

Association Between Awareness of Side Effects and Motivation for Vaccination of Pentavalent Vaccine in a Tertiary Care Hospital

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Abstract:- Background: Vaccination is one of the best disease prevention strategies and an important part of the family and public health. Vaccines prevent significant morbidity and mortality in under five children. Even though vaccination is a disease prevention strategy, it has minor side effects. It is essential to be aware of various side effects because they cause a lot of parental anxiety. The present study shows that those who vaccinate their baby by informed choice are aware of the side effects of vaccination. It shows the positive association. **Objective:** To find out the association between awareness of side effects and motivation for vaccination of pentavalent vaccine. **Methods :** The study consists of 96 babies who attend pediatric out patient department for routine immunization of pentavalent vaccination between February 2021 and August 2022 at Vydehi Institute of Medical Sciences and Research Centre, Bangalore. The data was collected by preformed questionnaire. **Results:** Out of 96 participants , 58 (60.4%) of the participants were aware of side effects and 38 (39.6%) of the participants were not aware of side effects. 63 (65.6%) of the participants vaccinated their child on informed Choice and 33 (34.4%) of the participants mechanically followed Instruction. The present study shows that 74.6% of the participants who vaccinated their children on informed choice were aware of side effects. 25.4% of the participants who vaccinated their children on informed choice were unaware of side effects. 33.3% of the participants who followed instructions were aware of side effects. 66.7% of the participants who followed instructions were unaware of side effects. Parents should be educated regarding vaccination and side effects of vaccination .

It is essential to be aware of the various AEFIs because they cause a lot of parental anxiety, at times can even cause serious reactions requiring medical attention, besides adversely affecting the vaccine uptake.

Parental anxiety about an adverse event following immunization(AEFI) in their children is immense, given the ironic situation of a healthy child suffering because of something which is meant for his well-being.

Pentavalent vaccine is a combination vaccine that protects against 5 killer diseases those are diphtheria, Tetanus , Pertussis, Hepatitis B, Hemophilus Influenza B[2] .

According to Sharad Bhansal et.al study shows that 127 (66.8%) children had pain at the injection site, 103 (54.2%) had a mild fever, Swelling at the injection site 84 (44.2%) and 55 (28.9%) children held their leg back due to pain. The author concluded that all the adverse events reported were mild after pentavalent vaccination and could be managed without any complications[3] .

Vasudev Kompally et al conducted a prospective observational study on adverse events following pentavalent vaccine in Mahatma Gandhi Memorial Hospital author concluded that all the adverse events reported were mild and non serious and still the vaccines can be given safely[4] .

The present study was conducted with the objective to study the association between the awareness of side effects and motivation for vaccination of pentavalent vaccine.

Keywords:- Vaccination, Adverse Effects, Awareness.

I. INTRODUCTION

Vaccination is a proven tool for controlling and even eradicating the disease. Vaccines have significant impact in terms of reduction of mortality and increase in human longevity. An Adverse events following immunization (AEFI) is defined as a medical incident that takes place after immunization which causes concern, and is believed to be caused by immunization [1] .

II. METHODOLOGY

The present study was conducted at Vydehi institute of medical science and research centre , Bengaluru. The study was conducted from February 2021 to august 2022. 96 babies were enrolled for the study. Data collection was done by the pre-structured questionnaire. Statistical analysis was done by using SSPE software.

III. RESULTS

The following tables shows the percentage of male and female included in study, parents who are aware and unaware

of side effects, and getting vaccination by informed choice or following instruction. The present study showed that there is a positive association between the awareness of side effects and motivation of vaccination by informed choice.

Table 1: Basic details expressed in frequency(%) (n=96)

Basic details	Frequency(%)
Male	52(54.2%)
Female	44(45.8%)
Aware of side effects	58(60.4%)
Unaware of side effects	38(29.2%)
Motivation of vaccination(informed choice)	63(65.6%)
Motivation of vaccination(followed instructions)	33(34.4%)

Table 2: Association Between Motivation for Vaccination and Aware of Side Effects (n = 96)

Aware of Side Effects	Motivation for Vaccination			Chi-Squared Test	
	Informed Choice	Followed Instruction	Total	χ^2	P Value
Yes	47 (74.6%)	11 (33.3%)	58 (60.4%)	15.423	<0.001
No	16 (25.4%)	22 (66.7%)	38 (39.6%)		
Total	63 (100.0%)	33 (100.0%)	96 (100.0%)		

