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Research Article

Barriers to childhood immunisation among women in an urban underprivileged area of Bangalore city, Karnataka, India: a qualitative study

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ABSTRACT

Background: Immunisation is one of the most cost-effective and safest public health interventions in reducing the childhood mortality and morbidity. National Family Health Survey- 3 reports that only 43.5% of children in India received all of the primary vaccines and the situation was worse among urban poor where the coverage was 39.9%. An earlier study in an underprivileged area of Bangalore found that only 53% of children aged 12-23 months had received full primary immunisation. This study aimed at understanding the barriers to immunisation among women residing in the same area.
Methods: This was a community based qualitative study, in an urban underprivileged area of Bangalore city. Data was obtained from three focus group discussions with mothers of children less than five years of age and ten key informant interviews with mothers, mother-in law and other stakeholders like link worker, ANM and anganwadi worker of the area.
Results: Barriers in knowledge among mothers included poor awareness of immunisation schedule and vaccine preventable diseases. Immunisation was delayed due to common childhood illness. Lack of family support, negative attitude of the elderly at home, poor male participation, gender bias, apprehension of giving many vaccines at one time and adverse rumours were the commonly mentioned attitudinal barriers to immunisation. Barriers to utilization of immunisation services included economic constraints, long distance to health facility, and loss of daily wages while attending immunisation clinic, inconvenient timings and lack of effective communication with health personnel.
Conclusion: This study has identified barriers in knowledge, attitude and utilization of immunisation services in an urban underprivileged area which should be addressed while planning immunisation strategies at health system level.

Keywords: Immunisation, Qualitative study, Barriers, Urban underprivileged

INTRODUCTION

Vaccination is one of the most cost-effective health interventions available, saving millions of children from illness, disability and death each year. Childhood immunisation represents the gateway to provision of comprehensive health care to which all children ought to be entitled. According to Global immunisation data 2012,

the estimated number of all deaths in children under five (0-59 months) was 8.8 million and 17% of these deaths were vaccine preventable. Although reported coverage rates for most vaccines included in WHO's expanded programme on immunisation (EPI) range from 67% to 99% in Southeast Asian countries, in reality vaccination coverage rates are much lower.

In India, since the last 30 years, immunisation services have been offered free by the government health system. Yet, despite the efforts of government and other health agencies, a large proportion of vulnerable infants and children in India remain unimmunized. National Family Health Survey (NFHS 3) reports that only 43.5% of children in India received all of their primary vaccines by 12 months of age. This figure falls to 24.4% among the poor. According to Census 2011, 30% of India's population lives in urban, a quarter of whom reside in slums. Considering that primary immunisation among underprivileged children is low, this indicates a large number of children who are inadequately protected against vaccine preventable diseases. Focusing on routine immunisation efforts would substantially reduce the number of susceptible children and limit the occurrence and spread of vaccine-preventable disease outbreaks.

A survey was conducted in an urban slum of Bangalore City by the Department of Community Health, St John's Medical College, to identify the gaps in the continuum of Maternal and Child Health Care. One of the key findings of this survey was that only 53% of children aged 12-23 months were fully immunized. This was much lower than the 78 % reported by UNICEF CES, 2009 for Karnataka Urban area. The BCG to Measles vaccine drop-out rate of 40% in this area, was much higher than the 7.4% drop-out rate reported by UNICEF CES, 2009 for Karnataka State.

Understanding vaccination behavior is important for the success of any immunisation programme. Access to services and parental attitudes, knowledge, and practices appear to play a role among children who have not received vaccination. Therefore, understanding the barriers to immunisation in this population, especially among mothers who are the primary care-givers for their children, would help to formulate strategies to improve immunisation coverage. A qualitative approach would lead to a deeper understanding and exploring of socio cultural norms and practices that influence the practice of immunisation. The present study was conducted with the objective to document the barriers to immunisation among women in an urban underprivileged area of Bangalore.

METHODS

This study was conducted in Laxman Rao nagar, an urban slum in Bangalore city with a population of around 5000 using a cross sectional qualitative design from February to June 2014. Most of the residents of this locality have migrated from neighbouring states; a fair number have been living in this slum for more than 10 years. Primary health services, including immunisation services are provided by the Bangalore City Corporation (BBMP) at the urban health center located in the same area as well as by few small private clinics in neighbouring localities.

