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Full Length Research Paper

Access to postnatal care in rural regions being improved by community-health workers: field project report

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Access to quality postnatal care (PNC) services remain poor in Nigeria. According to the 2008 Nigeria Demographic and Health Survey, the national coverage of PNC visits was only 44% and more than 70% of mother's who give birth at home do not see any healthcare provider during the postnatal period at all. Community-based intervention aimed testing the impact of integrated maternal newborn and child health (MNCH) outreach services by community health extension worker (CHEW). A community-CHEW partnership was formed. Serials of competency-based training on essential of newborn care were given to the CHEW. The impact of this model on PNC was evaluated. Significantly more intervention newborns received PNC by CHEWs within 48hrs of birth and at least 3 PNC visits during the first week of life [89% Vs 5%; p=0.00 and 94% Vs 11%;p=0.00 respectively]. Similarly, treatment and referral percentages for neonatal sepsis is significantly high in the intervention group [20% Vs 6%; p=0.00 and 38% Vs 0%; p=0.00 respectively]. Community Health Extension Worker-driven outreach was successful in improving the PNC coverage of a vulnerable group of remote newborns. The partnership model is easily adapted to our primary health system.

Keywords: Community-Health Worker, Postnatal Care, Nigeria.

INTRODUCTION

neonatal period, representing about 25% of all of death of children under-5 year of age, a high rate that has not declined in the recent past (National population About 5.9 million babies are born in Nigeria every year; two hundred and forty-one thousand infants die in the Commission (NPC), 2009). More than two-thirds of neonatal deaths occur in the first 7 days of life, and of these, up to one-half die within the first 24 hours (Yinger and Ransom, 2003). In Nigerian majority of maternal and neonatal deaths happen at home, beyond the reach of health facilities. Proportions of births are increasingly

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occurring at home due to lack of physical and financial access and also, for socio-cultural reasons among others (National population Commission (NPC), 2009). Routine, early postnatal care (PNC) is lacking in both policy and implantation in many countries, PNC within the first two days has been highlighted as the lowest coverage gap in the continuum of care (Bhutta et al., 2010). In high mortality settings and where access to facility-based care is limited, WHO and UNICEF recommend that all recently delivered newborns should receive PNC from skilled provider on days 1,3, and 7 and six weeks after childbirth (WHO et al., 2009). Studies have identified the first week of life, and indeed the first two days as most crucial period for PNC (Baqui et al., 2009). Despite a beneficial impact, PNC services are underutilized particularly among those who are in the greatest need (Dhakal et al., 2007). In 2008 the national coverage of postnatal care visits was only 44% and more than 70% of mother's who give birth at home do not see any healthcare provider during the postnatal period at all. 1 The high prevalence of home births especially in remote rural areas and the inaccessibility of neonatal care in rural areas indicate a need to develop community-based care for newborns in order to reduce neonatal mortality. This study aimed to assess the effectiveness of collaboration between communities and health workers to improve access to PNC services in rural hard-to-reach communities of in north-eastern Nigeria.

METHODOLOGY

Starting in 2010 as an operational research intervention, the study was quasi experimental community-based intervention conducted in seven rural hard-to-reach areas of Geidam local Government area, Yobe state, Nigeria. Five out of the seven communities were intervention areas while the remaining two were control served by Kelluri and Gumsa health centres respectively. The areas were homogenous in their socio-demographic characteristics such low female literacy. Also maternal and child health indices are similar with maternal and neonatal mortality rate above the national averages (Ashir et al 2010). This study is part of operation research protocol approved by the Yobe state health research and ethics committee (YOHREC). The intervention was aimed testing the impact of integrated maternal newborn and child health (MNCH) outreach services by Community Health Extension workers (CHEWs) based on the continuum of care model. The partnership has involved 30 community volunteers (CVs), 4 emergency transport scheme (ETS) drivers and at least one saving group (SG) in each of the intervention areas and 4 female CHEWs. The expected number of deliveries in these areas was 2,500 newborns annually based on the projected population of 49,852 (National population Commission (NPC), 2009). This study reports on the PNC services rendered. The CHEWs provide regular outreach services based on the minimum service package (MSP) for the project during pregnancy, delivery and postnatal periods spending about 70% of their time in home visitation. The CHEWs were given serials of competency-based training on essential of newborn care in several 3-4 day segments. The manual skills were provided by hands on practice on dolls. During home visit, the CHEWs rendered active management newborns through emphasis on education and counselling, treatment of neonatal sepsis and organised referral as the case may be. Simultaneously, the CHEWs collaborated with CV, SG and ETS drivers to expend access to PNC during outreach. The linkages between families-community organisations and community organisation-CHEW were strengthened through review meetings, data collection and use of phones aimed at identifying newborn, consultation and scheduling visit/follow up. We conducted the analysis of the pre and post intervention data from household surveys conducted from women who had delivered within a year before and during the intervention. Data were entered into excel spreadsheet (window 7; Microsoft Cooperation,) with subsequent export to SPSS for Windows (version 6.1; SPSS Inc, Chicago, Ill) for statistical analysis. Comparisons between groups were performed with x2 comparisons of categorical variables with continuity correction. The level of significant was set at p=0.05 for all the analysis.

