

Knowledge, Attitude, Practices and Hesitancy regarding vaccination of children among mothers attending Urban Health Training Center at Visakhapatnam, Andhra Pradesh

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Received: 08-11-2021 / Revised: 14-12-2021 / Accepted: 10-01-2022

Abstract

Introduction: Immunization is one of the most important public health interventions to prevent morbidity and mortality in childhood. To further improve vaccination coverage allaying fears or doubts among parents regarding efficacy, safety and need for vaccines is vital. Hesitancy, if not addressed, can become refusal of vaccination. Hence, the present study is attempted. **Methodology:** it is a descriptive OPD based cross-sectional study involving mothers of children under 5 years of age attending vaccination clinic during study period. **Results:** Most of the mothers are educated and between the ages twenty and thirty. Most of the mothers felt that all UIP vaccines are important and all children should get these vaccines. About 17% mothers thought about either delaying or refusing vaccines. Though vaccine hesitancy was more among home-makers and educated, it was not statistically significant. **Conclusions:** doctors and health workers should educate parents regarding importance of giving all UIP vaccines and dispel any fears or misconceptions.

Keywords: knowledge, attitude, practices, vaccine hesitancy

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Introduction

Immunization is one of the most important public health interventions to reduce childhood mortality and morbidity. As per NFHS-4, full immunization coverage in Visakhapatnam district is only 66%[1]. Government of India aims to increase it to 90% through the campaign 'Mission Indra dhanush'. For this to happen, awareness among parents regarding importance of vaccination especially in rural areas has to be improved. There is also a need to allay fears or doubts among parents regarding efficacy, safety and need for vaccines.

On the one hand, there are those who accept vaccines rationally, based on active engagement with the vaccination system. On the other hand, there are people, who are at various stages of vaccine hesitancy, ranging from total rational rejection, partial rejection of specific vaccines, passive conformism and passive misinformed rejection[2]. Vaccine hesitancy according to Strategic Advisory Group of Experts (SAGE) Vaccine Hesitancy working group of World Health Organization (WHO) refers to 'delay in acceptance or refusal of vaccines despite availability of vaccine services. Vaccine hesitancy is complex and context specific, varying across time, place and vaccines. It is influenced by factors such as complacency, convenience and confidence[3].

Though exact data on the proportion of refusals were not available, a UNICEF estimate from a sample survey shows that refusals

contributed to almost one-third of the uncovered proportion in Bihar[2].

Hence, this study was conducted with the objectives of understanding knowledge, attitude practices and hesitancy regarding vaccination among mothers of children between 1-2 years attending vaccination clinic at our Urban Health Training Center.

Methods

It is a descriptive OPD based cross-sectional study done at Urban Health Training Center of our medical college. Study participants are mothers of children between 1-2 years who attend OPD during weekly vaccination days. Data was collected over three months from August to October 2019. The purpose of the study was explained to the mothers and their consent was obtained. After administering the questionnaire, if they have any doubts or wrong notions, they were discussed with the mothers.

A pretested, structured questionnaire was used in the survey. The proforma contained demographic variables and questionnaire on knowledge, attitude and hesitancy about vaccination.

As there is no publicly available data regarding knowledge about vaccines from this region, we assumed knowledge level of 50% among mothers. We got sample size of ninety-seven at 10% absolute precision. However, during our data collection period we took data from one hundred and fifty-two mothers of children between 1-2 years.

Definitions used

"Non-hesitant acceptors" are the parents who received all vaccines at the recommended time or that they were actively working to catch up on all vaccines, and these parents had not thought about delaying/

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refusing any vaccine. “Hesitant acceptors” reported receiving or working to catch up on all vaccines but had considered delaying/refusing. “Delayers” indicated delay of some or all recommended vaccines, but did not refuse any, while “Refusers” reported refusal of one or more vaccines.

Data was entered in Microsoft Excel work sheet. Analysis was done using SPSS Version 22. Percentages were used to find out various frequencies and chi-square test was done to find out association between variables in the study. P values were kept significant at the level 0.05. Ethical clearance was obtained from our institute’s ethics committee.

