

Original Article

HEPATITIS B VACCINATION STATUS OF MBBS AND BDS STUDENTS IN MULTAN MEDICAL AND DENTAL COLLEGE, MULTAN

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Background: Hepatitis B is included in top ten diseases of the world which has serious threats to life¹. Hepatitis B is a serious threat to healthcare workers because healthcare workers have direct contact with patients who have hepatitis B.

Methods: This questionnaire-based descriptive cross-sectional survey was conducted at the Multan Medical and Dental College, Multan. In Dental department two hundred and ten students responded. In medical section 467 students responded.

Results: Two hundred and ninety nine were males and three hundred and seventy eight were female students. A total of four hundred and thirty students got vaccinated and two hundred and forty seven failed to get vaccination. Most of the students failed to get vaccination due to busy schedule.

Conclusion: Medical and dental institutes should take responsibility to educate their health care workers regarding precautions and vaccination against hepatitis B virus. Students must be educated about the threats regarding hepatitis B virus.

Keywords: Hepatitis b vaccine, health care workers, doses, students

Introduction

Hepatitis B a very dangerous disease that may causes death. Hepatitis B is included in top ten diseases of the world which has serious threats to life (1). Hepatitis B is a serious threat to healthcare workers because healthcare workers have direct contact with patients who have hepatitis B. Needles, sharp instruments used for surgery and transfusion of blood are common procedures which spread hepatitis B among the healthcare workers and infected patients. So training for precautions and awareness for hepatitis B should be mandatory (2).

Hepatitis B vaccination is considered as an occupational safety method. Each health care worker should pass from vaccination process. In case of absence of prophylactic measures like vaccination, chances of infection increases from 6 to 30 percent (3). But vaccination along with gamma globulin can reduce the risk from 90 to 95 percent³. World Health Organization conducted a survey across the world (4). According to survey eighteen to thirty nine percent medical, dental and nursing staff had got vaccination in developing countries. While in developed countries percentage of vaccinated health care workers raised up to ninety five percent (5-7).

The only methods for prevention of infection spread

across health care workers are vaccination and standard precautions against hepatitis B virus (8). Standard precautions included barrier technique for cross infection control, proper waste of needles and surgical blades, and standard sterilization of used instruments (9).

Vaccination is a safe and economical way to deal with this dangerous infection (10). According to literature 49% medical students got vaccination in Lahore which is an alarming situation. Another study from Sindh revealed that only 57% health care workers got vaccination and other 43% are at high risk of infection from hepatitis B virus. Fear of needle, costly vaccine, distant vaccination centre, and lack of motivation are certain factors which reduce the uptake of vaccination against hepatitis B virus (11).

The aim of this study was to compare the vaccination status of MBBS and BDS students in Multan Medical and Dental College Multan. This study evaluated the common reasons that kept the students away from vaccination against hepatitis B virus.

Methodology

This questionnaire-based descriptive cross-sectional survey was conducted at the Multan Medical and Dental College, Multan. In Dental department two hundred and

ten students responded. In medical section 467 students responded. After informed consent was obtained from willing participants, well-structured questionnaire was used to obtain their HBV vaccination status. If they were not yet vaccinated, the reasons why they were not vaccinated were also obtained. Students who got first three doses of vaccination were considered as vaccinated. The collected data was tabulated and analyzed.

Results

Performa was filled by six hundred and seventy seven students in which two hundred ten were BDS students and four hundred and sixty seven were MBBS students. Two hundred and ninety nine were males and three hundred and seventy eight were female students (Table 1). Total four hundred and thirty students got vaccinated and two hundred and forty seven failed to get vaccination. The vaccination status of the students where only two hundred and thirty MBBS and thirty one BDS students received three doses of vaccination.

Table-1: Characteristics and reasons not to receive vaccination in participants

Variable	Male	Female	Total
MBBS	207(44.3%)	260(55.7%)	467
BDS	92(43.8%)	118(56.2%)	210
Total	299(44.2%)	378(55.8%)	677
Variable	Vaccinated	Not vaccinated	Total
MBBS Students	318(68%)	149(32%)	467
BDS students	112(53.3%)	98(46.7%)	210
Total	430(63.5%)	247(36.5%)	677
Reasons	MBBS	BDS	Total
Did not know about vaccination	17(11.4%)	21(21.4%)	38(15.3%)
Vaccine unavailable	9(6.04%)	8(11.2%)	26(6.9%)
Busy schedule	68(45.6%)	39(39.7%)	107(43.3%)
Distant vaccination center	31(20.8%)	12(12.2%)	43(17.4%)
Costly vaccine	8(5.3%)	5(5.1%)	13(5.2%)
Lack of motivation	11(7.3%)	7(7.1%)	18(7.2%)
Fear of needle	5(3.3%)	6(6.1%)	11(4.4%)
Total not vaccinated	149	98	247

Table 2 shows that lack of knowledge (15.3%), vaccine unavailable (6.9%), fear of needle (4.4%), distant vaccination center (17.4%), cost of vaccine (5.2%), lack of motivation (7.2%), and busy schedule (43.3%) are the main causes for failure to get vaccine. Most of the students failed to get vaccination due to busy schedule.

