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# International Journal of Health Research

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## Original Research Article

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# Making Pictures Speak Louder than Voice: Efforts to Improve Child Survival through 'Majigi' in Jigawa State, Nigeria

## Abstract

**Purpose:** This pilot study assessed the role of the motorcycle cinema (*Majigi*) scheme in empowering local community members with life-saving education to ultimately improve their well-being and survival.

**Methods:** In December 2010, a total of 561 parents with children under 5 years viewed a polio routine immunization (RI) sensitization video across eight communities in Hadejia Local Government Area. The 'pre-' and 'post-video-exposure' periods were defined as the period before and after the viewers were shown the video, respectively. Pre- and post-assessment interviews were conducted using a structured questionnaire administered to 96 randomly selected viewers.

**Results:** Half of the respondents during the pre-video-exposure period gave correct polio decision-making knowledge and this increased significantly to 89% during the post-innovation period. About 68% had positive attitudes towards their responsibility for ending polio during the pre-assessment and increased significantly to 89% during the post-assessment. Pre-video-exposure knowledge of the RI schedule averaged 56% and increased to 88%.

**Conclusion:** Large and multi-focal approaches to address health system challenges are critical in northern Nigeria. We hope that these findings will further encourage program planners and policy makers in northern Nigeria and similar settings in identifying and utilizing novel methods to reach the poor and disadvantaged areas in the quest to meet the Millennium Development Goals related to maternal and child health by 2015.

**Keywords:** Child health; Health promotion; Immunization; Maternal health; Nigeria.

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## Introduction

Northern Nigeria has some of the worst maternal and child health indices in the world. The infant mortality and under five mortality rates are 91 deaths and 217 deaths per 1,000 live births, respectively [1]. Thus, 10% of infants and 22% of young children are dying. Only 6% of children are fully immunized and about 30% of children have no vaccinations. At the national level, out of every 100,000 deliveries 545 pregnant women die and in the North the number is probably above 1,000 [1, 2]. This means that 1% of pregnant women in the North die during pregnancy or childbirth. Just under 10% of women have a skilled birth attendant during delivery [1]. This high level of maternal and child mortality in Nigeria means that the country may be unable to attain Millennium Development Goals (MDGs) 4 and 5 (i.e., reduction of child and maternal mortality, respectively) by the year 2015.

In 2003, the immunization program in Nigeria introduced activities that were geared towards improving coverage of all the antigens in the immunization schedule. In December 2004, Nigeria adopted the Reaching Every Ward approach during a National Review and Planning meeting to strengthen routine immunization (RI) in every ward. Activities include capacity building for strengthening static services; re-establishing outreach and mobile services; supportive supervision; linking services with communities; resource management and mobilization; monitoring and evaluation, including monitoring the impact of RI on vaccine preventable diseases. In May 2006, the Immunization Plus Days (IPDs) strategy was introduced. The IPDs are supplementary immunization activities aimed at (1) administering oral polio vaccine to all children under five years of age, irrespective of previous doses, (2) reaching all previously unreached eligible children, thus reducing substantially the percentage of missed children, (3) strengthening RI, and (4) administering other child survival interventions (de-worming, ITN distribution, vitamin A supplementation, anti-malarial drugs, soaps) [1].

Inadequate health facilities (coupled with weak core management functionalities of staff, finances, drugs, and equipment), lack of transportation to institutional care, inability to pay for services, and resistance among some populations to modern health care are key factors behind the country's high rates of maternal, newborn, and child morbidity and mortality particularly in the north [3, 4]. These challenges have led to severe collapse of health service delivery among virtually all northern states. For example, Jigawa was one of the states which experienced a steady and progressively severe deterioration in the organization and delivery of essential health care services, including a near-collapse of RI activities since 2005. In 2003 in the South West Zone complete immunization coverage for 12-23 month olds was 47.8%, compared with 17.6% in the North East Zone and 9.8% in the North West Zone (National Immunization Cluster Surveys (2003, 2006, and 2010) conducted by the Nigerian National Primary Health Care Development Agency).

