How Communication for Behavioural Change Can Be Used in the Context of Performance-Based Financing to Improve Institutional Deliveries in Nasarawa

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Abstract

Introduction: High maternal mortality is an increasing challenge for the achievement of the 5th millennium development goal in sub-Saharan African countries particularly in Nigeria where maternal mortality has decreased from 580/100000 live births in 1999 through 570/100000 live births in 2005 and back to 580/100000 live births in 2015. Institutional delivery service utilization ensures a safe birth and a key to reduce maternal mortality. In the pilot phase of Performance Based Financing in Ondo, Nasarawa and Adamawa, the trend of deliveries moved from 20% coverage in June 2012 to 64% coverage in June 2016. In Nasarawa state delivery coverage moved from 24% in June 2012 to 45% as of June 2016 but below national rate. We aim to assess socio-behavioural factors associated with low utilization of delivery services in Nasarawa State Nigeria.

Methods: A sequential explanatory mixed-methods design. Barrier analysis was carried out to analyse the differences in determinants between doers and non-doers (ratio 1:1) for possible interventions when combined in a matrix table and used to identify community priorities

Result: We identified key messages that will be used to design interventions using the BEHAVE Framework to improve on utilization of skilled deliveries. Messages stemmed from identified barriers: Financial barriers, Refusal to allow women to “squat” during delivery, Poor attitudes of staff, Poor conditions of the delivery bed and disapprovals.

Conclusion: Barrier analysis and the application of BEHAVE framework can eliminate socio-behavioural factors associated with low utilization of delivery services within the context of Performance-Based Financing.

Keywords: Institutional Delivery, Skilled Delivery Normal Assisted Delivery, Maternal and child Health indicators, Performance-Based Financing, BEHAVE and communication for behaviour change.

Introduction

Performance-Based Financing (PBF) intervention within the Nigerian State Health Investment Project(NSHIP) project has been implemented in Nasarawa State Nigeria with one of the key objectives to improve maternal and child health care utilization and quality(Reproductive & Services, 2014).

High maternal mortality is an increasing challenge for the achievement of the 5th millennium development goal in sub-Saharan African countries particularly in Nigeria where maternal mortality has plateaued from 580/100000 live births in 1999 through 570/100000 live births in 2005 and back to

Within the context of the pilot phase of Performance Based Financing in the three States (Ondo, Nasarawa and Adamawa), the trend of deliveries moved from 20% coverage in June 2012 to 64% coverage in June 2016. In Nasarawa state health utilization of delivery services (for the indicator “Normal Delivery”) have witnessed an increase from 24% in June 2012 to 45% as of June 2016 below national rate(Africa, 2012) Despite some considerable improvements three years after its implementation, skilled birth attendance remained low in some LGAs of Nasarawa state such as Nasarawa LGA with a 30% coverage(NSHIP Indicators et al., n.d.). Economic, health facility related and socio-cultural factors are the most frequently identified contributors to the low maternal health care utilization(Assfaw & Sebastian, 2010).

Current global health policies emphasize institutional deliveries (skilled deliveries) as a pathway to achieving reductions in new-born and maternal mortality in developing countries and an entry point to increase the use of Maternal Child Health services(Chari, Okeke, & Årlöv, 2014). The development objective for introducing PBF in Nasarawa State is to increase the delivery and use of high impact maternal and child health services within the implementing LGAs(Report, Appraisal, Forestsprotected, Project, & Resources, 1996). In Nasarawa state, the Nasarawa LGA remains the least preforming LGA especially on the indicator “Normal Deliveries “as seen in the figures below. The SPHCD/PIU/RBFTA have been faced with the challenge of addressing the low demand of services in this local government.

**Study aims**

The aim of the study was to explore the reasons for low utilization of Normal or skilled delivery services as well as determine any associated financial barrier related to the use of this service within the Nasarawa Local Government Area of the project area.

**Methods**

**Study design**

A sequential explanatory mixed-methods design, where qualitative data to interpret quantitative findings was used.

