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Parental perception of childhood vaccination through focused group discussion approach amongst women in Karnataka, India

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ABSTRACT

Background: Although India is one of the global producers and exporters of vaccines, the country is still home to about one-third of the world's unimmunised children. In the current study we conduct a qualitative analysis using focused group discussions in an attempt to uncover the reasons that argue against parental vaccination of children.

Methodology: All antenatal and postnatal women coming to the Primary Health Centres (PHC), of a Medical College in Karnataka, India, were approached and informed about the objectives of the study. Written informed consent was obtained subsequent to which FGD's were conducted in the PHC premises on every Thursday, over a period of two months. Qualitative information received from the women regarding perceptions on immunisation are presented verbatim after translating into English. Data was entered and analyzed using Microsoft Excel 2010.

Results: A total of ten FGD's were conducted in this study. Non-availability of a male member for accompanying them to the immunisation clinics; taking time off from household chores; perceived risks of contracting disease, vaccine side effects; prior negative experience with vaccination, and social environment were cited as barriers against vaccination.

Conclusions: This study emphasises the importance of gathering information from parents in order to overcome barriers against vaccinations so as to improve coverage.

Key-words: Focus group discussions, Vaccination, Perception

INTRODUCTION

Immunisation currently averts approximately 2 to 3 million deaths every year but an estimated 21.8 million infants worldwide are still unable to access basic vaccines.[11] In India, vaccine preventable diseases (VPDs) can be held accountable for over five-lakh deaths annually.[2] Ironically, India is one of the world's leading producer and exporter of vaccines with approximately 43% of global vaccine supply being provided by Indian manufacturers especially those from the private sector.[3]

Even with a sound knowledge and a high level of engagement on behalf of parents in the decision-making process regarding vaccinations, various factors and cognitive processes have the potential to lead to a biased judgment such as omission biases.[4] A unique set of beliefs and a variety of positive and negative attitudes surround each vaccination and its related disease(s).[5] This concept of health literacy is defined as "the capacity to acquire, understand and use information in ways which promote and maintain good health".[6] In the context of parental vaccination decision, health literacy can be analysed in terms of both knowledge about vaccinations and the ability to find, judge and use the information encountered; this is especially important in light of the high amount of inaccurate material which parents can be exposed to.[7]

The qualitative evidence generated in studies conducted earlier suggests that while program managers and associated academics concentrate predominantly on the microbiological and technical aspects, the critical missing link to eradication may lie in resolving challenges encountered with respect to the social implementation of available interventions.[8] Moreover, it is fairly well established and accepted that social norms can strongly suppress vaccine uptake despite frequent outbreaks as is observed in certain small communities. Depending on the context, social norms can either support or hinder immunisation goals.[9] Currently there is a strong feeling within the community that a greater effort needs to be put towards understanding methods needed to address parental vaccine hesitancy.[10] There is a precedence for focus group methodology being used to analyse such problems as the same has been used previously to understand the multi-dimensional problems related to acceptance or rejection of childhood vaccination.[11]

The present study aims to explore the reasons that drive or motivate parental decision regarding vaccination, with a special reference to vaccination literacy. To the best of our knowledge, this is the first study of its kind in Karnataka, India that aims to address the issue of vaccination literacy especially with respect to parental decision regarding immunising their child or not.

SUBJECTS AND METHODS

Qualitative methods are most appropriate when a better understanding of a phenomenon is sought, or when a theory needs to be built.[12] Hence, a focused group discussion approach was adopted for this study conducted in the rural field practice area of a Medical College in Karnataka, India. The rural field practice area relevant to this study has three sub-centres. Of these, the Auxiliary-nurse Midwives (ANM's) and the Accredited Social Health Activists (ASHA's) meet at the Primary Health Centre on a monthly basis. Both groups were oriented towards the objectives of the study and requested to assemble the study subjects at the subcentres. Ten focus groups were conducted between September and October 2015 with five FGD's each composed exclusively of ante-natal and post-natal women; each FGD comprised of five women.

