International Journal of Clinical Obstetrics and Gynaecology

ISSN (P): 2522-6614
ISSN (E): 2522-6622

www.gynaecologyjournal.com
2018; 2(4): 31-34
Received: 21-05-2018
Accepted: 24-06-2018

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Assessment of knowledge, skills & practice of female senior community health workers on maternal health services, in Nigeria

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Abstract
Objective: The Nigerian Midwives Service Scheme (MSS) was designed to address the scarcity of skilled birth attendants at primary health care levels. Although, Nigeria has a rich population of trained Midwives, their deployment and retention at communities in critical need for their skills remains a huge challenge. Community health workers (CHWs) are readily available and could bridge the gap of connecting the family, community and the referral facilities.
Methods: A cross-sectional survey of CHWs to assess their knowledge and skills on various aspects of maternal and new born health care using structured questionnaire and focused group discussions.
Results: A total of 329 CHWs were studied. The mean duration of service provision related to Maternal new born and Child Health (MNCHs) of the participants was 8.9 years. Their general knowledge on Antenatal care (ANC) and basic midwifery was good, although majority had problems assessing gestational age using anatomical landmarks, identifying abnormal labour and diagnosing fetal distress in labor.
Conclusion: CHWs can effectively fill in the gaps in poor access to skilled birth attendance in Nigeria if given the requisite training.

Keywords: skilled birth attendance, community health workers, maternal and new born health, Nigeria

Introduction
Nigeria and many other countries were not on track to attaining the targets for reducing child mortality and improving maternal health [1]. There are effective interventions to significantly reduce mortality and improving maternal health. The problem is poor coverage and access to these interventions by population in critical need for such life saving services. Among the several constraints faced by women in seeking care during pregnancy and childbirth shortage of skilled birth attendants is one of the most important [2]. The World Health Organization (WHO) report on human resources showed that Africa, which bears one-quarter of the world's burden of diseases, has just 3% of the world's health workers [3]. Because delivery by a skilled birth attendant is crucial to the health of both women and newborns, skilled attendance at delivery has become a proxy indicator for reducing maternal mortality [4, 5, 6, 7]. A key characteristic of countries that have lowered maternal mortality to a level of fewer than 100 maternal deaths per 100,000 deliveries is that large numbers of births are delivered by professional skilled birth attendants [8]. The promotion of safe or safer delivery, with emphasis on the training and deployment of skilled providers, such as nurses, professional midwives and physicians rather than TBAs is one of the five key interventions of the WHO's Mother-Baby package, as a strategy for women's health [9].
Nigeria has an estimated population of 180 million [projected from the population reference bureau 2009] [10] living in 774 local government areas (LGAs) in 37 states (including the FCT, Abuja), in six geopolitical zones. The National Health and Demographic Survey, 2008, estimated the MMR at 545 per 100,000 live-births [11]. The Midwives Service Scheme (MSS) was designed to address the shortage of skilled birth attendants at primary health care level in Nigeria, but retention of available Midwives in rural areas remained a huge challenge with resultant inequity in the distribution of health resources in areas in critical needs. A Rapid Appraisal by the National Primary Health Care Development Agency (NPHCDA) of health facilities under the Midwives Service Scheme indicated that over 70% of the human resources for health facilities were provided by CHWs and that more than 90% of deliveries in the

facilities were conducted by the CHWs [12]. Despite numerous policy drives in the past to 'pull' higher cadre manpower (doctors and midwives) to the rural health care facilities in Nigeria; little success has been made to retain these cadres probably due to poor socio-economic development and availability of basic social amenities and services in most Nigerian rural communities. However, despite these constraints, CHWs who are an integral part of the community work against all odds to deliver MNCHs services in their host communities. Factors responsible have ranged from the short turn-over period of their training (2-3years), tendency to be indigenes of the locality and relative lower wages. These factors have positioned the CHW as the bedrock of PHC service provision in Nigerian rural communities. In the bid to better understand how to effectively utilize CHWs in the delivery of live saving interventions towards improving maternal and newborn health services, this study was conducted to assess the baseline knowledge, skills and practice of CHWs in maternal and newborn service provision with the aim of strengthening their capacity to deliver effective interventions for improved maternal and newborn health in Nigeria.