In 2007 a Partnership for Reviving Routine Immunization in Northern Nigeria (PRRINN) followed in 2008 by a Maternal, Newborn and Child Health (MNCH) program (*aka* 'PRRINN-MNCH') targeting four states in northern Nigeria (Jigawa, Katsina, Yobe, and Zamfara), was established with co-funding from the Department for International Development of the United Kingdom (DFID) and the Norwegian Government. Briefly, the PRRINN-MNCH Program aims at providing innovations to provide essential care for women, babies, and children. The program deploys strategies aimed at strengthening RI as well as innovations aimed at providing an enduring capacity to improve health outcomes and survival rates and being well positioned to make substantive progress towards the health MDGs. PRRINN-MNCH also provides an opportunity for advancing the study of organizations and social institutions in developing countries that may be shaping critical health and demographic behaviors and outcomes.

This is a descriptive study whose objective was to assess one of PRRINN-MNCH Program's small-scale interventions in rural Jigawa State of deploying a motorcycle (rather than a car as the

transport mode) cinema scheme aimed at empowering local community members with life-saving education using a polio RI sensitization video to ultimately improve their well-being and survival.

## Methods

### Setting

This study was conducted in December 2010 in the northern Nigeria state of Jigawa, with an estimated population of 4.9 million in 2010. Jigawa State was selected as one of PRRINN-MNCH states because it has a maternal mortality ratio of over 1,000 deaths per 100,000 live births. Majority of the people are Hausa by ethnicity and Muslims. The religious beliefs and poor educational background of some of the citizens have contributed to the failure of many of them to actively participate in the immunization programme aimed at eradication of polio in the communities.

### The innovation

Through a number of qualitative and quantitative studies initiated by the program (e.g., [5]), it was found that the gap created by the pessimistic attitude of parents towards immunization can only be filled up and corrected by effective 'curative education' since the reasons and the underlying emotions which determine why and how people act as they do need to be addressed. These are extremely difficult to do, as attitudes are deep-rooted and well-established habits rarely die. Recognising that educating a community is a challenge, PRRINN-MNCH introduced the 'Motorcycle Cinema Scheme' or *Majigi* (i.e., Hausa language for 'cinema') to empower local communities in the state with preventive and curative education and support behavior change. The RI sensitization DVD video (produced by PRRINN-MNCH) was deployed as part of efforts to accelerate achievement of the polio eradication program. The DVD video is a pre-produced movie highlighting the surge and scourge of vaccine preventable diseases amongst children and the long-term negative effect it has on the victim. The overall objective of the messages

contained in the video was to strengthen commitment and social pressure to eradicate polio by bringing community members together to learn and talk about immunization, and ensure that all children receive polio campaign vaccinations and are brought for RI.

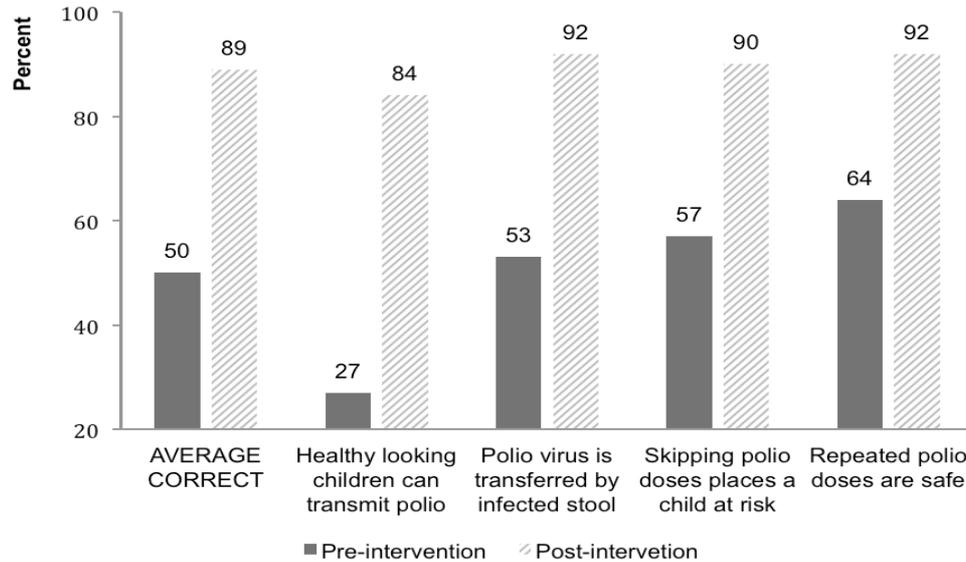
The pilot sites were selected (1) in consultation with the state immunization officer from the state's health council and the program, and (2) based on the June 2010 IPDs non-compliant household data. Four wards in Hadejia Gunduma that had more than one quarter of the non-compliant households in their LGAs were selected for the intervention. A consultant from the program conducted a 1-day training for the Ward Focal Persons (WFPs) on the use of the mobile motorcycle cinema approach for facilitating the DVD shows for large audiences in high-risk settlements (i.e., those with very low immunization coverage).

