

Assessment of knowledge, attitude and practice of antenatal mothers on child's immunization in Raichur district, Karnataka

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ABSTRACT

Objectives: To assess the knowledge, attitude and practice (KAP) of antenatal mothers on child's immunization and to know the factors affecting the completeness of vaccination and coverage. **Design:** A questionnaire based cross-sectional study. **Setting:** Navodaya Hospital, Raichur in the months of June and July 2016. **Participants:** 200 antenatal inpatients and outpatients mothers. **Intervention:** A questionnaire comprising 18 questions were administered to the mothers to assess their KAP regarding child's immunization. Their responses were analyzed using Chi-square test with a value of $p < 0.05$ considered as significant. EPI info version 12 and SPSS 16.0 software were used to analyze the data. **Results:** Demographic factors of the mother did not have a significant impact on immunization of child. 76.5% of them acquired knowledge regarding through health workers, 60% of the mothers did not know the existence of different types of vaccines, but polio has gained the highest attention of 84% among the diseases. 74% were aware that immunization is free of cost from the government. Responses regarding attitude showed, 96% were willing to get their children vaccinated, 83% felt that the vaccines were harmless, 44% had a fear of side effects due to the vaccines, and 60% of them own an immunization card. **Conclusion:** The KAP regarding immunization of child in antenatal mothers of Raichur is favorable to the society but fear, lack of awareness and knowledge that prevent the reaching of set targets, can be eliminated by health-care professionals through their timely counseling and interventions in antenatal mothers to achieve completeness and coverage.

Key words: Antenatal mothers, Attitude, Immunization, Knowledge, Practice

With the dawn of the 21st century, the country witnessed the elimination of one of the most dreaded disease - Polio [1] reinstating our faith in the practice of immunization. Immunization thus plays a key role in preventing illnesses, disability, and death from vaccine-preventable diseases [2]. Among the several factors that impact the success of immunization programs, parental decisions, knowledge, and practices regarding immunization has a key role to play [3]. In addition, antenatal mothers have an indispensable contribution toward the child's health as they are primary caregivers, regular visitors to the health-care centers and reliable informants regarding child's illnesses.

In the present scenario, in comparison to India as a whole, the state of Karnataka too shows a marginal improvement from 61% to 65% in full vaccination coverage over the period of 2009-2014 [4]. Nevertheless, a constant gap in the immunization coverage persists between the northern and the southern districts of Karnataka [5]. Among the northern districts, Raichur district level health survey has recorded an improvement in immunization over the last decade from 43% (DLHS-2) to 69% (DLHS-4) [6]. However, these figures continue to fall short of the target 85%.

Hence, this study was conducted to assess knowledge, attitude and practice (KAP) regarding child's immunization among

antenatal mothers in the district of Raichur and to know the factors affecting the vaccination completeness and coverage.

MATERIALS AND METHODS

A cross-sectional study among antenatal mothers of all three trimesters (inpatients and outpatients) visiting Navodaya Medical Hospital, Raichur, from June 2016 to July 2016 was done after getting ethical committee clearance. 200 antenatal mothers who were diagnosed of pregnancy by urine pregnancy test and ultrasonography, irrespective of age of the mother, gestation and parity were included in the study. An informed consent was taken before administering the questionnaire from each participant and antenatal mothers who did not give consent were excluded from the study.

A clinician-based questionnaire comprising 18 questions assessing the KAP regarding child's immunization was circulated in their own understandable language to the antenatal mothers, and their responses were recorded by the doctors from 9 am to 5 pm for 1 month. History regarding the dosage, reasons for failure of immunization, Bacillus Calmette-Guérin scars of the child accompanying the mother and immunization

card if available were used to improve the accuracy of the study. Following which the collected data was analyzed by Chi-square test and p-value below 0.05 was considered statistically significant. Epi info version 12 and SPSS 16.0 software were used to analyze the data. Microsoft Word and Excel were used to create tables, graphs, etc.

RESULTS

Demographic characteristics of recruited mothers are presented in Table 1. Out of 200 mothers, 52.5% were in age group of 20-24 years. 48.5% of them were educated until primary school. 70% of the study group belonged to upper lower class according to Kuppuswamy classification [7], and 57.5% of them were involved in agriculture.