Study objectives

The objective of the study was to assess the baseline knowledge, skills and practice of Community Health Workers (CHWs) in maternal and newborn service provision in the following areas:

1. Normal pregnancy, delivery and Postpartum period and care; Essential newborn care and resuscitation, Common obstetric complications
2. Service provision; and
3. Training needs.

Methodology

This was a cross-sectional survey of knowledge, skills and practice of CHWs selected from 24 LGAs in six geo-political zones in Nigeria. A two stage cluster sampling technique was used to select representative LGAs from six states in the country. In the first stage, six States were randomly selected from each of the six geopolitical zones of the country (North East- Adamawa, North West- Katsina, North Central – Plateau, South South – Bayelsa, South East – Anambra and South West – Osun). In the second stage, four LGAs were randomly selected from each of the 6 states making a total of 24 LGAs for the study. Trained interviewers were drawn from members of the Society of Gynecology and Obstetrics of Nigeria (SOGON), Paediatric Association of Nigeria (PAN) and Principals of state Schools of Midwifery. A total of 15 female senior community health workers comprising of CHWs were selected and mobilized by the State MSS focal persons in collaboration with the Primary Health Care (PHC) Co-ordinators of the respective LGAs. The CHWs were given a written knowledge assessment tool which was followed by a Focused Group discussion (FGD). The written assessment also included sections on the types of services provided and their training needs. In the FGD, the researchers assessed the knowledge, skills and practice of the participants in a group discussion using an FGD Guide. The competency and proficiency levels of their skills were not assessed. Data collection lasted Four days from 1st to 4th November, 2010. There were 2 teams of data collectors (2 persons per team) who visited 2 LGAs each giving a total of 4 per state. Each state had a lead facilitator who conducted the activities in the state. The Field activities were preceded by one day training. The study coordinator provided technical direction for the activity including data entry, analysis and report writing.

Results

A total of 329 CHWs were interviewed. The years of qualification of the CHWS ranged from 8 to 13 years with a mean of 11.5 years. The mean duration of MNCH practice was 8.9 years. They had a good knowledge of basic midwifery with an average percentage score of 70.25%. Generally, the knowledge of ANC was good (77.5%), but that of fetal assessment during the ANC was weak / less than 31% [(fetal lie 30.7%, position 28.0% and Heart Rate 22.1%)].

Capacity to detect obstetric complications was weak (High blood Pressure 32.2%, Infection during labour and childbirth 53.8% and Prolonged labour 26.7%) but resuscitative and referral skills were good. Although only 32.2% of the CHEWS know how to identify high blood pressure in pregnancy, 72.3% of them know what to do when a woman develops high BP. This was the same finding in infection during labour and childbirth, prolonged labour and convulsion during pregnancy/labour where the CHEWs know what to do in 58.4%, 90.9% and 66% respectively. The low capacity of CHEWs to identify Prolonged labour (26.7%) was due to the fact that labour monitoring with the partograph was not routine. The CHEWS generally had a good knowledge on what to do for babies with danger signs (89.6%) but only 44.6% could identify preterm and 53.8% low birth weight babies.

Direct observations from the field showed that the CHWS were eager to learn and majority felt that the assessment reminded them of what they had forgotten. It was also observed that male CHWS also conducted deliveries.

Table 1: Percentage of CHEWS With Knowledge Of Obstetric Complications.

Variable	Adamawa (n=56)	Anambra (n=54)	Bayelsa (n=43)	Katsina (n=56)	Plateau (n=60)	Osun (n=60)	Average
1. How will you recognize high blood pressure in pregnancy?	14.8	16.7	30.2	26.8	18.3	73.3	32.2
2 What will you do if you see a patient with high blood pressure in pregnancy?	98.2	77.8	27.9	60.7	65.0	93.3	72.3
3 What will you do if a woman convulses during pregnancy and childbirth?	56.0	81.5	27.9	89.3	70.0	63.3	66.0
4. Which anti-convulsants do you commonly use?	64.3	51.9	51.2	30.4	53.3	63.3	52.6
5. How will you recognize infections in pregnancy and childbirth?	35.7	44.4	27.9	60.7	71.7	73.3	53.8
6. What action will you take if a woman presents with infection during pregnancy or after child birth?	44.6	61.1	18.6	94.6	81.7	73.3	58.4
7 How will you recognize prolonged labour?	12.5	3.7	18.6	30.4	25.0	65.0	26.7
8 What action will you take if a woman presents with prolonged labour?	96.4	94.4	62.8	96.4	45.0	93.3	90.9
9 What will you do if you see a new born with danger signs?	100	100	69.8	71.4	98.3	93.3	89.6
10. How will you identify a preterm baby?	19.6	27.8	37.2	64.3	46.7	75.0	44.6
11 How will you identify a low birth weight baby?	41.1	55.6	51.2	41.1	56.7	75.0	53.8

