

ORIGINAL RESEARCH ARTICLE

The Current State of Reproductive Health in Rural Northern Nigeria in the Context of the Pursuit of the MDGs: Perspectives from a Community-based Research Training Program

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Abstract

Nigeria has one of the highest maternal mortality ratios in the world, and most deaths occur in the northern part of the country. Concerns about the persistence of the problem prompted some Nigerian academics to partner with their American colleagues to establish a postgraduate fellowship programme that builds the capacity of Nigerian scholars across disciplines to conduct community-based research in maternal and reproductive health, as a strategy to fast-track the pursuit of the MDGs in northern Nigeria. As part of this unique, hands-on training program, several landmark operations research initiatives have been undertaken with the potential to transform the region. As a final output of the training process, the programme's fellows have unveiled the findings of their community-based research in this special journal edition that reflects the current state of maternal and reproductive health in rural northern Nigeria. (*Afr. J. Reprod. Health* 2010; 14[3]: 15-18).

Résumé

Etat actuel de santé de la reproduction dans les régions rurales du nord du Nigéria dans le contexte de la poursuite des OMDs: Perspectives à partir d'un programme de formation de recherche à base de la communauté. Le Nigéria dispose d'un des rapports de la mortalité maternelle les plus élevés du monde et la plupart des décès se produisent dans la région du nord du pays. Soucieux de la persistance du problème, certains intellectuels nigériens ont été incités d'associer avec leurs collègues américains pour établir un programme des Associés d'études supérieures qui renforce la capacité des intellectuels à travers des disciplines pour entreprendre des recherches à base de la communauté dans le domaine de santé de la reproduction, comme une stratégie pour faire avancer rapidement la poursuite des OMDs au nord du Nigéria. Comme faisant partie de ce programme de formation pratique, beaucoup d'initiatives de recherche opérationnelles marquantes ont été menées avec le potentiel de transformer la région. Comme le dernier rendement de ce processus de formation, les experts produits par le programme ont révélé les résultats de leur recherche à base de la communauté dans ce numéro spécial qui reflète l'état actuel de la santé maternelle et de santé de la reproduction dans les régions rurales du nord du Nigéria (*Afr. J. Reprod. Health* 2010; 14[3]: 15-18).

Key words: Reproductive Health, Millennium Development Goals, Rural, Community-based Research, Training.

Introduction

Nigeria continues to manifest unacceptably high maternal, newborn and child mortality and morbidity characteristics, ten years after the global resolve to pursue the Millennium Development Goals (MDGs) "to free humanity from the shackles of extreme hunger, poverty, illiteracy and disease"^{1,2}. Although some reduction in maternal mortality has been rep-

orted in the country, from 800 per 100,000 live births in 1999 to 545 per 100,000 in 2008, various national and independent surveys affirm wide variation in these statistics between the geo-political zones and states across the country^{3,4,5}. Indeed, the maternal mortality ratio recorded in some states located in northern Nigeria are as much as ten times higher than those of their counterparts in the southwestern part of the same country⁶. The reasons advanced

for this state-of-affairs include: incomplete characterization and comprehension of the responsible factors, inadequate human and infrastructural capacity to effect necessary change, and a dearth of political will^{3-5,7}. It is these factors that are responsible for the 'drag' effect on the desired improvement in maternal and other reproductive health outcomes and indices in Nigeria.

In the ongoing efforts to pursue the MDGs, diverse strategies have been embarked upon towards reducing the maternal mortality in the country. These strategies need to be relevant and effective across the country. However, it is obvious that for the country to achieve the desired improvements it will be necessary to intensify these efforts in the northern states where most of the mortality occurs, rather than employ the usual principle of evenhandedness to all states in the name of equity. It is this recognized need for intensified efforts in northern Nigeria that has compelled some Nigerian academics and development workers to engage partners to innovate, creating a strategy that will endow this segment of the country with the desired leap forward in reproductive health. This program aims to establish a core network of high-level researchers trained in community-based reproductive health in universities across northern Nigeria. The research envisaged should engender multidisciplinary participation, focus on priority issues and yield high impact outputs that can be taken to scale in the region. It is also believed that such indigenous effort will generate more local interest and investment in community-based research and provide the hitherto non-existent translation of research findings into service.

