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## Original Research

### Assessment of Immunization Status among Children Aged Between 1 Year to 12 Year Visited to Hospital

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#### ABSTRACT

**Background:** Immunization has been observed one of the major and cost-effective public-health initiatives to reduce child morbidity and mortality. On an average three million children die each year due to a vaccine-preventable disease. According to recent study, approximately 34 million children are not immunized, out of them 98% of them are from developing countries. All of these deaths are considered preventable with proper vaccination coverage. The current study was conducted so as to assess the status of immunization and to mitigate the various factors responsible for the suboptimal coverage of immunization among admitted patients in our institution. **Material and method:** This 3 months study was conducted in the paediatric department of our medical college and hospital, which was approved by the ethics committee headed by the director of the institution. The study was conducted only on those patients who were stable and surpassed the acute phase of the illness. A total of 356 patients were selected for the analysis as study sample, within the age group of 1 year-12 years. Out of the 356 patients 112 were females and 244 were males. **Result:** On analysing the collected data from the study samples; out of the 356 patients, 244 were males and 112 were females. Here, 204 families were from below poverty line strata and rest 152 belonged to above poverty line strata. For 356 children 313 mothers (88%) were available as the respondent and in 35 cases (10%) it was only the father who was present as the respondent and merely 7 cases (2%) a family member was present to confirm the vaccine-immunization status of the patient. Interestingly only 199 out of the 356 children (56%) had any record of receiving BCG and three consecutive doses of DPT, Oral Polio Vaccine (OPV) and measles vaccine which were scheduled in the first year of life. **Conclusion:** Intensified efforts which focus on the least educated, and most deprived of any health facility should increase. By taking a more family centred and socially acceptable approach it should be made a priority that myths regarding immunisation should be removed and more participation in vaccination programs should be increased.

**Keywords:** immunisation, Intensified, vaccination

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#### INTRODUCTION

Immunization has been observed one of the major and cost-effective public-health initiatives to reduce child morbidity and mortality. On an average three million children die each year due to a vaccine-preventable disease. According to recent study, approximately 34 million children are not immunized, out of them 98% of them are from developing countries. <sup>(1)</sup> The World Health Organization (WHO) took an initiative as the Expanded Programme on Immunization (EPI) in the year 1974, focusing mainly on the prevention of six main vaccine-preventable diseases of the childhood by the year 2000. This initiative was considered and implemented by the Government of India in the year 1978. <sup>(2)</sup> The Universal

Immunization Programme was introduced in India on 19<sup>th</sup> of November 1985, which aimed at covering at least 85% of all infants by the year 1990. A national socio demographic goal was set up in the National Population Policy 2000 to attain universal immunization of children against all major vaccine-preventable diseases of the childhood by the year 2010. <sup>(3)</sup> Despite of the commitment to universal coverage, vaccination in India is far from satisfactory completion. According to the data collected by the National Family Health Survey (NFHS), merely 43.5% of children aged between 12–23 months were completely vaccinated. (57.5% in urban areas and 38.6% in rural areas) <sup>(4)</sup> By the end of the year 2015, the global mobilization that had marked the end of the Millennium Development Goals which did produced one of the

most successful health and development movements in the world history. <sup>(5)</sup> As the Millennium Development Goals had brought tremendous advances globally, there was a growing idea that discrepancies existed and that the existing aim on national averages may have manipulated regional and inequalities within the country, particularly in terms of child health. <sup>(6)</sup> <sup>(7)</sup> To make availability of vaccines to all children still remains one of the important public health strategies to help achieve this goal. Major progress in vaccine availability and coverage has been made in the last few decades and millions of lives have been saved. <sup>(8)</sup> <sup>(9)</sup> All of these deaths are considered preventable with proper vaccination coverage. The current study was conducted so as to assess the status of immunization and to mitigate the various factors responsible for the suboptimal coverage of immunization among admitted patients in our institution.