**Study duration and theoretical orientations**

The study covered the period July 2016 to June 2017. Barrier Analysis (BEHAVE methodology otherwise known as; doer/non-doer analysis): It is a rapid assessment tool used in community health and other community development projects to identify behavioural determinants associated with a particular problem action.

Qualitative data relied on in-depth interview (IDI) of key informants and focus group discussion (FGD) to compliment findings from CCSS. Sampling for IDI and FGD was purposive. We carried out 20 IDIs and 4 FGDs. Informants were selected according to variables such as sub-group (Women of Child Bearing age, Health Facility Staff, LGA PHC directors, Ward development Committee (WDC) and Community Based members), knowledge of their community, experience with the HC, past or current experience with meeting conflicts, etc. to allow for maximum variation in the sample.

**Sample size and technique**

Samples for CCSSS relied on the stratified random sampling that was used to select the health facilities for inclusion in CCSS within each of the seven (7) PBF LGAs regarded as a stratum. As agreed by all the stakeholders involved in the implementation of PBF in Nigeria, and in accordance with the counter verification manual, a sample of 20% of all the health facilities was drawn from each of the LGAs.
The sample size for the Doer /Non-Doer analysis was calculated using the epi-info stalca statistical calculators for sample size power and more. A 95% confidence interval was used to give a sample of 384. A ratio of 1:1 was used for doers and non-doers.

Data entry and analysis

Data was checked for completeness and consistency by the verifiers before submitting the questionnaires to the RBF TA. The questionnaires were given identification codes for easy follow-up in case there is an error on the forms. Data was entered in a predesigned and tested excel template and analysed using the same. Additional analyses were done using barrier analysis sheet adopted from USAID(Entry, 2013).

Qualitative data from the comments sections was analysed through content analysis and use of the grounded theory for the analysis and interpretation of qualitative data. Similar issues emerging from the different clients were grouped together by thematic area and analysed to establish key conclusions of the analysis to support the quantitative results. Quantitative data analysis was done through Epi Info 7 software for the doer non-doer analysis.

The audio taped from FGDs were transcribed in full text and translated from Hausa to English. Transcription for FGDs and IDIs was followed by initial descriptive analysis earlier captured.

Ethical considerations

Authorization to carry out this study was obtained from SPHCDCA and the MOH. At the LGA level authorization was obtained from the LGA PHC Director. All the study participants provided verbal informed consent prior to participation and agreed to: the project goals, the topic and type of questions, their right to refuse being interviewed, interrupt the conversation at any time, and withdrawal at any given time. Participation in the study was totally voluntary.

Results

Quantitative findings

For the purpose of this study quantitative data from CCSS was used to assess the level of the financial barrier of Normal delivery services within the Nasarawa Local Government Area in the project area. (see fig 1)

Results of the CCSS revealed in Fig 1 above that the average cost for delivery in Nasarawa LGA was NGN 4364.06, 24.8% higher than the average cost of delivery in the State which is NGN 3279.49.

The barrier analysis prioritised p-value less than 0.05 for statistically significant differences. A p-value of less than 0.05 meant that the difference between Doers and Non-Doers is probably not due to chance (i.e., a statistically-significant, “real” difference). If the p-value was not in blue font (and hence not less than 0.05) the determinant was ignored regardless of what the odds ratio was. In that case, there was probably no real difference between Doers and Non-Doers. However, if the p-value is in a blue font (and less than 0.05), there is a real difference between Doers and Non-Doers.

The next step was to check if the Estimated Relative Risk was greater than one, then Doers are more likely to have mentioned a particular response than the Non-doers. If the Estimated Relative Risk is less than one, it means that Non-Doers are more likely to have given a particular response in comparison to Doers. If either Doers or Non-Doers had a percentage of 0%, and the p-value was < 0.05, the odds ratio could not be used to decide how big of a difference there was between Doers and Non-Doers. Three priority responses were retained for each determinant based on the above-mentioned criteria.