### Deploying the motorcycle *Majigi* scheme

The WFPs used their motorcycles to transport viewing equipment with a portable power generator to the viewing centers. The WFP facilitated the DVD video viewings in eight communities spread across Hadejia LGA with two DVD shows per community projected onto a large cloth screen at night, one session for the female viewers and the second for the male viewers. The show targets everybody in the community and the viewing sessions are very interactive. The viewers were parents (15 years and above) with a child under five years (i.e., eligible for polio vaccination). The 'pre-' and 'post-innovation' periods were defined as the period before and after the viewers were shown the DVD, respectively.

### Data collection for rapid assessment

The pilot was conducted in December 2010. For the pre - video exposure period, a rapid assessment questionnaire was administered to 96 randomly selected to-be-viewers across all the eight communities. During the post - video exposure period, the same viewers were interviewed to assess their level of knowledge and its implication on health seeking behavior for



**Figure 1:** Responses on correct polio-decision-making knowledge, Hadejia LGA, Jigawa State, December 2010

their children. During debriefing sessions of the *majigi*, some WFPs observed that during the viewing sessions, members of the audience were discussing actions they needed to take based on their new knowledge. It was also observed that after the show, the youth and the children discussed and role-played the mimes they had viewed.

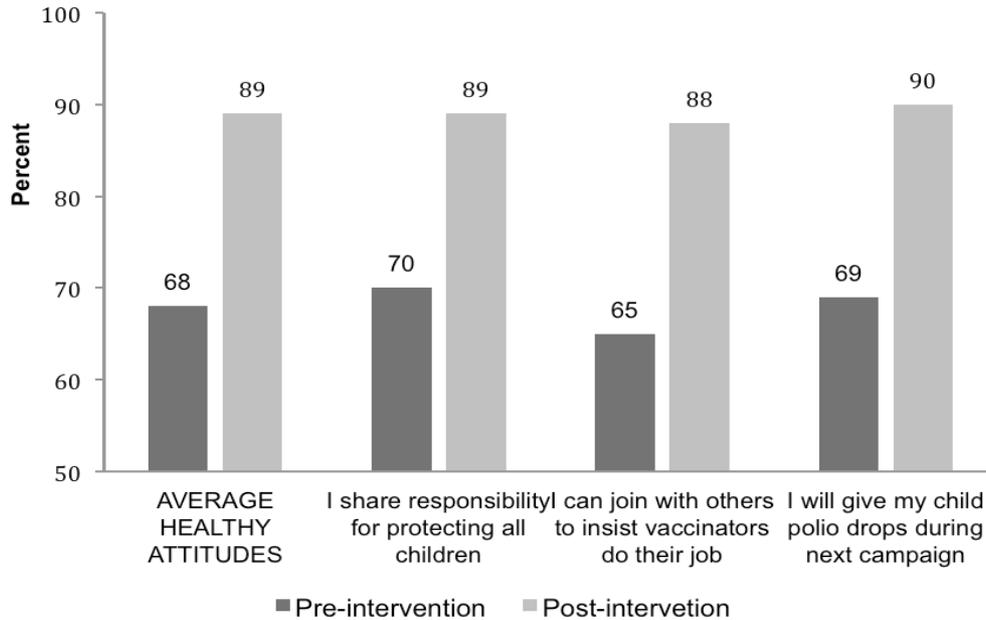
Follow-up assessment questionnaires were administered to the same 96 parents across all the eight communities. Data were collected by five facilitators using an instrument which captured information on a number of immunization-related information. All respondents gave consent to be interviewed and were informed that participation was voluntary and they could withdraw their participation at any time without a penalty. All respondents complied. We acknowledge that post-assessment immediately after exposing viewers to a DVD containing information on a number of polio-related questions and general RI schedule is likely to improve correct immunization-related knowledge. However, the key issue was to make sure that the viewers had gotten the critical message of health care and also guaranteed that the team was able to interview the same viewers who participated in the pre-assessment.