**MATERIALS AND METHODS**

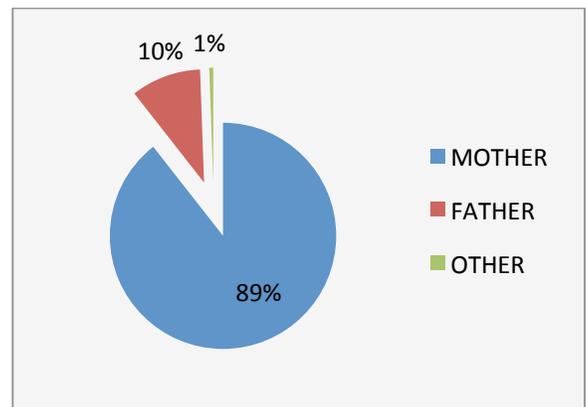
This 3 months study was conducted in the paediatric department of our medical college and hospital, which was approved by the ethics committee headed by the director of the institution. The study was conducted only on those patients who were stable and surpassed the acute phase of the illness. A total of 356 patients were selected for the analysis as study sample, within the age group of 1 year-12 years. Out of the 356 patients 112 were females and 244 were males. Primarily, demographic and socioeconomic status was analysed and recorded using a set format of questions. Secondly, the immunization status of the study samples was assessed as per the national immunization programme. Mother was the primary respondent on the behalf of the patients, in case of absence of mother; father was selected as the respondent. Mothers were inquired about the immunization status of their children from one year of age, and where ever possible, this information was verified by cross-checking with the vaccination cards of the children. Study samples which had a record of receiving BCG and three consecutive doses of DPT, Oral Polio Vaccine (OPV) and measles vaccine as scheduled in the first year of life were classified under immunized group. (Group A) Children who had missed any one dose of six primary vaccines were classified as partially immunized. (Group B) Those who had not received any of the vaccine, except the OPV as pulse polio immunization up to 12 months of age, were defined as non-immunized. (Group C) Thirdly the reason of non-immunisation was asked for and recorded. The reason for non-immunisation was further classified under 3 major headings as; (a) unaware of any such vaccines, (b) financial reasons, (c) social/religious and other reasons. This printed Performa, which was filled in manually was later interpreted and converted to an electronic file for ease of analysis and interpretation.

**RESULTS**

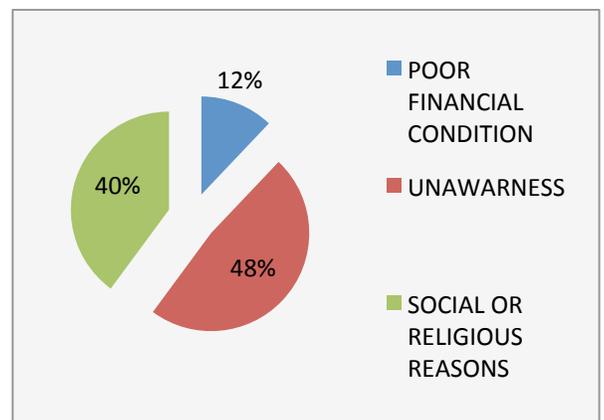
On analysing the collected data from the study samples; out of the 356 patients, 244 were males and 112 were females. Here, 204 families were from below poverty line strata and rest 152 belonged to above poverty line strata. For 356 children 313 mothers (88%) were available as the respondent and in 35 cases (10%) it was only the father who was present as the respondent and merely 7 cases (2%) a family member was present to confirm the vaccine-immunization status of the patient. (GRAPH 1) Interestingly only 199 out of the 356 children (56%) had some record of receiving BCG and three consecutive doses of DPT, Oral Polio Vaccine (OPV) and measles vaccine which were scheduled in the first year

of life. The record in such case was an immunization card issued by the state vaccination authority or any private service provider, and was accounted in group A. In this particular group (75%) 149 children were from the above poverty line strata and (25%) 50 children were from the below poverty line strata. Secondly 100 children of 356 (28%) had missed or skipped any one dose of vaccination out of the six major vaccines and were classified under group B. In this group 97 children (97%) belonged to the below poverty line strata and only 3 children (3%) belonged to the above poverty line strata. Thirdly, 57 children (16%) had not received any vaccination except oral polio virus vaccine till the age of one year and were classified in group C. (TABLE 1).All children of this group belonged to below poverty line strata. Considering the reason behind non-immunisation of the children; 171 children guardians were not aware of any of such vaccine (48%), 43 guardians gave poor finances as the reason (12%) and 142 guardians gave social/ religious or other reasons behind non-immunisation. (40%) (GRAPH 2)