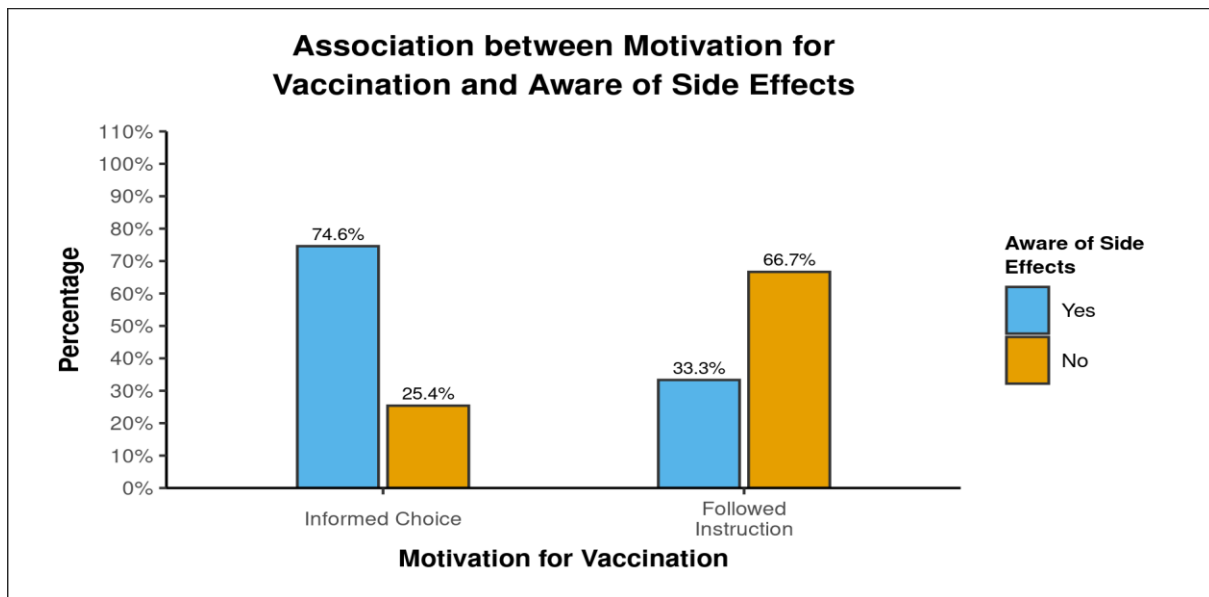


Fig 1 :- Motivation for Vaccination

IV. DISCUSSION

The pentavalent vaccine causes minimum to moderate side effects namely fever, swelling, redness at the site of vaccination, pain excessive crying. These are the most common side effects. less commonly it can also cause convulsions and injection site abscesses. Parents should be guided regarding the possible side effects before vaccinating their babies.

In this study 54.2% are male,45.8% are female. 60.4%are aware of side effects and 29.2%are unaware of side effects. 65.6%are getting vaccination by informed choice and 34.4 % mechanically followed instructions.

The Chi-square test was used to explore the association between 'Motivation for Vaccination' and 'Aware of Side Effects'.

There was a significant difference between the various groups in terms of distribution of Aware of Side Effects ($\chi^2 = 15.423, p = <0.001$).

74.6% of the participants in the group [Motivation for Vaccination: Informed Choice] were aware of side effects. 25.4% of the participants in the group [Motivation for Vaccination: Informed Choice] were unaware of side effects. 33.3% of the participants in the group [Motivation for Vaccination: Followed Instruction] were aware of side effects.

66.7% of the participants in the group [Motivation for Vaccination: Followed Instruction] were not aware of Side Effects.

Participants in the group Motivation for Vaccination: Informed Choice had the larger proportion of Awareness of Side Effects. Participants in the group Motivation for Vaccination: Followed Instruction had the larger proportion of unaware of Side Effects.

The p value in the chi-square test shows a value of 0.001 which is significant.

V. CONCLUSION

There is a positive association between the awareness of side effects of vaccine and motivation of vaccine (informed choice). Parents who know the side effects are enthusiastic to come forward for vaccination.

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REFERENCES

- [1]. Diganth D Shastri, Naveen Thaker, Nithin K Shah, S Balasubramanian. Adverse events following immunization. Ajay Kalra, Premashish Mazumdar. IAP Textbook of vaccines. Second edition. New Delhi: Jaypeebrothers medical publishers; 2020.
- [2]. Ahmad S, Pal J, Das A, Samanta S. Adverse events following immunization with pentavalent vaccine among infants attending the immunization clinic at a tertiary hospital in Eastern India. *Int J Community Med Public Heal.* 2017;4(7):2570.
- [3]. Bansal S. Adverse events following immunization with pentavalent vaccine in a tertiary care hospital. *Int J Contemp Pediatr.* 2017;5(1):82.

- [4]. Kompally V, Kaiethala MR, Bavith PVSC, Parthasarati R, Adla N, Puchchakayala G. Study of Adverse Events following Pentavalent Vaccination in a Tertiary Care Hospital. *IOSR-Journal Dent Med Sci.* 2016;15(10):38–41.