Results

Age of mother	Frequency	Percent
< 20	7	4.6
20 - 30	130	85.5
> 30	15	9.9
Education		
Illiterate	6	3.9
School	67	44.1
College	79	52.0
Occupation		
Home maker	108	71.1
Works away from home	44	28.9

One hundred and fifty two mothers were interviewed during the study period. About 85% of the mothers are in the age group of 20-30 years. Most of them are educated, around half of them received junior college and above education. About 30% of them go out for work whereas the remaining are homemakers (Table 1).

Knowledge about vaccines

Knowledge about vaccine	number	(%)
BCG	30	(19.7)
Polio drops	137	(90.1)
Polio injection	125	(82.2)
Rotavirus drops	23	(15.1)
Pentavalent	21	(13.8)
Measles / MR	34	(22.4)
Vaccines be administered in presence of minor illness like cough, cold	108	(71.1)

Mothers’ knowledge is poor about vaccines barring polio vaccines. Ninety percent mothers know about polio drops and 82% about IPV. Despite giving their children all UIP vaccines, majority of them failed to answer which diseases other vaccines prevent. However, 71% felt that vaccines could be given though children have minor illnesses (Table 2).

Mothers’ attitude towards vaccines

Attitude	Yes	Percent
Satisfaction with vaccine information provided	135	88.8
Perception that children are given too many vaccines	10	6.6
Afraid that their child may get side effects from vaccination	57	37.5
Perception that all children should receive vaccines	150	98.7
Perception that all UIP vaccines are important	136	89.5
thought about delaying/refusing vaccine to their children	26	17.1

Despite unable to answer questions about the diseases prevented by vaccines, 89% mothers are satisfied with the information provided by health providers. Almost all mothers felt that all children should receive vaccines prescribed by government. Ninety percent felt that all UIP vaccines are important. About 17% mothers thought about either delaying or refusing vaccine for their children. Few mothers (6.6%) felt that children nowadays are given too many vaccines. About 38% mothers were worried about side effects from vaccines (Table 3).

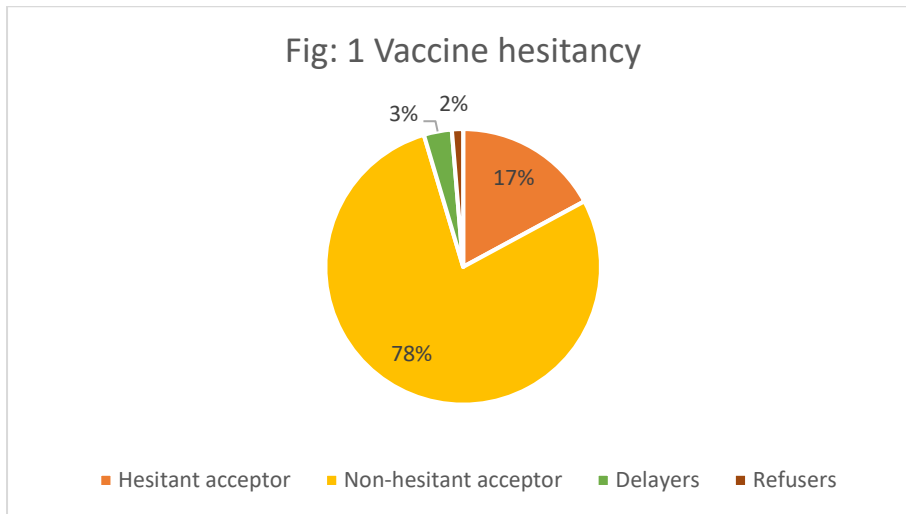
Practices about vaccination

	Frequency	Percent
Children developing any side effects following vaccination	28	18.4
Nature of side effects*		
Fever	13	46.43
Swelling	8	28.57
Rash/itching	4	14.29
redness	3	10.71
Difficulty in getting vaccination	10	6.6
Reasons given for difficulty in vaccination		
Travel	3	30.0
Timing	6	60.0
Vaccine non availability	1	10.0

Compliance with vaccination schedule	146	96.1
Vaccination site preference		
Government	111	73.0
Private	33	21.7
Both	8	5.3
Inclination for additional vaccines from pvt hospitals	47	30.9
Awareness of any child not receiving vaccines	9	5.9
*Multiple options allowed		

About 18% mothers said their children developed side effects following vaccination. About half of the side effects are fevers and remaining side effects with decreasing importance are swelling, rash/itching and redness. Few complained about the distance and few about timing of vaccination. Majority of the mothers (96%) said they were following vaccination schedule. Seventy-three percent mothers prefer vaccination at government hospitals and around 20% prefer vaccination at private clinics. Thirty-one percent mothers either gave or plan to give extra vaccines for their kids from private clinics (Table 4).