The age distribution of respondents had a majority (55.4%) within the age range 25-35 years. The teenage group with age range 13-19years had the lowest percentage of delivery attendance of 12.2% with a confidence limit of 12.8% (see table 1). Women who had delivered in the health facility more likely to come back to the health facility for subsequent deliveries than those who had home deliveries at a percentage difference of 54%.

Similar analysis was done for all six barrier analysis questions and the following results were obtained:
When asked what makes it easy to deliver in the health facility, significant responses included: Community mobilization, presence of a good delivery beds, and availability of medication to reduce length of labour. They all had P values <0.005. For all three determinants Doers (women who delivered in the health facility) where 24.0, 20.1 and 19.8 times more likely to give this response than non-doers (women who delivered at home) respectively. For the question “What makes it difficult for you to deliver in a Health Facility” the three significant determinant when the relative risk was applied are: Refusal to allow women to squat (Non doers were 24.4 times more likely to give this response than Doers), lack of midwife in the facility (doers were 9.7 times more likely to give this response than non-doers) and the fact that health personnel do not check on women regularly in labour (doers were 5.6 times more likely to give this response than non-doers).

The positive consequences listed included: Health facility refer when need arises, Health talks and counselling are given in health facilities, and proper handling of mothers and baby to prevent maternal and new born deaths. They all have P values of 0.000. For all three determinants Doers where 9.3, 5.4 and 5.6 times more likely to give this response than non-doers respectively. (See Table 2)

The three key determinants for positive consequences were: Lithotomy position is difficult they prefer to squat. Bad delivery bed, no privacy with poor ventilation of the delivery room, and over charging by facility staff. They all have P values of <0.005. For all three determinants Non-Doers where 50.1, 6.6 and 2.2 times more likely to give this response than doers respectively.

Qualitative findings

Problems women have with the Health Facilities.

The interviews and focus group discussions, revealed that the cost of delivery in the health facilities was expensive. Official rates for delivery ranged from 500Naira to 5000Naira for a female child and 500Naira to 6000Naira for the delivery of a male. The women did not feel comfortable delivering in the health facilities because they were forced to use the Lithotomy position during labour. Traditionally opening up their legs to male nurses was embarrassing. They would visit the hospital more for delivery if the “squatting position” was allowed.

“We are forced to open our legs to nurses and sometimes male nurse, midwives in the hospital in Nasarawa even slap our legs to keep them open. It is embarrassing!!” (woman 37 years at Odeni Gida)

The women indicated the need for more female nurses to attend to deliveries especially Muslim nurses. The attitudes of some nurses were a deterring factor, ”they even slap our legs instead of asking us to part them” some women reported. Most women were not comfortable with the systematic induction of labour in most health facilities.

“We are scared of labour induction because once you have been induced in the hospital, it will hinder you from subsequent home birth” (woman 25 years old Akum).

How the Community get information about services covered by the Health Facility the WDCs informs the community about the hospital. They have never given them the details of the cost of services in the Health Facility. The community thinks the health facilities are very expensive and poverty prevents them from using the Health facilities. The attitude of some staff is repelling. They over charge women and even include unofficial charges without receipts.

“Staff even follow women to their homes and carry out deliveries instead of advising on the importance of using the clinic” (woman aged 33 Nasarawa).

Preference of place of delivery and Why When labour comes suddenly (precipitated delivery) especially in the farms they prefer to deliver at home. They attend ANC at the health facility but there is usually no established “Plan for Delivery”. The TBAs in the community take a token (usually in kind and up to 2000Naira) for conducting a delivery and only accompanies them to the hospital when there is a complication.

Who is responsible for making decisions in health seeking in the family?

Most of the participant mothers mentioned that their husbands and parents usually decided for them. They also pointed that they had to ask for permission from their husbands to deliver in the Health Facility.
“We usually ask permission from our husbands before we decide about what we want to do. In a similar way we have to ask for permission to seek ANC care and delivery care. Meanwhile if we need money for medical fees, since we don’t have money at hand, we should ask our husbands but they usually do not provide so we deliver at home” (Married women 35 years from Kurudu).

