

## Research Article



## Knowledge, Attitudes and Practice (KAP) Study among Parents about Vaccination in Tertiary Care Hospital of Karachi, Pakistan

Saira Shahnaz<sup>1</sup>, Mudassar Iqbal Arain<sup>2</sup>, Ramesha Anwar<sup>3</sup>, Faiza Khan<sup>4</sup>

1. Department of Pharmacy Practice, Faculty of Pharmacy, Ziauddin University Karachi, Pakistan.

2. Department of Pharmacy Practice, Faculty of Pharmacy, University of Sindh, Jamshoro, Pakistan.

3. Faculty of Pharmacy, University of Sindh, Jamshoro, Pakistan.

4. MPhil scholar, Department of Pharmaceutics, Faculty of Pharmacy, Ziauddin University Karachi, Pakistan.

\*Corresponding author's E-mail: [msairakhan13022@gmail.com](mailto:msairakhan13022@gmail.com)

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### ABSTRACT

Administration of vaccine to defend a person's immune system against an infection is called Immunization. It's a prophylactic treatment for many diseases that's the reason the childhood vaccinations have been highlighted. The objective is to assess the knowledge, attitude, and practice (KAP) of parents about vaccination in Zia - Uddin university hospital, Karachi. A cross sectional study was conducted among the parents of young children ( $\leq 5$  years). A tertiary care teaching hospital was selected for collecting the data for the period of 7 months from June 2019 to December 2019 in Karachi. For Collection of data pediatric out patient's department and emergency department of a private hospital of Karachi was targeted. After reviewing the abundant amount of relevant data, a questionnaire was constructed to assess the parental knowledge attitude and perception (KAP) regarding the vaccinations among their child. The results were displayed by frequencies and percentages. A pilot study was conducted among 25 parents to check and optimize clarity of questionnaire. This study showed that total 450 responses were correctly fill the questioner in which (21.3%) recorded with male gender and remaining were female's preponderance (78.7%). Most of the parents (44.7%) reported were in age group of 30-39 years. (83.6%) parents were educated and their source of information was doctors (73.6%). (6.79%) of parents marked their children has already suffered from the preventable disease. (85.4%) of parents have their child vaccination record. 67.9% of parents remained uncertain had no knowledge regarding the vaccinations. (27.8%) of parents stated that a vaccination can produce side effects. Results shows that targeted population have awareness, knowledge and importance of vaccination, and have a positive attitudes and practice pattern regarding vaccination. A satisfying outcomes found in this study. It is observed that most of the participants parents having awareness regarding vaccination and wanted to know about the vaccine benefits.

**Keywords:** Knowledge, Attitude, Practice, Tertiary care.

### INTRODUCTION

Administration of a vaccine to protect a person's immune system against an infection is called Immunization<sup>1</sup>. It's an important to know that treatment should not only to treat and eradicate the infectious disease but proper prophylaxis against them should also be carried out. that's the reason the childhood vaccinations have been highlighted, we are just saving money of these vaccinations instead of thinking about the loss of a healthy life<sup>2</sup>. The vaccination compliance totally depends upon the knowledge and perception of parents about vaccines<sup>3</sup>. There is greatest need to emphasize on childhood vaccination in area of public health services<sup>4</sup>. Under developed and developed countries parents may not be completely aware about the vaccines despite the fact that many sources of information to know about the purpose of vaccination. There should be a good communication between parents and physician just to tell them the benefits of vaccines so that the vaccination rate could increase in a particular country. In US, the parents who hesitate about vaccines are directed to the Centers for Disease Control and Prevention. Some physicians recommend patient childhood vaccinations to the parents and influence parent's perception about vaccines. The