## Results

### Polio decision-making knowledge

A total of 561 viewers participated in the pilot study in all the communities in Hadejia LGA. Of the total, 56% (n=367) were females and 44% (n=294) were males. Figure 1 displays results for all the communities on the proportion of respondents (n=96) providing correct polio decision-making knowledge during the pre- and post – video exposure period. In general, half of the respondents during the pre – video exposure period gave correct information and this increased by 1.78 times to 89% during the post – video exposure period.

When respondents were asked whether healthy looking children could transmit polio, slightly over a quarter (27%) gave correct answers during the pre – video exposure period and more than tripled to 84% during the post – video exposure period. That polio virus is transferred by infected stool was affirmed by over half (53%) before the innovation and increased by 1.73 times to 92% after the innovation. While 57% of the respondents stated correctly that skipping polio doses places a child at risk before the video exposure, this proportion increased to 90% after



**Figure 2:** Health attitudes towards responsibility for preventing polio, Hadejia LGA, Jigawa State, December 2010

the innovation. Also, 64% of respondents correctly stated that repeated polio doses are safe before the video exposure which was much lower proportion than that reported (92%) after exposure to the video information.

**Intention to act to prevent polio**

When respondents were asked about their attitudes or intentions to act against polio, results (Figure 2) showed that 68% had positive attitudes towards their responsibility for ending polio during the pre-assessment and increased to 89% during the post-assessment. More than two-thirds (70%) stated that they share responsibility for protecting all children against child-killer diseases before exposure to the video information and increased by 19% after the exposure. period. That respondents could join others to insist that vaccinators do their job was confirmed by 65% of respondents during the pre-assessment and increased to 88% after the DVD video show. There was about 30% increase in the number of respondents who affirmed that they would give their children polio drops during the preceding polio campaign (69% vs 90%).

**Decision-making knowledge about the RI schedule**

Recognizing the high number of newborns at risk of polio each month, the DVD information also promoted RI. Results in Figure 3 showed that before exposure to the DVD video, the knowledge of the RI schedule averaged 56% and increased to 88% after viewing the video. On when a child should be immunized, 65% of the respondents stated that a child should have his or her first immunization at birth or before seven days (before naming ceremony) before they they viewed the video but this increase by 32% after the video section.

Before viewing the video, 52% of respondents knew that the timing of the second vaccination visit is at 40 days after birth. On assessment after the video section, there was increase in knowledge by 1.71 times to 89%. When respondents were asked about the timing of the measles vaccination (i.e., 9 months of age) during pre-video exposure period, 51% said at 9 months after birth but assessment after video section showed an increase in knowledge to 89%.