As shown in Table 2, about 93% of antenatal mothers were aware of vaccination given at birth, of which majorly was acquired through health-care workers (76.5%) and 18.5% from the doctors. 68.5% of mothers have not seen in TV or newspaper

regarding vaccination. 55.5% of the mothers did not know that vaccination can prevent disease and 60% of the mothers were unaware of various vaccines available in hospitals, and 74% knew that vaccinations are supplied free of cost by government. Polio vaccine has drawn the attention of the majority of the mothers. 84.5% mothers knew about vaccine against polio, 32% about TB, 14.5% about hepatitis B, and 7% about others which included DPT and measles. 21% did not know about any vaccine.

As shown in Table 3, 96% of the mothers were willing to get the child vaccinated and 83% mothers felt that vaccines are of no harm to the child and only 53% are in notion of vaccines being able to prevent disease. 44% of mothers were unwilling to get the child immunized fearing the side effects of vaccine, 33% felt there is a lack of awareness, and 20% thought there is a lack of education regarding vaccination. 68% of the antenatal mothers responded that awareness can be increased by educating the mother and 26% felt it can be improved through media.

Table 1: Demographic pattern of antenatal mothers

Sociodemographic indicators	Mother (n=200) n (%)
Age (years)	
<20	3 (1.5)
20-24	105 (52.5)
25-29	82 (41)
≥30	10 (5)
Education	
Illiterate	84 (42)
Primary school	97 (48.5)
Secondary school	13 (6.5)
Pre-college	2 (1)
Graduate	1 (0.5)
Post-graduate	3 (1.5)
Occupation	
Student	2 (1)
Self employed	21 (10.5)
Agriculture	115 (57.5)
Government service	2 (1)
Pvt. Service	5 (2.5)
Homemaker	55 (27.5)
Socioeconomic status	
Lower class	56 (28)
Upper lower class	140 (70)
Lower middle class	4 (2)
Sex of the child (n=176)*	
Male	94 (53.4)
Female	82 (46.6)
Number of children	
No child	92 (46)
One child	65 (32.5)
More than 1 child	43 (21.5)

*n=176 as 43 mothers are having more than one child

Table 2: Knowledge based questionnaire

Knowledge based questionnaire-responses from antenatal mothers	n (%)
1. Do you know vaccination should be given to baby at birth?	
a. Yes	186 (93)
b. No	14 (7)
2. How did you come to know about the vaccination?	
a. Doctor	37 (18.5)
b. Health worker	153 (76.5)
c. Family	0
d. Neighbors	6 (3)
e. Don't know	4 (2)
3. Have you seen information regarding vaccination via media?	
a. Yes	63 (31.5)
(i) TV	59 (29.5)
(ii) Newspaper	4 (2)
b. No	137 (68.5)
4. Do you know if unvaccinated child can get diseases?	
a. Yes	89 (44.5)
b. No	111 (55.5)
5. Do you know that there are different types of vaccines?	
a. Yes	148 (74)
b. No	52 (26)
6. Do you know that vaccination is given for free by government?	
a. Yes	148 (74)
b. No	52 (26)
7. Against what diseases vaccination is present?	
a. Tuberculosis	64 (32)
b. Polio	169 (84.5)
c. Hepatitis	29 (14.5)
d. Others	14 (7)
e. Don't know	42 (21)

About 97.5% of mothers were willing to get their child vaccinated, and the majority was ready to recommend vaccination to other mothers in the community. 97.2% of the mothers had got their children immunized at least once and only 60% of them had immunization card of the previous child as mentioned in Table 4.

On applying Chi-square test, it was shown that mothers having a child had better knowledge regarding vaccination than the primi mothers ($p < 0.05$).

Table 5 shows the comparison of immunization status with the demographic parameters of the mothers such as sex of the previous child, educational status and socioeconomic status which was not found to significantly impact the child's immunization completeness and coverage.

DISCUSSION

In our study, sex of child, maternal education, and socioeconomic status did not significantly impact the completeness and coverage of immunization programs as in studies like Awadh et al. [8]. This result could be owed to the fact that both the genders have grown to gain equal importance in the society and it also reflects the successful reach of the government to antenatal mothers in creating awareness of immunization programs irrespective of their education and socioeconomic status, thereby overcoming

Table 3: Attitude based questionnaire

Attitude based questionnaire and responses by antenatal mothers	n (%)
1. Are you in favor of vaccination?	
a. Yes	192 (96)
b. No	8 (4)
2. Do you think vaccination is harmful?	
a. Yes	34 (17)
b. No	166 (83)
3. If vaccination is harmful, from where have you got the information?	
a. Friends	9 (26.5)
b. Relatives	4 (11.8)
c. Parents	21 (61.8)
4. Do you think vaccination prevents diseases?	
a. Yes	106 (53)
b. No	94 (47)
5. What do you think are the hurdles against vaccination?	
a. Lack of funds	6 (3)
b. Promotion through media	46 (20)
c. Lack of awareness	77 (33)
d. Fear	103 (44)
6. How to promote awareness for immunization among mothers?	
a. Education of mother	132 (68)
b. Promotion through media	51 (26)
c. Increasing literacy	7 (4)
d. Increasing facilities	4 (2)

major hurdles in the society. Studies were done by Bofarraj have shown a similar pattern [9].