RESULTS

The comparative analyses between intervention and control areas are summarised in table 1. Of note is the lack of significant different between the groups regarding measured key PNC indicators before the intervention [pre-intervention]. Also the post-intervention data were summarised in table 1. by the end of one year,

significantly more intervention women were knowledgeable in term of newborn danger signs compared with controls [45 and vs 15%, p=0.01], and significantly more intervention newborns received PNC by CHEWs within 48hrs of birth and at least 3 PNC visits during the first week of life [89% Vs 5%; p=0.00 and 94% Vs 11%;p=0.00 respectively]. In the intervention group, there was an increase of 87% and 90% in the number of newborns that were given PNC within 48hr of birth and at least 3PNC visits during the first week of life respectively and a 30% increased in number of exclusively breast fed infants compared with the baseline[pre-intervention] figures. This is in contrast with control mothers and newborns, whose percentages were rather static or slightly changed (Table 1). Similarly, treatment and referral percentages for neonatal sepsis is significantly high in the intervention group [20% Vs 6%; p=0.00 and 38% Vs 0%; p=0.00 respective] compared with the controls.

Table 1. Coverage of Newborn Indicators pre and post-intervention

Indicator	No (%)		
	Intervention	Control	X^2
Pre-intervention	**n=100**	**n=100**	
% of women who know at least 4 newborn danger signs	11	14	NS
% of newborn received PNC by CHEW within 48hr of birth	2	3	NS
% of newborn with at least 3 visits during	4	3	NS
% of newborn exclusively breast fed	13	16	NS
Newborn diagnosed with sepsis and treated by CHEW	11	9	NS
Newborn referred to facility for expert care	0	0	NS
Post-intervention			
% of women who Know at least 4 newborn danger signs	40	15	S
% of newborn received PNC by CHEW within 48hr of birth	89	5	S
% of newborn with at least 3 visits during	94	11	S
% of newborn exclusively breast fed	38	14	S
% newborn with suspected sepsis diagnosed and treated	78	6	S
% of newborn with sepsis referred to facility for expert care	28	0	S

$P \leq 0.05$, X^2 = chi square test, NS= not significant, S+ significant

DISCUSSIONS

The finding of this study demonstrate the significant positive impact that a CHEW-driven community-based postnatal care outreach, treatment, referral and follow up interventions can have on the PNC coverage of the vulnerable remote newborn populations. CHEWs were able to significantly increase the percentages of first PNC visit, follow up visit and exclusively breast fed newborns within their intervention rural hard-to-reach communities compared with the controls. The results confirms previous findings (Yinger and Ransom, 2003; Fullerton et al., 2005), that home-based newborn interventions can improve access to PNC with the first 48nhr and subsequently. Although the evaluation done in the present study was for first year of intervention as such too earlier to see impact on NMR in the areas, the benefits of these interventions in reducing mortality has been documented in literatures (Bhutta et al., 2010; Baqui et al., 2009; Dhakal et al., 2007).

Community mobilization and behaviour change strategies can address cultural prohibitions on immediate breastfeeding. The benefits of health education during the antenatal care and postnatal periods were observed during the field visits. Proper and timely advice improved the breast feeding and other newborn care behaviours in the community. Exclusive breast feeding increased significantly within the first year of the intervention in the present study. This is similar to the findings of community-based interventions, that behaviour change communication at household and community levels increased the exclusive breastfeeding, the duration of breastfeeding and decreased infant diarrhoea (Fullerton et al., 2005; Morrow et al., 1999).

The role of latter cadres of health worker in the management of neonatal sepsis through outreach services delivering a mix of preventive and therapeutic interventions for maternal and newborn care has been recognised in the conceptual model for the prevention and treatment of neonatal bacterial infections (Bhutta et al., 2008). in this study CHEWs were given a stepwise training on management of neonatal sepsis. Their performance was high reflecting in the high proportion of newborn with suspected sepsis that were either treated or referred and none of the newborn treated at
community died. This is in consonant with studies by Bang et al (Bang et al., 2005).

In conclusion, the CHEW-driven outreach intervention evaluated in this study was successful in significantly improving the PNC coverage of a vulnerable group of remote newborns during a year period. The success of the programme was no small feat, given that the study population was highly rural hard-to-reach and the programme was driven the CHEWs. The partnership model is easily adapted to our ward health system. It seems therefore to be a practical and innovative method for improving access to PNC beyond the facility doors. The impact of this approach is likely to be dependent on the organization, commitment, content, quality, and coverage of the technical interventions included.

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