

Status of Vaccination against Hepatitis B Virus among Medical Students of a Private Medical Institute in Multan

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ABSTRACT

Background: Hepatitis B included in top ten life threatening diseases of the life. Health care workers are threatened to hepatitis B virus because workers of healthcare profession are directly exposed to hepatitis B virus infected patients. Information, practice and attitude concerning prevention of hepatitis B virus spread are necessary for clinicians and paramedics.

Setting: Multan Medical and Dental College Multan

Methods: This questionnaire-based descriptive cross-sectional survey was conducted at the Multan Medical and Dental College, Multan. In medical section 318 students included in the study which was calculated by formula $n/n+1/N$.

Results: One hundred and forty-one were males and one hundred and seventy-seven were female students. Two hundred and sixteen students got vaccinated and one hundred and two failed to get vaccination. Reasons for failure to get vaccine were also reported.

Conclusion: Vaccination status of students is not satisfactory against hepatitis B virus in this environment where they have direct contact with this dangerous disease.

Keywords: Doses, Health care workers, Hepatitis B, Medical students, Vaccination

INTRODUCTION

Hepatitis B is one of most dangerous diseases that can lead to death. Hepatitis B has been presented as topmost ten life threatening sicknesses of life¹. Healthcare professionals are more prone to be infected with hepatitis B virus because they are directly contacted with infected patients. Use of sharps and needles in surgery and blood transfusion are common sources which transfer the hepatitis B virus from diseased persons to healthy health care professionals. Information, practice and attitude concerning prevention of hepatitis B virus spread are necessary for clinicians and paramedics².

Immunization for Hepatitis B virus is a mandatory step for healthcare professionals. Doctors and paramedical staff must be vaccinated before joining medical profession. Chances of hepatitis B infection rise up to 30 percent if vaccination process is not experienced in the community. Studies across the world proved that gamma globulin vaccination declined the hepatitis B infection to 90-95%³. WHO had conducted a global survey which stated that third world countries had 18 to 39% vaccinated health care professionals while in developed countries this percentage raised up to 95%⁴⁻⁷.

The methods which avert spread of contagion across health professionals are recommended precautions and inoculation against virus of hepatitis B⁸. Recommended precautions include correct waste of surgical blades and needles, barrier method for control of cross contamination and quality disinfection of already used armamentariums⁹.

Hepatitis B virus is a dangerous infection which can be safely and economically managed through vaccination¹⁰. In Pakistan many studies conducted on vaccination status of local healthcare professionals. According to these studies only 49 to 57% doctors were vaccinated^{11,12}. There are many factors which hinder the vaccination of hepatitis B virus such as cost of vaccination, needle phobia, lack of vaccination center access, and lack of interest.

The objective of our study is to evaluate percentage of vaccinated medical students in a teaching hospital. This study also rules out different causes which reduce the vaccination percentage.

METHODOLOGY

This form-based descriptive cross-sectional study was directed at the Multan Medical & Dental College, Multan. In medical section 318 students responded which was calculated by the formula $n/n+1/N$. Willing participants gave the knowledgeable consent and then well-structured form was utilized to find their vaccination status against HBV. The reasons for non-vaccination were attained from non-vaccinated individuals. Partakers who received initial three doses of immunization were categorized as vaccinated individuals. The collected data was tabulated and analyzed.

RESULTS

Form was completed by three-hundred and eighteen students. Males were one hundred and forty while females were one-hundred and seventy-seven (Table 1). Two hundred and sixteen students were vaccinated while one

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hundred and two failed to receive vaccination (Table 2). Number of doses received are shown in table 3. Table 4 showed that busy schedule is the main cause which abstain the students from vaccination.

Table 1: Gender distribution

Male	Female	Total
141(44.3%)	177(55.7%)	318

Table 2: Percentage of vaccinated & non-vaccinated students

Vaccinated	Not vaccinated	Total
216(68%)	102(32%)	318

Table 3: Number of doses received

One dose	Two doses	Three doses	Booster dose
38(11.9%)	57 (18%)	158 (49.7%)	65(20.4%)

Table 4: Reasons for failure to receive vaccination

Reasons	Students
Did not know about vaccination	12(11.77%)
Vaccine unavailable	6(5.9%)
Busy schedule	47(46.08%)
Distant vaccination centre	22(21.56%)
Costly vaccine	5(4.9%)
Lack of motivation	7 (6.9%)
Fear of needle	3(2.94%)
Total not vaccinated	102

DISCUSSION

In this study 68% medical student got vaccination and 32% students failed to do so. There are many reasons that kept the subjects far away from immunization process such as busy schedule, needle phobia, distant vaccination center, vaccination unavailable, and do not know about vaccination process. Majority of the partakers did not receive vaccine owing to busy timetable.