parent should also not feel hesitated to ask any thing about the child's vaccination<sup>5</sup>. According to a national telephone survey conducted in 1999, the parent's compliance was marked low because they believe childhood diseases are less common; the lack of awareness and perception about vaccine risk were noted as the reasons of low compliance<sup>6</sup>. Researches from past have shown that parent's and health care providers at attitude and knowledge about vaccination greatly influence the vaccination coverage rate in a community<sup>7-8</sup>. In the past 15 years a technique has been emerged, to mark the difference between the vaccinated and unvaccinated individuals suffering from a same disease is known as vaccine probe. However traditional studies tell the usefulness efficacy and ability of a vaccine against the particular pathogenesis<sup>9</sup>. Measles, polio, mumps rubella are listed under vaccine preventable diseases. Thus the no. of vaccines used by the citizens of a country is reported to know about the level of protection, prevalence, awareness as well as compliance. For instance, Public Health Agency of Canada. Vaccine coverage in Canadian children: Results from the 2013 childhood National Immunization Coverage Survey<sup>10</sup>. Two doses of the measles-mumps-rubella (MMR) are recommended to children before starting school: one between 12 and 15 months and other after or



at 18 months of age by The National Advisory Committee on Immunization (NACI) however first dose of MMR or MMRV is recommended at 12 months and other at 18 months, 36 months or between 4 and 6 years of age by all provincial and territorial vaccination schedules<sup>11</sup>. Vaccination of children has really reduced the burden of infectious diseases<sup>12</sup> but these Disease could not be proscribed without improving the health education of parents and without proper key family practice of the child vaccination<sup>13</sup>.

## METHODOLOGY

A cross sectional study was conducted among the parents of young children ( $\leq 5$  years) for the period of 7 months from June 2019 to December 2019 in a private tertiary care hospital of Karachi. A tertiary care teaching hospital was selected for collecting the data. For Collection of data, pediatric out patient's department and emergency department was targeted. After reviewing the abundant amount of relevant data a questionnaire was constructed to assess the parental knowledge attitude and perception (KAP) regarding the vaccinations among their child. Five Likert answer Scale Questionnaire was divided into 3 sections, section-A contained questions related to the knowledge of vaccinations, Section-B for the attitudes and beliefs of the parents' and Section-C for routine practice of the parents. Incomplete questionnaires i.e. <50% of completed questions were excluded from the study. Data was entered in Ms excel, later transferred into SPSS version 20.0 for assessment and tabulations. The demographic characteristics were displayed by frequencies and percentages. A pilot study was conducted among 25 parents to check and optimize clarity of questionnaire. During pilot study the total time for completion the questionnaire was estimated 10-15 minutes

## RESULTS

Total of 450 completely filled questionnaires were analyzed and demographic characteristics of respondents indicates female parent's respondents were found 78.7% (n=354) while 21.3% (n=96) were male respondents. Age group of the parents indicate 18-29 years were 15.5% (n=69), 44.7% (n=201) of parents were from group 30-39 years, while 39.8% (n=179) of parents were from 40 years and above. 46.2% (n=208) of parents had more than 3 children younger than the age of 5 years, 19.2% (n=86) of parents were found with 1 child less than the age of 5 years, while 34.7% (n=156) of parents found to have 2 children. Parents were asked about the source of information regarding vaccination for their children, most of parent's i.e. 73.6% (n=331) respondent that the only source of information regarding vaccination and immunization is their pediatrician or health consultants. 9.3% (n=41) of parents responded their family and relatives/ friends as source of information regarding vaccination while 17.1% (n=76) considered media as the source of information. Demographic characteristics are shown in table no. 1

**Table 1:** Demographic characteristics

Variables	Respondents	Percent
Male	96	21.3%
Female	354	78.7%
Total	450	100%
<b>Age groups</b>		
18-29 year	70	15.5%
30-39 years	201	44.7%
>40 years	179	39.8%
<b>No of children</b>		
1	86	19.1%
2	156	34.7%
$\geq 3$	208	46.2%
<b>Source of information</b>		
Family/friend	42	9.3%
Doctors	331	73.6
Media	77	17.1
<b>Education</b>		<b>Status</b>
Educated	376	83.6%
Uneducated	74	16.4

Later on, parents were asked regarding the history of immunization and previous records of vaccinations, 85.4% (n=384) of parents said that their child vaccination record is safely kept while 14.5% (n= 65) of parents were without any previous record of vaccination. 6.79% (n=30) of parents marked their children has already suffered from the preventable diseases while majority of parents had no idea about the past sufferings of their child from preventable diseases. 66% (n=297) of parents clearly denied from their child never suffered such diseases. Table: 2.