The CHWs had good knowledge of stages of labour (86.9%), third stage of labour (66.6%) and Exclusive breastfeeding (85.4%). Only 34.6% of them use partograph to monitor labour and 46.5% have good knowledge of fetal monitoring during labour. More than 85% of them were providing ANC, Delivery, Post natal and immunization services while 58.6% of them were providing family planning services.

Capacity building of CHEWS on common obstetric and underfive mortality reduction interventions was low ranging from 13.3% in STI to 70.7% in immunization with a mean of 28.5%.

Discussion

This study shows that CHWs have good knowledge of preventive and promotive maternal and newborn interventions and weak capacity for the detection of danger signs. In Nigeria, shortage of trained and skilled health workers is a challenge worsened by health workers being concentrated in cities and capitals while most of the population resides in the rural areas. In PHCs, CHWs conduct consultations and treatment, including deliveries. The use of CHWs has been in existence for quite a long time, but became more pronounced after the Alma Ata Declaration of 1978, with many lively and mushrooming programmes of CHWs throughout the 1980s [13]. However, it declined during the 1990s due to poor programme management, policy shifts and inadequate demonstrated evidence of their contribution and effectiveness [14]. Although CHWs evolved with community based health care programmes, and were strengthened by the PHC approach after Alma Ata, the understanding of the concept and the subsequent use of CHWs have tended to vary across countries and organisations, being influenced by the economic capacity and aspirations of those engaging them [15]. In some places, CHWs have mainly been engaged with a focus on community development approaches by trying to bridge the gap between communities and formal health services. They have been seen to play a vital role as advocates for social change. In some others, they have predominantly played a technical and community management role, including the management of specific cases with various illnesses. Several studies [16-29] have demonstrated that CHWs can be effective at providing basic curative and preventive MNCH interventions.

This study was limited by a verbal description of the skills during the focus group discussion. The skills were therefore not assessed for competencies and proficiencies. Most of the CHWs had been practicing MNCH skills for a reasonably long period with good knowledge of history taking and examination of a pregnant woman, labour and delivery services. They had a fair knowledge of warning signs of obstetric complications and fetal assessment. The low capacity of CHWs to identify Prolonged labour was due to the fact that labour monitoring with the partograph was not routine. Their excellent knowledge of breastfeeding is very relevant for under five mortality reduction. The good performance of CHWs in resuscitative skills of intravenous fluid/drugs and neonatal resuscitation are very important as these skills are fundamental to resuscitation in women and children with life threatening complications. Their good decision making and referral skills, their willingness to learn and stay in the rural areas with minimal motivation and good knowledge make them an ideal alternative to the traditional birth attendants in Nigeria.

The study shows that Programmes can identify CHWs and utilize their potentials fully through a team approach to complement midwives by handling preventive and promotive interventions that are known to be efficacious to women, newborns and children, along the continuum of care in order to avert the escalating problem of shortage of skilled staff in Nigeria. The CHWs are more appropriate as they are from those communities and can easily reach into poorest and rural areas. However, while intending to utilise CHWs, practitioners should ensure that those factors that enhance their effectiveness such as careful selection, appropriate training, adequate and continuous support are well catered for before commencing to use them.

Conclusion

CHWs can effectively fill in the gaps in poor access to skilled birth attendance in Nigeria if given the requisite training. The study shows that Programmes can identify CHWs and utilize their potentials fully through a team approach to complement midwives by handling preventive and promotive interventions that are known to be efficacious to women, newborns and children, along the continuum of care in order to avert the escalating problem of shortage of skilled staff in Nigeria.

Acknowledgement

The authors would like to extend their sincere gratitude to the National Primary Health Care Development Agency, the Federal Ministry of Health, the Federal Medical Centre Makurdi, Society of Gynaecology and Obstetrics of Nigeria, Paediatric Association of Nigeria and the Nursing and Midwifery Council of Nigeria who provided helpful guidance and suggestions towards the development of the survey tools and implementation plan through various workshops and consultations.

Conflict of interest

There was no conflict of interest in this work.

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