Ethical clearance was received from the institutional ethics committee prior to the commencement of the study. Qualitative data was obtained through means of focus group discussions and key informant interviews. For this purpose, topic guides were developed within the light of existing literature, to ensure consistency across discussions and interviews. These were face-validated and modified under the guidance of professionals working in the field of child health. Probes for discussion were built into the topic guides to allow for thorough understanding of the topic, exploring knowledge, beliefs and attitudes, perceived barriers to immunisation as well as issues with access to health services and suggestions to improve immunisation services.

With the help of the Anganwadi worker, households with mothers of children less than five years were identified and two of the researchers visited the households inviting them to participate in the study. Snow ball sampling technique was also employed to find more mothers in that area. Health care providers like ANM of the area, health worker and anganwadi worker were also included in the study. Written informed consent for participating in the study, including audiotaping of the discussions and interviews was obtained from every participant.

Focus group discussion (FGD)

Three focus group discussions were conducted with mothers of children less than five years. The anganwadi centre of that area was selected for two of the FGDs and the third FGD was conducted in a tailoring centre functioning under a non-government organisation in that area. Each focus group consisted of 8-12 participants. A total of 30 mothers participated in these discussions and each discussion lasted for 60-75 minutes. All FGDs were conducted in the local language Kannada. FGDs were moderated by one researcher and another researcher took down notes. A sociogram was plotted to confirm equal participation of the women in the group. All discussions were audio-recorded with the consent of participants. The focus groups consisted of mothers only and were homogenous, in order to create a non-threatening environment, so that the participants were free to speak openly and give honest opinions. Participants were encouraged to not only express their own opinions but also to respond to the other mothers' comments and to questions posed by the moderator.

In depth interviews

A total of ten in-depth interviews were carried out with mothers, mother-in-law, government auxiliary nurse-

midwife (ANM), anganwadi worker and government link worker. Interviews were conducted in the local language. For the convenience of mothers, interviews with them were conducted at their homes, as it was easier for those mothers who were taking care of an infant or preschool child at home. For the anganwadi worker, link worker and ANM, the interviews were conducted at their work place. On an average, each interview lasted for an hour. It was difficult to hold the attention of mothers continuously throughout the interview as some of them had to attend to their children or household work. Notes were written down and interviews were audio-recorded with the participant's consent.

Data analysis

The audio recording of the collected data was transcribed into the local language Kannada and was later translated into English by a transcriber who was fluent in both languages and who was not a part of this study. Thematic analysis of the transcripts and field notes from focus group discussions and key informant interviews was done. The data was coded sorted into different themes. Various subthemes were then derived, based on the objective of the study.

RESULTS

The themes identified in this study were 1) barriers in knowledge and beliefs regarding immunisation 2) Attitudinal barriers to immunisation 3) logistic barriers to utilization of immunisation services 4) suggestions to improve immunisation services.

Barriers in knowledge and beliefs regarding immunisation

The sub-themes derived under knowledge regarding immunisation were general perception regarding vaccination, knowledge of vaccines and diseases prevented, schedule of vaccinations according to the national immunisation schedule, side effects and contra indications, optional vaccines and knowledge regarding the availability of vaccines.

General perception regarding vaccination was positive among most of the participants who considered immunisation as a good practice because they felt that it could reduce disability and death among children. Some believed that it would build an overall resistance to diseases. "*If we give immunisation to children their legs and hands will grow properly our children will remain as chikka-puttani (small babies) if we do not vaccinate them their bones will not be strong."* Some women were not able to state why immunization is a good practice, but felt that it must be so, since it was strongly recommended by health personnel. "*Doctor said to give (immunisation), so we gave, I did not ask why."* There were also a few participants who believed that immunisation is not necessary. "*In the old days, there was no immunization still people were so strong nowadays we give so many injections still our children fall sick."*

Unlike the health care providers, the mothers seemed to be unaware of most of the names of vaccines and the vaccine-preventable diseases. The vaccine that was most familiar to them was polio drops, followed by BCG. Some of the mothers mentioned vaccine preventable diseases like polio, measles, jaundice and chickenpox, when asked which diseases could be prevented by vaccinations. "*Loose stools, skin allergy, body pain, fever, vomiting are prevented if vaccinations are given to the child. Nowadays vaccines can prevent dengue fever, chikungunya, HIV and malaria also*."

