Original Article

A Comparative Study to Estimate Knowledge about Pneumococcal Conjugate Vaccine among Medical and Nursing Students studying at Civil Hospital Campus, Ahmedabad

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Background : India is committed to prevent pneumonia related deaths in children which is leading cause of vaccine preventable deaths among children under 5 globally and in India.

Aims and Objective : To know awareness about PC vaccine among Medical and Nursing students of civil hospital, Ahmedabad.

Materials and Methods : This cross sectional study was conducted on medical and nursing students of civil hospital, Ahmedabad, Gujarat. Baseline knowledge of PC Vaccine, side effects of PC Vaccine, was assessed by a self-administered structured questionnaire.

Statistical Analysis : Data analysis was done in Microsoft excel and Chi square test was applied.

Results : There were 444 respondents and among them 240 (54%) were medical students and 204 (46%) were nursing students, with male female ratio was 95:127. Awareness regarding PC Vaccine integration to national immunization schedule found significantly more in nursing students as compare to medical students, (Chi = 63.4 at P<0.05). Medical students had more knowledge about PC Vaccine as compared to nursing students. (Chi = 0.97 at P <0.05).

Conclusion : There is still gap in awareness of PC Vaccine integration to national immunization schedule among Medical students. Field visits among Nursing students have positive effects on awareness of nursing students.

Implication : Medical students should visit to this type of field activities to improve their knowledge about ongoing activities like this.

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Key words **: Knowledge, Pneumococcal Conjugate Vaccine, Medical Students, Nursing Students.**

The Government of India has launched a comprehensive public health program to prevent pneumonia-related fatalities in children. Pneumonia is the primary cause of vaccine-preventable deaths in children under five worldwide and in India as well (7 per 1000 live births)[1]. It is intended for children in the under-5 years age range. The maintenance of high population immunity will subsequently be achieved by adding immunizations to the regular schedule at six, fourteen weeks and nine months[2]. The safety and efficacy profile of the PCV Vaccination is strong. For streptococcus, sero-conversion under field settings is 80% at 6 weeks, 85% at 14 weeks or more and 85% or more at 9 months. The majority of adverse responses are moderate and temporary[3].

In order for PCV integration to be successful,this implies that in order to effectively communicate with the population, members of the medical and paramedical fraternities must possess comprehensive knowledge. The goal of this study is to evaluate the knowledge of the next generation of medical and paramedical professional's domains. The purpose of this study was to find out how well-informed medical and nursing students were about the pneumococcal conjugate vaccination and how well-informed the study participants were about how the vaccine fits into the national immunization schedule[4-6].

Editor's Comment :

- At all ages, vaccines save lives and keep us safe.

Materials and Methods

A cross-sectional study was carried out in January and December of 2022. The investigation was conducted at the appropriate medical and nursing colleges, which were housed on Ahmedabad's civil hospital campus. In all, 444 pupils purposive sampling was used to enroll (Third Year Part-1 Medical students = 240 and Third Year B Sc Nursing students = 204), (Male = 254, Female = 190), aged roughly 20-21 years,

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in the study. All of the batch's students were involved in the study, with the exception of those who weren't there. The study did not include those who did not provide informed consent. Data was gathered through the use of structured questionnaires. The questionnaire asked questions about the utility of the PC vaccine, its integration into the national immunization schedule and its knowledge.

This campaign will help reduce child mortality from pneumonia, which is India's biggest cause of vaccine-preventable deaths among children under five. Tables 1-3 were used to display the percentages of the results, and M S Excel 2007 was used for the analysis. Authorization to authorities from the medical college and nursing school were consulted in order to conduct the research. Since there is no active intervention in this study, ethical approval was not necessary. Following the acquisition of informed consent, students were enrolled with the understanding that their participation in the study would be entirely voluntary and that there would be no negative consequences.

Table 1 — *Awareness regarding PC vaccine integration to national immunization schedule among Medical and Nursing Students (N-444)*

Awareness	Medical (N = 240)		Nursing (N = 204)		χ^2	p Value
	Yes (%)	No (%)	Yes (%)	No (%)		
Campaign	220(91.8)	20(8.2)	172(84.3)	32(14.7)	2.45	> 0.05
Duration	76(32)	164(68)	172(84.3)	32(14.7)	63.4	< 0.05
Age-group	136(56.6)	104(43.4)	174(85.3)	30(14.7)	21.69	< 0.05
Session Site	100(41)	140(59)	137(65.7)	70(34.5)	13.58	< 0.05

Table 2 — *Awareness regarding PC Vaccine among Medical and Nursing students (N-444)*

MR Vaccine	Medical (N = 240)		Nursing (N = 204)		χ^2	p Value
	Yes (%)	No (%)	Yes (%)	No (%)		
Type	168(68.9)	72(31.1)	184(90.2)	20(9.8)	15.03	< 0.05
Dose	146(59.8)	94(40.2)	184(90.2)	20(9.8)	26.39	< 0.05
Route	182(74.5)	58(25.5)	140(68.6)	64(31.4)	0.97	> 0.05
Site	180(73.8)	60(26.2)	154(75.5)	50(24.5)	0.086	> 0.05

Table 3 — *Awareness regarding usefulness PC Vaccination Integration (N-444)*

Usefulness	Medical (N = 240)		Nursing (N = 204)		χ^2	p Value
	Yes (%)	No (%)	Yes (%)	No (%)		
Campaign	100(41.8)	140(58.2)	164(80.4)	40(19.6)	34.29	< 0.05
Combination of Vaccine	24(11.5)	216(88.5)	74(36.3)	130(63.7)	19.42	< 0.05

Discussion and Result

Every year in India, 500 000 children under the age of five pass away from diseases that can be prevented by vaccination; of them, 15% are pneumonia-related deaths.There was a statistically significant difference.(p value < 0.05 and chi square = 13.58) An evaluation of students' knowledge at an Egyptian university found that, while medical students tended to be more aware of the risks and contraindications of vaccines, overall, students' knowledge was lacking more knowledgeable than their peers[8]. It is imperative that no child be left behind for this integration to be successful. The current campaign is run at schools and outreach centers, in addition to fixed venues sessions.It is therefore expected of the teachers to emphasize the value of immunization[7]. During immunization, a 0.5 ml dose of the polysaccharide conjugate vaccine was administered intramuscularly at the anterolateral portion of the right thigh. Medical students' knowledge ranged from 59.8% to 74.5%, whereas nursing students' knowledge varied from 25.5% to 40.2%.

Conclusion

PC Vaccination integration may have been more successful with better use of health education message especially in medical and para-medical personnel, as they are the bridge population between public and professional health team.

Conflict of Interest : None.

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