A list of topics suitable for the FGDs was developed based on consultation with immunisation experts as well as themes derived from available literature.[13] The study instrument was pre-tested with colleagues and revised accordingly. All focus groups were analysed in three phases: (a) an introduction of study participants and their willingness to participate or not in the study; (b) participants' vaccination decision-making process: questions were asked about the influence of social environment, role of culture and religion, role and assessment of received information, knowledge level concerning vaccinations, and possible practical barriers; and (c) gathering of supplemental information regarding satisfaction of the participants with the National Immunisation Program (NIP) with respect to the changes, if any, that they would like to see, and their opinion about possible future vaccinations within the NIP.

A digital voice recorder was used to record each interview which was then transcribed verbatim by the main researcher and the research assistant. This was done strictly within three days of completion of the interview.

Analysis of the focus group data was conducted independently by two members of the research team. The first individual (a post-graduate student who was not involved in the conduction of the FGD'S) reviewed the focus group transcripts and wrote a summary of the results while the second analyst (who did not participate in the conduction of the focus groups) reviewed the manuscripts and audio-recordings of each focus group. The results of the two analyses were compared and were found to be almost uniformly consistent. The research team met and discussed differences in order to develop a consensus based on the study data.[14]

The study was approved by the Institutional Ethics and Review Board (IERB) and consent was obtained from each participant for the same. Topics such as confidentiality of responses and anonymity of study subjects were discussed at the beginning of each group meeting.

Statistical analysis

Data were entered and analysed in Microsoft Excel 2010. Descriptive statistics like mean, median, standard deviations were employed to summarise quantitative data such as age, number of medications used etc. Proportions were computed for qualitative parameters such as different classes of medications used by the elderly.

RESULTS

Demographic data obtained during the course of the study are summarised in Table 1. The majority of the participants were mothers in their thirties who had more than one child (age range 23–42 years). With respect to education, 88% of study participants were literate as per census definition.[15]

Topics covered in each session included questions on the following areas of interest:

Table 1: Socio-demographic details of study population

Parameter	Result
No. of participants	60
Ante-natal (5 groups)	30
Post-natal (5 groups)	30
Age (mean ± SD)	22-30 years (26 ± 3.45 years)
Education	
Literate	53 (88%)
Not-literate	7 (22%)

Health seeking:

When queried about the health facilities that they had visited, participants from each group reported visiting the PHC or District hospital for ante-natal and post-natal check-ups as well as for the vaccination of their children; however, private laboratories were employed for the purpose for medical testing. All participants mentioned that they had a positive experience upon visiting the governmental health facilities.

"We usually get check-up done in Government hospital… only blood tests were done in private labs which we then showed to the ANM Sister and PHC Doctor…"

Do you take your infant or children to the doctor for immunisations?

All post-natal women reported taking their children for vaccination and ante-natal women said they were willing to do the same.

Attitude towards vaccination

When asked about the purpose of giving vaccination, majority were of the opinion that they prevent polio, encephalitis, pertussis, etc.

".. after giving vaccines, diseases like paralysis, brain fever, cough, tuberculosis will not occur in children.."

What vaccine was given to your child?

The majority of participants perceived their knowledge of vaccinations and the NIP as insufficient. Majority of the post-natal women did not know what vaccine had been given to their child immediately after immunisation by the ANM at the Sub-Centre. The following was reported by a mother:

"… we come here because sister (ANM) has told us that our child needs to be given injections.. I don't know which injection was given, I just know that is good for my child, it protects my child from diseases like polio…"

Which vaccines are better oral or injection?

Majority were of the opinion that injections are better compared to oral vaccines with only one post-natal woman preferring the oral route because it reduces pain and discomfort to the child.

"… Injections are better because when given orally the child may spit or vomit out the drops… injections enter into the blood directly so it protects the child... only problem can be slight fever and child will cry for a while, so we can give tepid sponging or fever syrup given by the sister (ANM)…"

How often should you have your child vaccinated?