On response to question of Source of vaccinating their child 63.8% (n=287) of parents responded self-paid 33.1% (n=149) of parents stated they can achieve the free community services regarding vaccination. While 3.1% (n=14) of parents stated they are funded by companies and other means. Shown in table 2.

Upon asking about the possible side effects that a vaccines can produce; 8.9% of parents strongly agreed stated that a vaccination can produce side effects and can harm their children, while 65.8% of parent's remained uncertain about the statement. To assess the knowledge of parents regarding the origin of vaccines, parents were provided with the statement i.e. vaccines is an antibody originated from infected source, 14.2% of parents accepted agreed and 69.6% of parents remained uncertain.

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**Table 2:** History of immunization and previous records of vaccinations

Have your child received vaccination for;	Names of vaccines	Yes	No	Don't know
	Influenza	375(83.3%)	27(6%)	48(10.7%)
Pertussis	369(82%)	19(4.2%)	62(13.8%)	
Pneumonia	401(89.1%)	8(1.8%)	41(9.1%)	
Hepatitis	344(76.4%)	101(22.4%)	5(1.1%)	
Already suffered preventable disease	Yes	30	6.7%	
	No	297	66%	
	Don't know	123	27.3%	
Whether patient has record of previous vaccinations	Yes	384	85.3%	
	No	66	14.7%	
Source of vaccinating child	Self	287	63.8%	
	Free community service	149	33.1%	
	Others	14	3.1%	

**Table 3:** Assessment of knowledge and attitude towards vaccinations.

Respondents		Children should be immunized against severe disease					Total
		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree	
Male		36(37.5%)	23(23.9%)	21(21.9%)	0(0%)	16(16.7%)	96(21.3%)
	Female	67(18.9%)	220(62.1%)	46(13%)	16(5.4%)	5(1.4%)	354((78.7%)
Total		103(22.9%)	243(54%)	67(14.9%)	16 (3.5%)	21(4.7%)	450(100%)
Respondent		Vaccination strengthen the immune system of body					Total
Male		36(37.5%)	23(23.9%)	21(21.9%)	2(2.1%)	14(14.5%)	
Female		67(18.9%)	220(62.1%)	47(13.3%)	15(4.2%)	5(1.4%)	354(78.7%)
Total		103(22.9%)	243(54%)	68(15.1%)	17(3.8%)	19(4.2%)	450(100%)
Respondent		Immunization is a step of safety against diseases					Total
Male		14(14.5%)	41(42.7%)	23(23.9%)	18(18.7%)	0(0%)	
Female		92(26%)	207(58.5%)	47(13.3%)	(0%)	8(2.2%)	354(78.7%)
Total		106(23.5%)	248(55.1%)	70(15.6%)	18(4%)	8(1.8%)	450(100%)
Respondent		Vaccination can cause some side effects					Total
Male		7(7.3%)	21(21.9%)	51(53.1%)	10(0%)	07(16.3%)	
Female		33(9.3%)	64(%)	245(18.1%)	9(2.5%)	3(0.8%)	354(78.7%)
Total		40(8.9%)	85(18.9%)	296(65.8%)	19(4.2%)	10(2.2%)	450(100%)
Respondent		Vaccines is an antibody originated from infected source					Total
Male		0(0%)	17(17.7%)	62(64.6%)	11(11.4%)	6(6.2%)	
Female		18(2.2%)	47(13.3%)	251(70.9%)	29(8.2%)	09(2.5%)	354(78.7%)
Total		18(4%)	64(14.2%)	313(69.6%)	40(8.9%)	14(3.3%)	450(100%)