Methodology

In 2007, the Nigerian academics and development workers in reference engaged colleagues at the Bixby Center for Population, Health, and Sustainability, School of Public Health, University of California, Berkeley, to establish the Population and Reproductive Health Partnership (PRHP), which had its initial base at Ahmadu Bello University, Zaria, Nigeria, through support from the Fogarty International Center at the National Institutes of Health (USA). A two-year fellowship programme was established to target a wide array of postgraduate students that were working in reproductive health, including: senior resident doctors, Masters' and Doctoral students in relevant but diverse departments like Obstetrics, Community Medicine, Geography, Sociology, Mass Communication, etc. Each cohort of 12-15 fellows was selected through a competitive process in order to ensure participation of the best candidates. International and local trainers provided each cohort with didactic trainings on diverse research subjects that included: quantitative

and qualitative methods, ethnography and participatory research, data management and software use. The most important segment of the training was in the field; each cohort was directly involved in the conception, design, implementation, analysis, interpretation, dissemination and publication of their community-based research in reproductive health. Skills in community engagement and dialogue, community-wide communication and implementing operations research were also imparted to the fellows, as were the processes of dissemination of research findings and provision of feedback to the communities that were involved.

This training model required access to willing and sensitized communities where effective research could be conducted. Unfortunately, most communities in the Zaria area had developed fatigue from frequent studies conducted by the large population of under-graduate and postgraduate students of Ahmadu Bello University (ABU). These anticipated challenges were overcome through advocacy visits to the Emir of Zazzau and to each of the community leaders. The communities were also assured of direct benefits from the intended operations research.

Three rural communities within the Zazzau emirate were identified for the operations research described in this issue; Dakace in Zaria Local Government Area (LGA), Shika-Dam in Sabo-Gari LGA, and Tsibiri in Giwa LGA, with respective populations of 3,471, 2660 and 1490. The inhabitants are predominantly Hausa-Fulani peasant farmers and petty traders, living simple but intensely traditional lifestyles with norms of early marriage of daughters and *pardah* (seclusion of adult women).

Since the primary purpose of the PRHP was to change the fortune of maternal and reproductive health in northern Nigeria through community-based research, it became logical to first conduct a baseline on reproductive health for the study communities that would be useful for subsequent operations research. The baseline was modeled after the *Nigerian Demographic and Health Survey* (NDHS) and involved entire communities in most instances. This has provided data that is superior to most sample-based cross-sectional surveys hitherto published from the same geopolitical zone of the country³⁻⁵. This survey also provides useful and timely insight into the current position and accomplishments in the pursuit of MDG-5, which has barely five years left to the deadline. The PRHP plans to continue working with local partners to implement strategies to improve maternal and reproductive health outcomes in northern Nigeria and in the country as a whole.

Results

The 2008 and 2009 cohorts of PRHP fellows con-

ducted DHS-style surveys in two rural and one peri-urban communities and hereby present lucid observations that are pertinent to maternal and infant health in the northern region:

- Estimation of Maternal Mortality using In-direct Sisterhood Method
- Fertility Intentions, Contraceptive Awareness and Use
- Knowledge and Perceptions of Maternal Health
- Antenatal Care and Skilled Birth Attendance
- Girl Child Education: Rising to the Challenge
- Availability and Utilization of Emergency Obstetric Services
- Praying for Divine Intervention: The Reality of Three Delays
- Fertility Behavior of Northern Nigerian Men and Women

In fulfillment of the programme's pledge to the study communities, some ongoing operations research that was informed by the findings from the surveys have commenced and one of them is already influencing national policy change:

- **Community-Based Access to Misoprostol:** The considerable contribution of obstetric haemorrhage to high maternal mortality in these communities derives from the preponderance of home deliveries rather than facility-based deliveries. The findings prompted the launch of a new study 'Community-based Distribution and Use of Misoprostol for the Prevention of Postpartum Haemorrhage'. The consequent sharp reduction in the prevalence of postpartum haemorrhage and maternal mortality observed uniformly in the three communities has warmed the hearts of the people and caught the attention of the Federal Ministry of Health to enhance access to misoprostol from facility-only use to community-based use.