Majority of women had good knowledge regarding the vaccination schedule either because they had read it from the Mother and Child Protection (MCP) card or from the ANM's who visit their villages and inform them regarding the next vaccination visit.

Perceived social norm

Most participants indicated that they had conversations with neighbours, friends or family regarding vaccinations.

Negative experiences with vaccination and adverse events

None of the participants reported experiencing any adverse reactions after vaccinating their child although some had heard of untoward events such as convulsions, paralysis, etc. occurring after vaccination.

Are you satisfied with the immunisation activities in the PHC?

Both ante-natal and post-natal women expressed satisfaction with the immunisation activities at PHC. The attitude of health workers was also cordial with the women and information regarding vaccinations, side effects and possible remedial measures were adequately communicated. Most participants were also satisfied with the consultation time.

Can you suggest any method or idea to improve vaccinations?

Though all participants expressed no inconvenience for visiting a vaccination site, some felt that household activities were sometimes a reason that could result in missing a session.

DISCUSSION

This study aimed at exploring factors that have the potential to influence vaccination acceptance or rejection. Our results show that acceptance of the vaccination program and protocol was robust within the study population and that vaccination-related decision making was based upon multiple factors such as good coverage and motivation by the peripheral level health workers.

Despite a noticeable decline in urban-rural and gender based differences over time, children resid-

ing in rural areas and girls remained disadvantaged in India.[16] Although preventive efforts for disease prevention have been practiced regularly, the reluctance, -opposition and slow acceptance of vaccination have been the characteristic of vaccination history in India.[17]

It was observed that many parents of fully immunised children also demonstrate similar attitudes, beliefs, and behaviour which can be negatively impacting the vaccination coverage in the community.[18] Paradoxically, messages strongly indicating that there is "no risk" in vaccination has led to a higher perceived vaccination risk as compared to weak negations. Hence while recommending vaccines to the parent, information pertaining to all possible associated risks need to be effectively communicated.[19]

Health seeking:

In our study all participants had a positive experience upon visiting the governmental health facilities. These results are in parallel to those reported by McCormick LK *et al.* [20] who also studied parents that relied on both private and public health system for vaccination services.

Do you take your infant or children to the doctor for immunisations?

In a study done in the United States of America, it was found that nearly 12% of the study population was opposed to compulsory vaccination at school entry level; reasons cited for the same were concerns over the safety and utility of vaccines.[21] However we found that in our study all the women were willing to take their children for vaccination; this underlines the utility and efficacy of a good rapport between the parents and the healthcare workers which in turn leads to an effective and improved coverage as well as acceptance of vaccination.

Attitude towards vaccination:

Our study population had a positive attitude towards vaccination. Similarly studies done previously by Coniglio *et al.*[22] and Raithatha N *et al.*[23] reported that a vast majority of the parents recognised the benefits of modern medicine and took a conscious decision to vaccinate their children according to the national recommended vaccination scheme.

Studies conducted elsewhere [24, 25] have reported that a certain percentage of the parents refuse vaccinations believing that it is not a necessity for their children; the reason cited is the belief that the positive lifestyle led by the parents will prevent their children from contracting and developing any infections. A study conducted by Smith PJ *et al.*[26] reported parents citing reasons such as there being too many shots during vaccination, risk of autism, vaccine effectiveness and side effects, and also negative coverage regarding vaccines in the print and television media, as reasons for refusing vaccines.

What vaccine was given to your child?

Studies have shown that parents need more information about childhood vaccination.[27] Our study results show that this is also true for rural Indian parents. Side effects associated with vaccines, risks associated with vaccines, risks of not vaccinating their child, are some areas where parents desire greater information and awareness.

Which vaccines are better oral or injection?

Our study population preferred injections compared to oral vaccines. A similar opinion was also observed among parents of refugee camps in Kenya.[28]

How often should you have your child vaccinated?

Majority of our study population had a good understanding of the vaccination schedule. This can be attributed to the establishment of a good rapport and a high frequency of visits by the health workers. The educational level of the study population is also a crucial factor.