Majority of the mothers did not know about the immunization schedule except for pulse polio immunisation and birth dose of BCG. Some mothers were of the opinion that their babies were given too many vaccines in infancy. "*Are so many injections really needed? Why do we need to poke our babies so many times?"* Most of the mothers believed that it is important to administer the vaccines as per the schedule at the correct intervals but nobody could explain why and what would happen if there were delays. "*We are not very educated, so we don't know much about vaccines and the timing of vaccination. When we ask the nurses any questions about vaccines, they do not have time to talk to us."*

Mild fever, local swelling and pain in the injection sites were the common side effects as stated by majority of the mothers. A few mothers felt that there were no side effects after vaccination. Some mothers believed that there was a chance that children could get polio after receiving polio vaccination. Health care personnel (ANM, anganwadi worker, link worker) felt that fever, cold, underweight and loose stools were contraindications to immunisations and that the children could be immunised only once these conditions were treated. This was confirmed by the mothers, "*even if I take my child with a simple illness like cough and cold, the nurse at the urban health center will refuse to immunise my child come back next month she will say".*

Majority of the mothers were aware that immunisation services are available in both government hospitals and private hospitals, and that immunisation provided by the government is free of charge, but mothers were unable to state which day of the week immunisation services are available at the government urban health center. They knew however, that in private clinics and hospitals, immunisation is available on all days of the week. "*Private clinics have all the vaccines. We have to pay money, but there are vaccines available in private clinic which are not there in the government hospitals."* Most probably they were talking about optional vaccines which are not available in government hospitals but available in majority of the private clinics and hospitals. Mothers were unable to name any of the optional vaccines.

Attitudinal barriers to immunisation

The sub-themes derived under attitudinal barriers to immunisation dealt mostly with family support including male participation, attitude of the family members, especially mothers-in law and other elderly persons towards immunisation, gender bias and birth order

The mothers reported that males, including the father of child or elderly males in the family, were usually not involved in any decisions with regards to immunisation. These decisions were left to the mother or if elders were living with them, then mothers-in law also were included in the decision-making. Majority of the mothers felt that the elderly family members were not supportive with regards to immunizing children. "*The elders tell us that I did not take any vaccination during my childhood. In our time there was no such thing as vaccine. Yet I am fine even in my old age. Even if you give injections, children still fall sick. I do not know why you people want to inject children."* One mother-in law said children cry so much after vaccine. "*They have to suffer so much pain. What is the need to hurt them?"* Few of the mothers complained that their mothers-in law even told them to stay back at home and do household work rather than take children for immunisation. Very few mothers were satisfied with the support they were receiving from their family.

The health care providers complained of rumour-mongering based on sporadic incidents elsewhere in the country, regarding polio vaccination, which was hindering their pulse polio campaign. They said that newspapers and TV channels were quick to report rumours about complications or deaths following immunisation and this was affecting even routine immunisation. This was confirmed by one mother who informed us "*if you give polio drops to children they will get polio."* Another mother said "*we heard that after receiving an injection of vaccine, some children developed vomiting and fever because the injections were of old stock. The children were all taken to the nearby hospital but they died. I have only one child and I do not want to lose my child."*

A few mothers admitted that they were not careful to get their daughters vaccinated. "*Our daughter will one day get married and go to another house, but our son will remain with us."* Another mother said "*we do not mind spending money for our son. We have got all immunization's done at a private clinic."* The mothers reported that the birth order of the child did not influence their decisions regarding immunisation.

Logistic barriers to utilization of immunisation services

The sub-themes derived under logistic barriers to the utilization of services were economic constraints, quality of services including the attitude of the health personnel providing immunisation services, accessibility in terms of both time and distance, availability in terms of manpower and vaccines etc.

Some mothers felt that they would have liked to avail immunisation from private clinics, but because of economic constraints, they were unable to afford the vaccines provided by private clinics and had to avail government immunisation services. Many of the mothers felt that though the government urban health center is close by, it was inconvenient to avail immunisation services there, as it was available for just half a day, on only one day in a week. "*Sometimes there is such a big crowd for immunisation and the nurse sends us back home, telling us to come on another day. One day's salary will go if I take my child for immunisation. We are poor. We cannot afford to lose that money."* Mothers who were working outside the home complained that these timings were not suitable, since they had to miss work in order to take their child for immunisation.

A few mothers said that they do not mind paying money for immunisation, as long as they do not have to waste the entire morning waiting in a queue. "*A big crowd will be there in government hospitals but in private clinics, even though we have to pay for vaccines, everything is done fast. Anyways we have to pay ten rupees in government hospitals, we can pay a little and go to a private clinic."*

Some mothers were dissatisfied with the quality of care given during immunisation session in the government health center, complaining that some of the health personnel were rude and did not have time to answer their questions or clear their doubts regarding immunisation. The health providers in turn, felt that it was difficult for them to spend time talking to the mothers when there were crowds on immunisation day at the health center. Some mothers were uncertain about the quality of vaccines available in government hospitals. They felt that the vaccines may be of old stock and were therefore given free, so they preferred going to private clinics.