In an Indian study 79.5% student got vaccination before entering into the clinical setup which is higher than that of current study where only 68% students got vaccination¹¹

In Lahore Pakistan a study on conducted about ten years ago¹¹. In that study vaccination status of medical students accessed which stated that about 42% of medical students got vaccination. This percentage is lower than that of current study because many campaigns and awareness programs regarding fatality of hepatitis B are practiced by government and social media in recent ten years.

In current study thirty two percent medical students did not get vaccination due to various reasons. While in 2011 Asif stated that forty seven percent medical students failed to get vaccine. In present research majority of the subjects (45.6%) did not receive vaccination because of busy timetable and in the study of Asif most of the participants failed to receive immunization because of lack of motivation. In current study lack of motivation preclude 7.3% students to avail vaccination. Needle phobia is also an important cause which decreased the immunization status of medical undergraduates. In 2011 needle phobia made an impact on 10.5% students and in current study this percentage fall up to 3%. Asif found that 5.5% medical students had poor knowledge about vaccination process and this percentage raised up to 11.2%¹².

Ibrahim studied vaccination status of medical students in a private university where only 43.8% student had

vaccination against hepatitis B virus. Lack of motivation was major cause in Syrian study which kept the students away from vaccination. In current study only 7.3% medical students had lack of motivation. In study of Syria 8% medical students had needle phobia while in current study this percentage decreased up to 3%¹³.

As stated by Oyebimpe, 5.3% partakers did not get immunization owing to unapproachability whereas in our research 6.9% subjects were unable to get inoculation attributable to this reason.

In the study of Oyebimpe, 57.9% medical students were too occupied to even consider getting vaccinated. These outcomes had resemblance to current study in which most of the students didn't get vaccination because of busy life. Distant immunization place was issue for 21.1% of Medical undergraduates however right now 20% students complained about same problem. Deficiency of knowledge kept 12% students away from vaccination while in Nigerien study this percentage fall up to 5.3%.¹⁴

In 2007 percentage of United Sates vaccinated medical professionals have been seventy-five¹⁵ and 68% MBBS students acquired vaccination in current study. In Kuwait 84% medical and paramedical team of workers received immunization towards the HBV. Whereas in our have a look at vaccination trend was no longer as preferred as in Kuwait¹⁶.

In Sindh Pakistan a research was conducted on medicinal students. According to this study 70% medical students received immunization for HBV⁶. These results are similar to the results of current study where vaccination rate was 68%.

In present study 49.2% participants received three complete doses of immunization. In the study of King Khalid University Hospital 59% participants received all three doses against hepatitis B virus. In King Khalid University 16% medical students were injected two doses of vaccination and 13% were relied on only one dose¹⁷. In current study percentage of one dose and two doses vaccinated medical students were twelve and seventeen respectively.

Hafiz¹⁸ also stated that needle phobia and economy might cause hindrance in vaccination. Needle phobia and cost abstained 24.5% and 26.5% medical students from vaccination but in current study this rate was decreased to 5.3% and 3.3%. In this study cost, fear of needle and lack of motivation are not major causes to hinder vaccination process. Busy schedule is the major cause in this study.

Vaccination status of healthcare professionals and students is not satisfactory in underdeveloped countries¹⁹ like Pakistan. But a study was conducted in Uganda which stated poor rate of vaccination among medical students that that of this study²⁰. Other studies in local medical and dental colleges also demonstrated similar results and emphasized to improve the situation²¹⁻²³. In developed countries vaccination rate of medical students was much higher than that of underdeveloped counteres²⁴.

CONCLUSION

Vaccination status of students is not satisfactory against hepatitis B virus in this environment where they have direct contact with this dangerous disease. Medical institutes should assume liability to teach their students with respect

to precautionary measures and immunization against hepatitis B infection. Undergraduates should be instructed about the dangers in regard to hepatitis B infection.

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