Four other innovative initiatives have grown out of the research included in this publication:

- **Girl Child Education:** The goal of this program is to reduce maternal and infant mortality by increasing the age of marriage and the onset of childbearing in collaborating communities in Zaria, Nigeria. We are working closely with parents and community leaders to (1) establish "Safe Space Youth Clubs" in which adolescent girls openly discuss their reproductive health concerns, acquire valuable life skills, and link with local health services, (2) develop an innovative, teen-centered curriculum that emphasizes life skills, such as informed reproductive health decision-making, literacy, numeracy, and income generation, and (3) offer incentives to increase

girls' public school enrollment and attendance, and boost retention rates. The programme has achieved promising results so far in empowering participating girls and reducing their likelihood of maternal mortality and morbidities when they are grown, as advocated by Harrison et al⁸.

- **Community-Based MCH Surveillance:** Information on causes of ill health and death is usually incomplete and of poor quality in places where maternal and child morbidity and mortality is often neither addressed by hospital based skilled practitioners nor medically certified local providers. Members of a community—if trained and supported by the health services—can prove invaluable in detecting and re-reporting cases that otherwise may go undetected. They can also facilitate referral and use the data they gather to develop community-based responses to the problems identified. The PRHP—in collaboration with the community of Tsbiri, Kaduna State, and local health services – is developing a community-based surveillance system to better understand the causes and magnitude of maternal and neonatal health problems, and to develop and evaluate interventions carried out by the Population Council–PRHP–Tsbiri Community–Health Services partnership.
- **Group-oriented Antenatal and Post-natal Care:** This program is also conducting operations research on the feasibility of a community-based approach to antenatal and postnatal care which is being conducted in groups. The research conducted by PRHP fellows, presented in this issue, revealed high fertility, low levels of reproductive health knowledge, and a strong preference for birthing at home – all of which lead to poor maternal and child health outcomes. To address this, pregnant women in one village have been invited to attend bi-monthly groups which include basic aspects of ANC (blood pressure, urine testing, etc) followed by interactive group discussion. The sessions are designed to improve reproductive health knowledge among pregnant women (with an early emphasis on danger signs), enhance social support networks, encourage birth planning and savings for emergencies. In this way, a model for participatory group ANC and post-natal care is being created which may be expanded to other communities if proven effective.
- **Ethnographic Assessment of EmOC:** Verbal autopsies conducted by the PRHP postdoctoral fellows underlined the importance of understanding the factors impeding prompt, appropriate and reliable emergency obstetric care at the health facilities serving the PRHP collaborating

communities. The postdoctoral fellows, under the supervision of experienced obstetricians, carried out an ethnographic assessment of emergency obstetric care in primary and secondary facilities serving the three collaborating communities.

The assessment led to participatory research collaboration between the PRHP and Hajiya Gambo Sawaba General Hospital, Zaria and Giwa General Hospital, Giwa. The first of such problem identified was the degree to which the lack of electricity is an obstacle to emergency obstetric surgery and thus a major cause of delays in emergency care. The PRHP obtained funds and implemented a pilot project to equip Hajiya Gambo Sawaba General Hospital, Zaria with low maintenance solar technology to power delivery room and operating theater lighting, medical equipment and rechargeable two-way radios.

The PRHP initiative that began at ABU is now on the verge of being replicated at Usmanu Danfodiyo University, Sokoto, the second northern Nigerian university which will derive benefit from participation in this growing network of community – based research training centers in reproductive health.

Conclusion

Within the space of barely three years, and with the establishment of only one of the intended training centers, this modest partnership has assembled a stellar team of multidisciplinary researchers who are deeply engaged in the struggle to reduce maternal mortality in northern Nigeria. The programme has already influenced national policy and will continue

to train young researchers in community-based research in reproductive health.

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