**GRAPH 1; NATURE OF OF THE RESPONDENT**



**GRAPH 2; REASON FOR NON-IMMUNISATION**



**DISCUSSION**

It is safe to say that immunisation is the only cost-effective intervention in child health. There is an increasing risk of outbreak of vaccine-preventable diseases due to a boom in urbanization, migration, increasing slums, high density of population, continuous inflow of a new infections, and poor coverage of primary immunization at primary health level. Several attempts are

made to improve the coverage, but still it has been hard to let both ends meet. The results of our study showed that merely 199 (56%) children were immunized till one year of age, 100 children (28%) were partially immunized, and 57(16%) were non-immunized at all. The deliveries conducted in the hospital, especially those born by a caesarean section, were more likely to get immunization. This probable reason behind vaccination done at birth was due to the parent's education and awareness regarding subsequent

vaccinations. As a result institutional deliveries should be promoted so as to increase the coverage and reach of immunization. Poor standards of education of parents were directly related to the low coverage of immunization in our study.<sup>(10) (11) (12)</sup> On an overview, three most common demographic factors affecting the immunization coverage were maternal education, religion, and socio-economic status; hence, there is a need for

**TABLE 1: The Immunization Status Of The Stud**

<i>LEVEL OF IMMUNISATION</i>	<i>(GROUP A) FULL IMMUNISATION</i>	<i>(GROUP B) PARTIAL IMMUNISATION</i>	<i>(GROUP C) NO IMMUNISATION</i>
<i>NUMBER OF PATIENTS</i>	199	100	57
<i>ECONOMIC STATUS</i>			
<i>BELOW POVERTY LINE</i>	50	97	57
<i>ABOVE POVERTY LINE</i>	149	3	0

maternal education and awareness. The most common reason behind no or partial vaccination is lack of knowledge about subsequent doses; which sheds light upon the need for trained medical officers and health workers about effective communication after vaccination pertaining to the possible side-effects, their treatment, and the schedule for the next vaccination dose. In our study, only 199 out of the 356 children (56%) had some record of receiving BCG and three consecutive doses of DPT, Oral Polio Vaccine (OPV) and measles vaccine which were scheduled in the first year of life. The record in such case was an immunization card issued by the state vaccination authority or any private service provider, and was accounted in group A. In this particular group (75%) 149 children were from the above poverty line strata and (25%) 50 children were from the below poverty line strata. Secondly 100 children of 356 (28%) had missed or skipped any one dose of vaccination out of the six major vaccines and were classified under group B. The myths regarding minor illnesses such as cough, diarrhoea and mild fever, are not a contra-indication to vaccination needs to be discussed and averted from the mind-set of the parents. The leading factor which has been emphasized upon that satisfaction of clients, in terms of behaviour and attitude of health workers and information provided by them, and also the ease of accessibility are some factors which significantly vary in a completely-immunized and partially-immunized group.<sup>(13)</sup> The most common reason behind non-immunisation was the lack of knowledge about vaccination. The current study provides a clear view about the immunization status of children admitted to our hospital is very low; the reasons being lack of education among parents, lack of awareness, ineffective communication by healthcare providers and government initiatives, and misconceptions and social stigma associated with immunization. This issue needs to be considered as a priority because the health and quality of life on child cannot be compromised with.

## CONCLUSION

Great deals of efforts have been recently taken into consideration to combat under-five mortality chances and in achieving international targets set by the millennium development goals. Despite these efforts made by the primary health providers and government initiatives the regional and within-state inequalities do exist. Intensified efforts which focus on the least educated, and most deprived of any health facility should increase. By taking a more family centred and socially acceptable approach it should be made a priority that myths regarding immunisation should be removed and more participation in vaccination programs should be increased.

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