Perceived social norm

Social interactions between community members and healthcare workers were found to be positive in our study population. As described by Varghese J *et al.*[29], various complex adaptive systems exist that are capable of influencing a change in the vaccination coverage levels of an area. However, sometimes these social interactions can be counterproductive and hinder vaccination coverage as opposed to enhancing it.

Negative experiences with vaccination and adverse events

Petousis-Harris H[30] reported that often parents completely reject immunisation for their younger children because of the painful experience of immunising their older child; lack of positive reinforcement while immunising is also a factor in such cases. In our study population, none of the participants reported experiencing any adverse reactions after vaccinating their child. This indicates a good risk-benefit analysis by our study population for giving a greater importance to the benefits associated with vaccination as compared to the pain endured during injections or other minor reactions.

Are you satisfied with the immunisation activities in the PHC?

As detailed above, a healthy interaction between

healthcare workers and the resident population of our study area had a positive impact on vaccination coverage and acceptance. The attitude of health workers towards the mothers was cordial and the bulk of the information regarding vaccinations, its side effects and possible remedial measures was adequately communicated. Hanan Abbas Abdo Abdel Rahman[31] reported similar findings in Egypt where 95.2% of mothers expressed satisfaction with childhood immunisation services at the primary healthcare centre level.

Can you suggest any method or idea to improve vaccinations?

Though all participating women expressed that there were no obvious inconveniences associated with visiting the vaccination site, some women felt that household activities were a reason to occasionally miss a session. In the study conducted by Sporton RK *et al*.[32], a similar opinion was obtained from some of the study participants; for example, some participants expressed that return to full-time work led them to miss clinic appointments.

On a different note, a study published by Abdulraheem IS *et al*.[33] in Nigeria reported that the objection of parents, disagreement or concern about immunisation safety, long distance walking and long waiting time at the health facility were the most common reasons for partial immunisation.

Information need:

Though all participants of this study were willing to take their child for vaccination, most mentioned that there was a need for more information on topics such as risks of vaccinating/ not-vaccinating a child, etc. Similar findings were also observed by Harmsen *et al*.[34] and Fadda M *et al*.[35]

Varghese J *et al*.[36] stated that public health governance should take into consideration the nature of all interactions including those that occur at the normative level at which societies organise themselves. From the system side the healthcare workers, on the other hand are seen to be extremely motivated in their desire to support the vaccination programs but their intentions to recommend vaccinations were affected by the perceived relevance of the vaccines, practical issues such as limited time and by certain types of resistant parents.[37]

Sometimes the information about a disease being circulated in a population may be ineffective to promote the parents to go for vaccination, as this information might be perceived by the parents as unbelievable or irrelevant.[13]

Limitations of the study:

Only one PHC area was considered for the study as a result of which the reasons for acceptability or resistance to vaccination outlined herein may not necessarily apply to other situational settings. One of the limitations of our study was that the parental demographic variables, such as level of education, socio-economic status, etc. were not assessed. Also, there is potential for moderator bias in this study. Our study made sincere attempts to avoid such a scenario by means such as the use of a standardised topic list, conduction of FGDs by a trained medico-social worker, presence of an assistant at the focus groups, use of digital voice recordings and verbatim transcriptions, etc. Another limitation of this study might be selection bias because as all the participants of the focus groups had completely vaccinated their children as per NIP recommendations.

Ethical Clearance: Obtained from Institutional Ethics and Review Board.

CONCLUSION

This study provides an in-depth insight into the opinion of parents with respect to vaccinations conducted at a PHC. Most parents were receptive to the possibility of a greater number of discussions with health professionals regarding immunisation for children. Parents in this study indicated that they need more information regarding the risks associated with vaccination as well as the components and effectiveness of the vaccine concerned. They also indicated that they would like to receive more detailed scientific information regarding vaccinations.

RECOMMENDATIONS

While this qualitative study provides useful insight into the acceptance of childhood vaccination and the factors that influence such decision making processes by parents, further information from multi-centric studies conducted with the help of a large population of parents with varying ethnic backgrounds is required for confirmation of the above mentioned findings.

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