Differences giving birth at health facility or home

The main difference established from the discussions was that: The Health facilities can attend to difficult deliveries whereas at home, difficult deliveries cannot be managed.

“I attend ANC and think it is safe to have a home delivery. The hospital is usually a second choice because I foot my bills not my husband” (women aged 36 at Akum).

Opinions on quality of health care

The community does not have confidence on the diagnosis during ANC because there is no ultra-sound is done. The attitude towards some women in labour is very bad. Some Health facilities do not attend to women all the time especially in the night. Some informants stated that, “they even use touch lights for delivery”.

Religious, traditional and cultural practices of the community during labour and delivery

The Odeni Gida and Akum community reported that only lazy women lie down to deliver. Strong women prefer to squat and do some activity like ‘pounding yams’ during bearing down. Strong women give birth at home and only the lazy ones go to the Health facility. They must first try the delivery at home because they have local herbs which help them reduce the length of labour. It works well and they only visit the clinic for difficult labour.

Discussions

Discussions will triangulate findings from the CCSS, barrier analysis (doer/non-doer analysis) with qualitative data from the key informants and focus group discussions to determine community priorities.

For the determinants of Self-Efficacy, Women who had delivered in the health facility were more likely to come back to the health facility for subsequent deliveries than those who had home deliveries at a percentage difference of 54%. The CCSS and FGD revealed that women who had delivered in the hospital are more likely to come back if the suggestions they enumerated for improvement were met. This is in accordance with a facility based study in Tanzania were women stated they had “no choice” but to deliver in the hospital despite previous bad experiences(Perceptions, Workers, & Attendants, 2008).

Community mobilization, presence of a good delivery beds, and availability of medication to reduce length of labour were the determinants that made it easy for the women to use the facility while “Refusal to allow women to squat”, lack of midwife in the facility and the fact that health personnel do not check on women regularly in labour were the determinants that made it difficult for women to use the facility. The determinant ‘refusal to allow women squat” was supported by the results of the FGD as a Religious, traditional and cultural practice of the community during labour and delivery. The lack of midwives in the facility was supported by 50% of the patients sampled for CCSS who indicated the need for the health facilities to recruit more staff.

Analysing the determinants for “Positive Consequences”, the respondents gave the following priority determinants as advantages of using the health facility: Health facility refer when need arises, Health talks and counselling are given in health facilities, and proper handling of mothers and baby to prevent maternal and new born deaths. These responses were given by both doers and non-doers with Doers 9.3, 5.4 and 5.6 times more likely to give this response than non-doers respectively. This indicates that the community are all aware of the importance of using the health facility. This was demonstrated in the FGD were the women all said they will always run to the hospital with any case of difficult labour.

Results from the FGDs suggested that women found it embarrassing to deliver in the lithotomy position. Studies have shown that the squatting position gives a greater increase of pressure in the pelvic cavity with minimal muscular effort. The birth canal will open 20 to 30% more in a squat than in any other position. It is recommended for the second stage of child birth. The lithotomy position is convenient for the caregiver because it permits him or her more access to the perineum(Wallace, 2016). However, this is not a
comfortable position for most patients, considering the pressure on the vaginal walls because the baby's head is uneven and the labor process is working against gravity (Gizzo, Gangi, Noventa, Bacile, & Zambon, 2014).

Social Norms for approval and disapproval prioritised, Parents Peers and Husbands with statistically significant differences. Husbands approval had the highest with doers 5.1 times more likely to give this response. Non-doers do not like referral as they were 2.5 times more likely to say that doctors and nurses who refer them are those who disapprove of them using the health facility. A study carried out by Core group on family planning in multiple LMICs countries provided a strong association between husband approval and all maternal child health services especially institutional delivery and family planning (CORE Group, 2012).