**Table 4:** Assessment of parent's attitude and practice regarding vaccination

Parents response	How often did you ask your doctors about necessity of vaccination in child health	
Always	76	16.9%
Most of the time	68	15.1%
Often	296	65.8%
Some times	0	0%
Never	10	2.2%
Response of parents	How often did you found the side effects after vaccination	
Always	0	0%
Most of the time	26	11.3%
Often	76	32.9%
Some time	74	32.0%
Never	55	23.8%
Response of parents	How often did you completely followed the doctor's instruction	
Always	107	23.8%
Most of the time	70	15.5%
Some time	70	15.6%
Never	5	1.1%
often	198	44%
Response of parents	How often did you ask for information about the vaccination from your doctor	
Always	122	27.1%
Most of the time	30	6.7%
Often	94	20.9%
Sometimes	178	39.5%
Never	26	5.8%
Response of parents	Have you omitted the important vaccination for your child advised by doctor	
Always	30	6.7%
Most of the time	52	11.7%
Often	75	16.7%
Sometimes	198	44%
Never	94	20.9%
Response of parents	I feel worried & keep asking about vaccination	
Always	106	23.5%
Most of the time	91	20.2%
Often	52	11.6%
Sometimes	103	22.9%
Never	98	21.8%

**Assessment of parent's attitude and practice regarding vaccination (Table 4)**

Parents were given with questions of Section c to assess their practice against vaccination and immunization approach, parents were asked how often they ask regarding safety & importance of vaccination for their child, on response basis it was found 16.9% of parents always questions regarding the importance of vaccination while 23.8% parents always followed the instructions of their pediatrician. 44% parents sometime omitted the important vaccination for your child advised by doctor. 23.5% parents feel worried & keep asking about vaccination. Some parents responded that they always feel worried regarding the immunity of their child and keep asking their child's pediatrician regarding the vaccination and vaccination schedule.

### DISCUSSION

Practice of vaccination remains always a big challenge for Pakistan. The vaccination in childhood has shown prevention to disease & death among children and vaccination is essential to keep children healthy<sup>13</sup>. Thus KAP survey of parents towards childhood vaccination is very important to upgrade the health as well as diseases prevention. According to the findings of this study the trends has been showed the knowledge, attitudes and practices of parents regarding childhood vaccination.

This study has identified and assesses the parent's knowledge attitude and perception (KAP) regarding the vaccinations among their child. Questions were divided into different three sections according to KAP studies, section A contained questions related to the knowledge of vaccinations, section B for the attitudes and beliefs of the parents' and section C for routine practice of the parents. The good KAP results show a significant association between female gender as well as awareness about vaccination and their role because mothers are prim care giver and spend most time with children as compare to fathers.

This study showed that total 450 responses were correct fill the questioner in which 21.3 recorded with male gender and remaining were females preponderance (78.7%). As for the gender, female preponderance is higher because mothers are the main care giver and more time with their kids than fathers<sup>14</sup>. Most of the parents (44.7%) were reported in age group of 30-39 years. 83.6% parents were educated and their source of information was doctors (73.6%). Other studies were also show that parent's education is more important for good health of their child and to appreciate the value of vaccination for their children. In section A, three questions were asked to parents about knowledge of vaccinations. Results shows that mostly of patients (85.4%) kept records their child vaccination and parent's knowledge and 66% of parents clearly deprived of that their child never suffered such disease. In section B, results shows that perception regarding vaccinating their children was found to be 22.9%

of parents were strongly agreed and 54% agreed. A prospective intervention study from Karachi had also proved that education of vaccination for mothers of child will improve the health of their kids. These finding is not similar to other studies<sup>15-16</sup> which shows that parents had low knowledge regarding vaccination adverse effects. About 55.1% patients were agreed about Immunization is a step of safety against diseases. This finding is similar to results in previous studies, in which more than 83% of parent's privileged child vaccination<sup>17-19</sup>.

However, literature reviews show that only has a good knowledge about vaccination is not sufficient to have good health care. A favorable attitude & perseverance is required for correct practices of health care and a positive attitude was showed among parents who were aware about vaccines and their benefits. In section C, six questions were asked to parents which show parents response for routine practice Outcomes of study showed that 44%parents sometime omit the important vaccination for your child advised by doctor and 23.5% parents worried & keep asking about vaccination<sup>20-21</sup>.

### CONCLUSION

Our study concluded that most of the participants parents have some awareness regarding vaccination and wanted to know about the vaccine benefits. Further health education is given to parents to improve detailed knowledge about vaccination i.e. type of vaccination and their timing. Health education is also required: 1. To improve attitude about vaccination i.e. their importance in health care of child 2. To improve their perception regarding safety/adverse effects of vaccine. 3. To improve practice of vaccination.

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