Some mothers were however, very satisfied with government immunisation services. "*The care given in private clinics and government hospitals are the same. It is just a question of money. Those who have money will go to private clinics and those who do not have money will go to government hospitals."* One mother said in private hospitals, they take so much money for immunisation. "*We paid nearly 2000 rupees. People living here are all poor. How can they afford this?"* Mothers felt that generally the availability of health personnel and vaccines was not an issue at the government urban health center.

Suggestions to improve immunisation services

The health personnel suggested that the government should give all the vaccines as much importance as polio vaccine. They suggested that media like TV should be

used to spread awareness about the different vaccines. The mothers suggested that the health personnel including the doctors and nurses should spend some time with the mothers to explain the importance of immunisation, schedule of vaccination, about diseases prevented and the side effects of vaccines. They also felt that since majority of the people in the area are not highly educated, awareness should be increased by making frequent announcements on local loud speaker system.

DISCUSSION

This qualitative study was conducted with the aim of documenting barriers to immunisation among women in an urban slum, where a previous study had found only 53% of children aged 12-23 months to be fully immunised. The barriers found were broadly categorized into three themes: barriers in knowledge and beliefs regarding immunisation, attitudinal barriers to immunisation and logistic barriers to utilization of immunisation services.

Most mothers seemed unaware regarding vaccines and diseases prevented, schedule of vaccinations according to the national immunisation schedule, side effects and contra indications. For the mothers in our study, vaccination was synonymous with pulse polio immunisation. These findings were similar to studies done in Mangalore, Delhi and Egypt.

Some mothers felt that too many injections were given to babies during infancy, an opinion shared by their counterparts in the USA.

In the present study, mothers mentioned that they were turned away from the immunisation clinic if their child had a mild cold or cough. This is a missed opportunity for immunisation and is not uncommon even in developed countries.

There was lack of family support and poor male participation with regards to immunisation. Mothers also complained of hindrance from elders who tried to enforce their negative beliefs about immunisation. In the present study, negative attitudes to immunisation were seen more among the elderly, however in a study in San Diego, this was seen more among young parents. This difference could be explained by the fact that in developed nations, there is a rising number of individuals who believe reports in various media and websites that propound the theory that natural immunity must not be suppressed by vaccinations and that vaccinations could be responsible for disability among children, including autism.

In the present study, media reports and rumours of adverse reactions and complications following immunisation acted as a barrier to immunisation. Similar findings have been documented in studies in developed countries where such reports in media, made mothers wary and suspicious of immunisation. Most anti-vaccination reports that appear in the media blame vaccines for causing idiopathic illness and eroding immunity, while relating emotionally charged stories of children who had allegedly been killed or harmed by vaccines.

Mothers often immunised the children, just because the doctor said so. This implies acting on faith, which was similarly documented in a study in an inner city health center in the US.

Mothers in our study, admitted to being more careful about the immunisation for their boy children as compared to girls. This gender disparity, dis-favoring female children has been found in studies in india which looked at national family health survey trends in immunisation.

This study also recognizes the lack of effective communication and information transfer between the health personnel and mothers as an important barrier to immunisation. Mothers expressed dissatisfaction with the attitude of health personnel and felt that their queries and concerns regarding immunisation were not met adequately. A study in rural West Virginia, USA similarly revealed that lack of support from health workers was a barrier to immunisation. Working mothers found it inconvenient to access immunisation services at the government health center, as the restricted timings made it difficult to take time off from work for immunising their children.

CONCLUSION

The study underlines the need of effective counseling and health education sessions regarding the benefits of vaccines, for parents and elders in this slum. Clear messages should be delivered regarding the types of vaccines available, immunisation schedule, benefits, possible side effects and contraindications to vaccines. Evening hours for immunisation session may be considered in light of convenience to working mothers. Health personnel should also be sensitized to an empathic approach to dealing with mothers. Community participation in immunisation program by involving the elderly and existing women's groups in the area could help improve acceptance of immunisation. Screening of videos during immunisation session at the urban health center could impart essential knowledge to the mothers, while making the wait in queues more bearable. The public health system needs to emphasize routine immunisation, rather than pulse polio, using principles of social marketing.

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