Conclusion

Findings from this case study confirm that:

- Women are willing to use our health facilities for delivery but they are hindered by social-cultural barriers.
- The main barriers to uptake of institutional delivery in Nasarawa State are:
  - Financial barriers coupled with unofficial charges imposed by health personnel
  - Absence of midwives in the health facilities,
  - Poor attitudes of staff in the handling of mothers and babies that lead to maternal and new born deaths
  - Religious and cultural barriers to the use of Lithotomy position in delivery.
  - Poor conditions of the delivery bed
  - No privacy in the delivery room coupled with poor ventilation
  - Husbands, Parents and Peers disapproval.
  - Both users and non-users exhibit lack of factual information on the positive and negative consequences of taking up institutional deliveries.
  - Social norms (approval and disapproval) influence the use of the health facility and act as barriers to potential women who want to use the health facility.

References


Tables and figures

![Figure 1. Average cost of delivery](image)

<table>
<thead>
<tr>
<th>Determinants</th>
<th>Doers %</th>
<th>Non-doer %</th>
<th>Difference</th>
<th>Odds Ratio</th>
<th>Confidence Interval</th>
<th>Estimated Relative Risk</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>100%</td>
<td>46%</td>
<td>54%</td>
<td></td>
<td>Lower Limit</td>
<td>Upper Limit</td>
<td>0.000</td>
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<tr>
<td>Possibly</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td></td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0%</td>
<td>54%</td>
<td>-54%</td>
<td>0.00</td>
<td>0.00</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Don't know</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td></td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Self-efficacy- can you deliver in the health facility?

<table>
<thead>
<tr>
<th>Determinants</th>
<th>Doers %</th>
<th>Non-doer %</th>
<th>Difference</th>
<th>Odds Ratio</th>
<th>Confidence Interval</th>
<th>Estimated Relative Risk</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>over charging by Health facility Staff</td>
<td>8%</td>
<td>18%</td>
<td>-11%</td>
<td>0.37</td>
<td>Lower Limit</td>
<td>Upper Limit</td>
<td>0.464</td>
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<tr>
<td>Absence of Health workers in the facility (long waiting time)</td>
<td>5%</td>
<td>2%</td>
<td>4%</td>
<td>3.46</td>
<td>0.94</td>
<td>12.76</td>
<td>2.012</td>
</tr>
<tr>
<td>baby will not have immunization immediately</td>
<td>1%</td>
<td>0%</td>
<td>1%</td>
<td></td>
<td></td>
<td></td>
<td>3.357</td>
</tr>
<tr>
<td>no drugs in the health facility</td>
<td>1%</td>
<td>0%</td>
<td>1%</td>
<td></td>
<td></td>
<td></td>
<td>3.345</td>
</tr>
<tr>
<td>Poor personnel behaviour towards patients</td>
<td>3%</td>
<td>4%</td>
<td>-1%</td>
<td>0.71</td>
<td>0.22</td>
<td>2.27</td>
<td>0.776</td>
</tr>
<tr>
<td>Lithotomy position is difficult, prefer to squat</td>
<td>2%</td>
<td>72%</td>
<td>-70%</td>
<td>0.01</td>
<td>0.00</td>
<td>0.02</td>
<td>0.020</td>
</tr>
<tr>
<td></td>
<td>3%</td>
<td>1%</td>
<td>2%</td>
<td>2.54</td>
<td>0.49</td>
<td>13.24</td>
<td>1.743</td>
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<td>--------------------------</td>
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<tr>
<td><em>Long distances to get to HF (accessibility)</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>No disadvantage</em></td>
<td>86%</td>
<td>87%</td>
<td>-1%</td>
<td>0.92</td>
<td>0.52</td>
<td>1.63</td>
<td>0.942</td>
</tr>
<tr>
<td><em>delivery bed bad, no privacy, poor ventilation of delivery room</em></td>
<td>1%</td>
<td>9%</td>
<td>-8%</td>
<td>0.11</td>
<td>0.02</td>
<td>0.48</td>
<td>0.151</td>
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<tr>
<td><em>Death of mother and baby</em></td>
<td>5%</td>
<td>1%</td>
<td>4%</td>
<td>9.38</td>
<td>1.18</td>
<td>74.76</td>
<td>2.725</td>
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