Vaccine hesitancy



In our survey, 26 mothers considered delaying or refusing vaccines. So they are considered as hesitant acceptors. About 80% mothers accepted UIP vaccines without hesitation. Five mothers delayed vaccines and two refused vaccines for their children (fig 1). One mother felt her child received too many vaccines and the other mother said child was sick at that time and they did not give the vaccine later as well.

	Hesitant				Total	
	Yes		No		Count	%
	Count	%	Count	%		
Occupation:						
Home maker	17	65.4%	91	72.2%	108	71.1%
Works away from home	9	34.6%	35	27.8%	44	28.9%
Total	26	100.0%	126	100.0%	152	100.0%
Chi-square = 0.49 P-value = 0.48						
Education:						
Illiterate	1	3.8%	5	4.0%	6	3.9%
School	11	42.3%	56	44.4%	67	44.1%
College	14	53.8%	65	51.6%	79	52.0%
Total	26	100.0%	126	100.0%	152	100.0%
Chi-square = 0.05 P-value = 0.98						

Chi-square test was done to see if vaccine hesitation is associated with occupation and education of mothers. Though hesitancy was more among homemakers (65% vs 35%), it was not statistically significant. Hesitancy also increased with increasing education but it was also not found to be significant (Table 5).

Discussion

Most of the mothers who participated in this survey are around 20 to 30 years of age, with some education and are mostly homemakers. Most of the mothers have poor knowledge about vaccines. However, they are satisfied with the information they are given by health workers. Most feel that all UIP vaccines are important and every child should receive these vaccines. We feel that mothers in this area are

passively accepting vaccines, as vaccinating children has become a social norm.

In a study conducted in Madhya Pradesh, out of 150 mothers, 123 (82%) mothers knew about the benefits of immunization. Hundred and thirty one mothers, (87.3%) knew that vaccine is available for polio; 75.3% (113) mothers knew that for measles, whereas 60.6% (91) mothers knew that vaccine is present for the whooping cough[4]. Hamid S et al., in their study noted that 39% of mothers knew that OPV protects against polio, 20% mothers knew the disease prevented by DPT vaccination. The mothers also felt that side effects of vaccination are not dangerous[5]. In a study done in Maharashtra, the authors found that there was no association between gender and immunization status of children whereas educational status of the

mother showed significant association[6]. In another study done in Karnataka, mother's educational status, socio-economic status and sex of the child had no bearing on the immunization status[7]. Awareness about vaccines is low in the present study especially with respect to Rotavirus, Pentavalent and Measles vaccines.

Ahmad Nadeem Aslami et al., reported higher knowledge levels among mothers who have higher education, employment and those belonging to higher socio-economic class[8]. The main reasons given for partial vaccination in many studies are lack of knowledge about vaccines and logistical constraints[9-12].

Twenty-six mothers (17%) thought about delaying or refusing vaccines for their kids. Whereas 78% mothers accepted vaccines without hesitation. Hesitation was higher among homemakers and those with higher education.

Ohid Yaqub et al were of the view that hesitancy may soon become refusal and unvaccinated clusters could emerge in which disease outbreaks can occur[13]. Some new vaccine preventable diseases may be considered mild which compromises vaccine acceptability by the family[14]. In some industrialized countries the decision to give a particular vaccine or not may be taken prenatally[15].

Focussing only on vaccine uptake rates and neglecting underlying attitudes is likely to underestimate the challenge of maintaining vaccination coverage in the future. It is important that obstetrician, paediatrician and health workers should be on the same page when it comes to vaccine information. They should stress that all UIP vaccines are important. Parents should be educated about all the UIP vaccines preferably from antenatal period itself and dispel any ill-conceived notions about vaccines. Along with improved access, it is important to gain trust of parents to improve vaccination coverage.

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Conflict of Interest: Nil Source of support: Nil