Table-2: Number of doses received by education track of MBBS and BDS.

Students' education track	One dose	Two doses	Three doses	Booster dose
MBBS STUDENTS	55(11.8%)	80(17.1%)	230(49.2%)	88(18.9%)
BDS STUDENTS	22(10.4%)	35(16.7%)	31(14.8%)	81(38.6%)

Discussion

In this study four hundred (63.5%) and thirty students out of six hundred and seventy seven students got vaccination. 68% MBBS students got vaccination while 53.3% of BDS student got complete three doses of vaccination. These results are contrary to another study

in India where 86.7% BDS students got vaccination while 79.5% MBBS students got vaccination. Results of this study are better than another study from Lahore where vaccination rate was 42.20% among the medical students (11). Another study in Pakistan revealed that fifty seven percent MBBS students got vaccination and forty three percent students failed to get vaccination which is contrary to this study where vaccination rate is as good as 68%. In Mirpur Khas 5.5% participants did not get vaccination due to lack of knowledge but in this study 13.2% students had poor knowledge about vaccination process. In Mirpur Khas 29.2% students showed lack of motivation but in this study 7.2% students had lack of motivation. In study of Asif 10.5% students had fear of injection while in this study only 4.4% students had fear of injection (12). Another study was done in Syrian private medical university which revealed that only 43.75% students get vaccination. But in this study vaccination rate is 63.5%. In this study most of the students failed to get vaccine due to their busy schedule but in Syrian study lack of motivation was the major cause of failure. In this study 7.2% students showed lack of motivation. 4.4% students had a fear of needle but in Syrian study this percentage raised up to 8% (13). According to Oyebimpe, 5.3% students did not get vaccination due to unavailability while in this study 6.9% students did not get vaccination due to this reason. According to Oyebimpe, 57.9% students were too busy to get vaccination. These results are comparable to this study in which 43.3% students did not get vaccination due to their busy schedule. Distant vaccination centre was problem for 21.1% of Nigerian students but in this study 17.4% students met same difficulty for vaccination. In this study lack of knowledge abstained 15.3% of students from vaccination but in Nigerian students this percentage was 5.3% (14). In 2007 seventy five percent health care workers were vaccinated in United States (15) while in this study only 63.5% MBBS and BDS students received vaccination. In Kuwait eighty four percent doctors and paramedical staff got vaccination against the hepatitis B virus. While in our study vaccination rate was not as appreciated as in Kuwait (16). In 2010, Khan conducted a study in medical colleges of Karachi, Pakistan in which he stated that 70.6% medical students were vaccinated in Karachi. These results are comparable with this study where 68% MBBS students got vaccination against Hepatitis B virus (6).

In this study more students from MBBS got vaccination as compare to BDS students. 26.5% MBBS students did not know about vaccination process while 13.5% BDS students did not know about vaccination process. These observations are contrary to Nigerian students where BDS students had more awareness than MBBS students (14). In King Khalid University Hospital (KKUH) 59.9% medical students got all three doses of vaccination but in this study 49.2% students got three doses of vaccination. In KKUH almost sixteen percent

students got two doses of vaccination and thirteen percent got one dose of vaccination. But in this study 11.8% students got one dose and 17.1% students got two doses of vaccination. In KKHU twelve percent students were unaware of vaccination process but in this study 15.3% did not know about vaccination process (16). In King Khalid University 93.3% students got vaccinated while in this study only 63.5% students got vaccination. In King Khalid University only thirty three students failed to get vaccination due to busy schedule but in this study one hundred and seven students failed to get vaccination due to that reason (17). 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. Hafiz et al stated that 26.5% students did not get vaccination due to its cost but in this study 5.2% students did not get vaccination due to cost. In the study of Hafiz 24.5% students had a fear of needle but in this study percentage is 4.4% (18). Another study from Haryana showed 23% vaccination rate in three dental colleges which is far lesser than this study (19). In India a study revealed that 64% dental students were vaccinated which is comparable to our study where vaccination rate is 63.5% (20). Complete vaccination was previously reported by 91.2% of dentists in the city of Montes Claros. These results are better than this study in which only 63.5% students were vaccinated. In the study of Ferreira 25 (8.8%) were not vaccinated or did not complete this schedule, due to the following reasons: lack of knowledge (48%), fear of vaccination (12%) and lack of vaccine in the health clinic (4%). While in this study 36.5% students failed to get vaccination due to lack of knowledge (15.3%), fear of needle (4.4%) and vaccine unavailable (6.6%) (21). According to Atiba only 39.2% of the respondents had received at least three doses of HBV vaccine Obafemi Awolowo University (OAU) which was lower than vaccination of this study. In the study of atiba 61.2% students failed to get vaccination but in this study 36.5% students failed to get vaccine (22).

Conclusion

Vaccination status of medical and dental students is not as good as in developed countries. So institutes should take responsibility to educate their health care workers regarding precautions and vaccination against hepatitis B virus. Students must be educated about the threats regarding hepatitis B virus.

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