TBAs and CMWs are invited in all meetings of VHC so that they can exchange views and learn from each other's experience.

Rivalry; both are birth attendants; one is practicing by virtue of folk knowledge and the other is trained according to modern guidelines and WHO standards. So that has created a competition. At places, there is coordination too, where both are from the same family or where both have realized each other's importance. (Director Health, AKF-P)

The issues between TBA and CMW can be effectively dealt if AKHSP works with all stakeholders and set out a proper coordination plan, and play catalytic role to nurture a health relationship. (KII-AKF-P, Senior Program Officer)

In some areas of intervention, the TBA perceived CMW as competitor. (GM, AKHSP)

Introduction of CMWs in the areas will limit the role of TBAs. To cope with this challenge the TBAs were included in the VHCs and the roles/responsibilities of the CMWs were communicated through this platform. (KII, AKRSP Manager)

The performance of TBAs vis-à-vis skills related to maternal and newborn health is not satisfactory. Therefore, they now go to CMWs who have adequate competency in knowledge and skills about obstetric care.

Some of the members shared that TBAs refer complicated expectant mothers to CMWs and the health facility. In a few instances, TBAs were seen to be assisting CMWs in deliveries. Nonetheless, where TBAs did not receive any assistance from CMWs, we found weak co-ordination mechanisms with the formal health system.

Many TBAs are in favor of CMWs because they cannot handle the complicated cases properly; yet some are against her. VHC is trying to bring the TBA as member in VHC and told them about the importance of deliveries by skilled hand and hygienic way. (FGD-VHC, Morder)

According to CMWs, they have high regard for the TBA, as well as her experience and wisdom. They feel that TBAs can complement their work. On the other hand, most TBAs are satisfied with CMWs' work, skills and services rendered to the community women. Very few seem to be unhappy indeed.

#### LIVELIHOOD AND SUSTAINABILITY OF TBAS

The supporting role of TBAs is very important, especially in the context of difficult geographical terrains in Chitral. Various options and mechanisms were identified by the respondents when asked about the livelihood prospects of TBAs. Most of the respondents were of the opinion that CMWs must pay some incentives to TBAs to strengthen referrals and assistance in skilled delivery. Findings of the KII revealed that one of the available forums to decide TBAs incentives is the village committee. VHCs and other available forums such as Local Support Organizations (LSOs) can play a pivotal role in taking up such a decisive role for supporting livelihood options for TBAs. Regarding payment to TBAs, some of the CMWs did not recompense TBAs. Some of the TBAs also mentioned that they get in-kind contributions and support for their services from the village families and not from the CMWs.

It is an informal arrangement between the two of them. Officially there is no binding on the CMW to pay TBA for referrals. (Director Health, AKF-P)

One of the CMW referred two cases to CMWs, and in fact she did join her for conducting the deliveries, but in return did not get anything from the CMW and the family too. (KII-AKF-P, Senior Program Officer)

Let it be the VHC meeting to decide about some incentives to be given to TBAs from CMW fee, because she will be referring every case to CMW. CMW should provide some money to TBA. (KII, AKHSP Manager)

TBAs were providing delivery services before CMWs' deployment; hence CMWs' services will certainly affect their regular income (in cash or in kind). CMW should give incentive from her service fee to TBAs on each referral; whereas TBA can continue providing care to mother after delivery. (KII, Manager Programs, AKHSP)

In our area, CMW is paying Rs200 to the TBA for each referral. (FGD-VHC, Morder)

In two cases, I assisted CMW for delivery of a mother. CMW did not give me any money. I got some cash and chicken from the house of delivered mother. (FGD-TBA, Lower Porth)

## DISCUSSION

Although communities where CMWs are deployed after training are happy, people continue to utilise the services of TBAs in Chitral. This fact could be attributed to several factors including the TBAs' proximity to several villages, TBAs' respectful attitude toward the community and flexible modes of payment.<sup>22 23</sup> CMWs have been recently deployed in Chitral and experienced challenges and constraints by community-based health providers and the community itself in the delivery of maternal health services.<sup>24 25</sup> Evidence suggests that health management committees at the village level have been effective in reducing maternal complications through promoting linkages of healthcare providers with the community.<sup>26</sup> The findings of our study also revealed that the community forum in the form of a VHC has played a pivotal role in convincing the communities to avail of CMWs' services and motivate the TBA to continue playing a supportive role in MNCH care. Awareness sessions have to be conducted on a regular basis and on different forums to better inform the elder women and expecting mothers about the benefits of making use of skilled birth attendants, that is, CMWs.