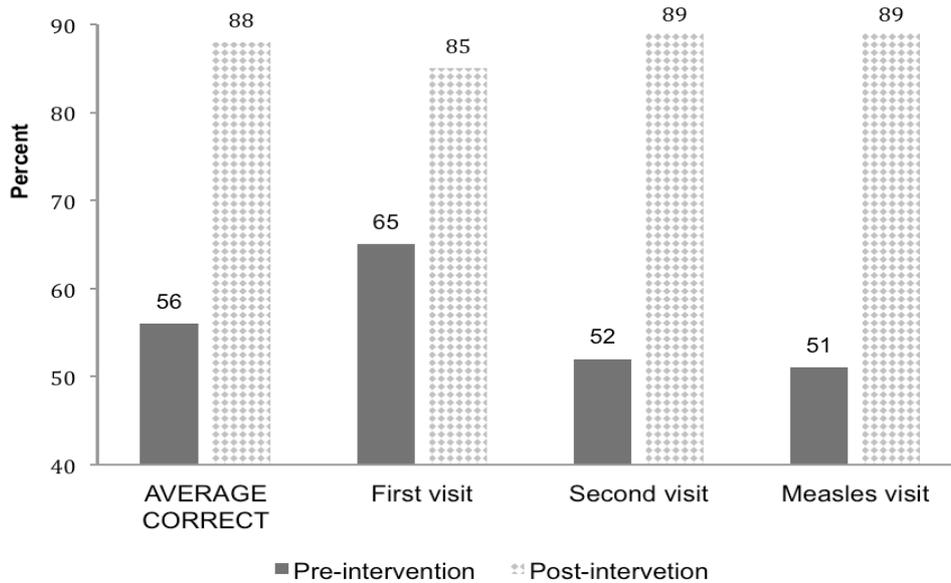


Figure 3: Knowledge of RI schedule, Hadejia LGA, Jigawa State, December 2010

### Discussion

The use of video is well known as a measure to improve easy learning. As majority of the people in the communities studied live in poor rural areas that are not easily accessible and often without electricity, we have adopted the use of motorcycles to transport DVD movie as an innovative approach to increase the education of the communities studied on immunization. Our application of DVD movie not only increased the curiosity of the local communities but stimulated their interest in the education programme.

Our study revealed a substantial increase in knowledge about the correct polio immunization decision-making knowledge aimed at improving child survival in selected rural areas of Jigawa State. Novel approaches to address the challenges associated with attainment of the MDGs are indispensable in northern Nigeria and similar settings.

The sensitization also targets religious and community leaders who are very revered personalities in most communities of Jigawa State. Followers of these religious and community leaders take their teachings and

statements seriously. As part of the intervention, Imams and other religious leaders were educated on various aspects of immunization. For example, the Chief Imam of Jajikura in Malam Madori LGA was a beneficiary of the motorcycle cinema scheme and said *“I have just understood what polio is all about.”* The community leaders and members are tasked to spread the messages learnt from the DVD shows.

Through the shows, parents were meant to understand that, their hard-earned money meant for taking care of their households risk being depleted unnecessarily by a sick and disabled child through treatment. The scheme, aimed at adjusting behavior is alerting parents and community leaders about the dangers associated with non-immunized children. It is creating new opportunities for pursuing healthy lifestyles for the good of the community and the state. When utilized effectively and on a sustained basis, this revolutionary communication approach provides excellent medium of RI uptake.

As others [5] have argued, knowledge about child immunization is important not only because theory predicts that knowledge is an important precursor of uptake but that to a large extent, knowledge about the various vaccines and the RI

schedule helps caregivers understand which vaccines a child has obtained and which ones remain to be obtained. Caregivers are empowered and enable them to track the immunization process. When non-technical and easy-to-understand messages that seek to educate caregivers on vaccine-preventable diseases, including the names of the diseases and their schedule are carefully designed and packaged, substantial progress can be made in preventing morbidity and mortality of children.

## Conclusion

Although this small-scale pilot study provides findings of the effective role of *Majigi* in rural northern Nigeria in increasing knowledge about the protective effects and other aspects of immunization, large and multi-focal approaches to addressing health system challenges such as those pioneered by PRRINN-MNCH are critical in northern Nigeria. We hope that these findings will further encourage program planners and policy makers in northern Nigeria and similar settings in identifying and utilising novel methods to reach the poor and disadvantaged areas in the quest to meet the MDGs related to maternal and child health by 2015.

## Conflict of Interest

No conflict of interest associated with this work.

## Contribution of Authors

We declare that the authors named in this article did this work and all liabilities pertaining to claims relating to the content of this article will be borne by the authors. YY designed the research topic and drafted the manuscript; HV contributed to the manuscript preparation and analysis; SK and IS collected the data and contributed to the manuscript preparation.

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**No Information**