Assessment of the antenatal mothers, knowledge in this study showed that a majority (93%) were aware of vaccination given at birth. The source through which they had acquired information was mainly through health workers (76.5%). It also highlighted the success of polio vaccination has drawn the attention of the majority of the participants (84%). Thus implying the strength of our grass root level workers and our immunization programs. On the downhill (55%) mothers did not know that vaccination can prevent diseases, 60% of the mothers were unaware of various vaccines available in hospitals and about a quarter (26%) were unaware that vaccines are supplied free of cost by the

Table 4: Practice based questionnaire

Practice based questionnaire and responses of antenatal mothers	n (%)
1. Will you vaccinate your baby at birth?	
a. Yes	195 (97.5)
b. No	5 (2.5)
2. Will you recommend vaccination to others?	
a. Yes	192 (96)
b. No	8 (4)
3. Will you follow the schedule told by the doctor?	
a. Yes	191 (95.5)
b. No	9 (4.5)
4. If you have a child, have you immunized him/her?	
a. Yes	105 (97.2)
(i). Completely	75 (71.4)
(ii). Partially	30 (28.6)
b. No	3 (2.7)
5. Do you have an immunization card for the previous child?	
a. Yes	65 (60.1)
b. No	43 (39.9)

Table 5: Comparison of immunization of previous child with demographic pattern

Factors (n=176)	Completely immunized	Partially immunized	Chi-square and p values
Sex of the child			
Males	65	29	Chi-square=2.9587 p=0.085>0.05
Females	66	16	
Education of mothers			
Illiterate	33	20	Chi-square=3.949 p=0.139>0.05
Primary	35	10	
Secondary and above	7	0	
Socioeconomic status			
Lower class	33	19	Chi-square=3.242 p=0.198>0.05
Upper lower class	39	10	
Lower middle class	3	1	

government. This stresses on the need of reliable and accurate information on disease prevention as delay of immunization based on misconceptions puts an infant/child at risk [10]. To bridge the existing gaps in the knowledge regarding immunization, sincere efforts on the part of health-care professionals and policy makers to plan and execute the "Information, Education and Communication" initiatives are required.

The answers given by the antenatal mothers to the attitude-based questions shows that the majority of 96% were willing to get their child vaccinated, 47% are in notion of vaccines being unable to prevent diseases, and 44% are still in fear of adverse effects of the vaccines. Similarly, in another study done by Gellin et al., parents believed that the child's immune system could become weakened as a result of too many immunizations [11]. 68% of the antenatal mothers wished to address their fear through health education.

In our study, multigravida mothers were more likely to get their children immunized when compared to the primi mothers. This might be because mothers who had undergone antenatal visits for previous pregnancy and underwent institutional deliveries are made aware about the availability of health services and are given health education by the hospital staff. Studies carried out by Trivedi et al. and Chhabra et al. showed similar findings [12,13]. This stresses on the need of motivation of primigravida mothers, encouragement of institutional deliveries and antenatal checkups.

Among the 108 antenatal mothers with previous child/children, 3 (2.7%) mothers had not immunized the child at all, 75 (71.4%) and 30 (28.6%) mothers have got their child/children completely immunized and partially immunized, respectively. 105 (97.2%) mothers have immunized the child at least once of which 60% had immunization card which shows that the presence of the immunization card has helped in strict adherence and compliance toward immunization.

The findings in this study are supported by Angelilo et al., an Italian study of mothers [14] which showed that mother's lack of knowledge regarding child's vaccination is an important reason for failure to complete the immunization schedule. Important limitations of our study are that father's knowledge about the immunization was not assessed and the sample size was small.

CONCLUSION

The KAP regarding immunization in antenatal mothers in the city of Raichur is favorable to the society, but there remains a

gap that prevents reaching of set targets, which can be bridged by health-care professionals through their timely counseling and interventions. Fear, lack of awareness and knowledge of different vaccines are affecting the vaccination coverage.

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