The results of our study found that TBAs play a vital role in improving maternal health such as diagnosing labour, assisting clean delivery with CMWs, detecting and referring maternal complications and promoting health messages. While trained TBAs are not considered as skilled birth attendants, their potential contribution in supporting maternal care has been recognised in low-income and middle-income countries facing issues of human response scarcity.<sup>12 13</sup> The role of TBAs in the administration of misoprostol to prevent postpartum haemorrhage in home births is oft advocated.<sup>27 28</sup> Nevertheless, the role of TBAs in supporting MNCH care cannot be neglected in settings where skilled birth attendants are fewer and new to the health system. In the wake of reforms and the novel MNCH programme of Pakistan, the role of TBAs in improving maternal care and transforming health seeking behaviours ought to be promoted.<sup>29</sup> Defining the role and contribution in the continuum of care will guarantee the TBAs' livelihood and generation of income.

Improved links and relationships among CMWs and TBAs is critical to strengthen the referral system from community to health facility. Better co-ordination and collaboration of TBAs with CMWs was promoted under CCSP, by sensitising the CMW on the prospective role of the TBA which will complement her services and will help in building her rapport with the community. The TBA, who has a long-standing link with the local

community, can act as a bridge to strengthen the referral mechanism between the community and the formal health system.<sup>21</sup> Findings of the qualitative study are in concordance with other studies which demonstrated that a formal partnership programme among TBAs and the skilled midwives has yet to be seen.<sup>6</sup> While the importance of the TBA's role in referral is universally acknowledged, most health systems have not developed an effective referral mechanism. The CCSP project provided an enabling forum at the village level for CMWs and TBAs to interact and improve referral linkages. Such a partnership is crucial to improve access to healthcare services, especially for communities living in the remote areas. Nevertheless, training and monitoring TBAs on MNCH care is imperative to minimise chances of malpractices.<sup>13</sup> Nevertheless, this training should be imparted by the government in its public sector nursing and midwifery schools. However, joint monitoring by the AKHSP and government, by involving the VHCs, could be instrumental in this regard. Moreover, participatory monitoring is always less threatening, and hence TBAs should be meaningfully engaged in such type of monitoring. A systematic recording and periodic analysis of information could be conducted by the TBAs themselves, with the help of public health experts. The aim is to measure progress and to make any corrections en route.

Financial constraints are a major risk to the livelihood of TBAs as evident from the findings of our study. Mostly, they are receiving in-kind payments from the families of expectant mothers and a nominal payment from CMWs for each referral. CMWs must keep a provision of a nominal payment to TBA, after verifying her services. That will surely help in building a healthy relationship among the two service providers. Where TBAs did not receive any share from the CMWs, we found weak co-ordination mechanisms with the formal health system. Evidence suggests that in-kind contributions by clients are the most common mode of payment by the clients.<sup>9 11</sup> With the increasing use of TBAs in MNCH care, the question of compensation has become more pressing because these workers usually rely on rewards and in-kind contributions from the clients.<sup>30</sup> Continuing efforts to define the role of TBAs may benefit from an emphasis on their potential as active promoters of essential newborn care.<sup>31</sup> In the context of Pakistan, the role of TBAs ought to be revisited and redefined, not only for the sake of the trust of communities on their services, but also for their own livelihood.

## CONCLUSION

The prevailing poverty in the area calls for thinking solutions to ensure the livelihood of TBAs, and to figure out an emerging role for them after the introduction of CMWs in the health system. TBAs surely have solutions in the continuum of care for pregnant women, lactating mothers and children under age 5. They continue to take pride and see value in their role in the health system to support MNCH care. Health systems

performance can be amplified by having a healthy interface between TBAs and CMWs, and for the larger benefit of the communities served.

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**Contributors** BTS and SK conceived the study design and instruments and drafted the successive drafts of the paper. AM supervised the data collection and helped in the analyses. SA conducted the critical review and added the intellectual content to the paper. All authors read and approved the final draft.

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**Competing interests** None.

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