

# STATUS AND ATTITUDE TOWARDS HEPATITIS 'B' VIRUS VACCINATION IN STAFF OF LADY READING HOSPITAL PESHAWAR

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## ABSTRACT

**Objective:** To know the attitude of the staff of Lady Reading Hospital, Peshawar.

**Material and Methods:** This descriptive study was conducted among the staff of Lady Reading Hospital, Peshawar in June 2008. A questionnaire, consisting of designation of respondent and questions regarding status of HBV vaccination, was distributed among the staff to be filled by the staff; in some cases, authors asked the questions directly and filled the questionnaire accordingly.

**Results:** Four hundred and eighty-three staff, including 314 males and 169 females were interviewed. Out of these, 317 (65.63 %) were immunized against hepatitis B virus whereas 166 (34.37 %) were not ( $p = < 0.05$ ). Among the vaccinated participants, 150 (47.32%) families were immunized whereas 21 (12.57%) families were immunized among the non immunized participants ( $p = < 0.05$ ). Frequency of immunization was highest in the teaching staff (96.55 %) and lowest in the canteen and security staff (10 %) ( $p = < 0.05$ ). The source of vaccination was mostly (87.5%) from hospital ( $p = < 0.05$ ).

**Conclusion:** Though 65.63% staff is vaccinated against hepatitis B virus in LRH Peshawar of NWFP, yet more aggressive and combined efforts are needed to vaccinate the 34.37% staff who is not protected.

**Keywords:** Hepatitis B Immunization, Staff, Family Members, Source of vaccination.

## INTRODUCTION

Approximately 30 % of world population has serological evidence of hepatitis B virus (HBV) infection. In other words, about 300 million have chronic HBV infection, out of whom at least 500,000 die each year from liver cancer and cirrhosis<sup>1</sup>. HBV is the greatest threat of infection for healthcare personnel. The risk of acquiring HBV by healthcare personnel is four times greater than general adult population.<sup>2,3</sup> A safe and effective vaccine against HBV is available for nearly 21 years<sup>1</sup>. Hepatitis B vaccine is effective in preventing HBV infections when it is given either before or shortly after exposure. At least 85-90 % of HBV associated deaths can be prevented by the vaccine<sup>1</sup>. Risk of acquiring HBV infection with

status of hepatitis B vaccine in developing countries have been poorly quantified, particularly the data regarding the risk of different categories of healthcare personnel, like nurses and supporting non-professional staff, which clean the wards and instruments, is scarce<sup>4</sup>. The aim of the study was to know the attitude of the staff of the Lady Reading Hospital Peshawar whether they have got themselves and their families vaccinated against hepatitis B virus or not, and if not why?

## MATERIAL AND METHODS

This study is based on survey conducted among the staff of Lady Reading Hospital, Peshawar in June 2008. Total number of staff under various categories working in Lady Reading Hospital Peshawar is 2286, out of which 550 were

interviewed (Table-1) A questionnaire, consisting of designation of respondent and questions regarding status of HBV vaccination, was distributed in open among the staff to be filled and recollected by the authors; it was in English. In some cases, the authors asked the questions of the questionnaire directly and filled it accordingly. Simple convenient sampling technique was adopted to distribute the questionnaire. No inclusion and exclusion criteria were used as aim of the study was to assess the vaccination status of the staff. It was a simple descriptive study. A verbal consent was obtained from each of the participants, as it didn't involve any sort of intervention. No anti-HBs titers was done, as the aim of the study was to know the attitude of the staff whether they have got themselves and their families vaccinated against hepatitis B virus or not, and if not why? The participants included teaching staff, trainee medical officer, house officers, nursing staff, nursing students, paramedical staff, OT staff, dialysis staff, laboratory staff, sweepers, class IV, administration and other staff.

**RESULTS**

Five hundred and fifty (n=550) staff of Lady Reading Hospital Peshawar received the questioner, out of whom 483 filled and returned it. Details of vaccination status are given in Table-2. The mean age of the participants was 31.8 years. Three hundred and fourteen were males and 169 were females. A total of 317 (65.63 %) were

**NUMBER OF HOSPITAL STAFF INTERVIEWED**

Categories of Staff	Total (n = 2286)	Interviewed (n = 483)
Teaching Staff	102	29
Trainee Medical Officers	356	59
House Officers	148	68
Nursing Staff	411	52
Nursing Students	300	97
Sweepers & Class-IV	750	63
Administration	33	19
Paramedical Staff	113	55
Laboratory Staff	67	21
Others	73	20

Table 1

vaccinated against HBV infection, out of these, only 210 (66.241 %) had completed their vaccination.

There was no significant difference between status of vaccination among men and women (p = > 0.05). There was a significant difference in mean ages of vaccinated and not vaccinated staff (p= < 0.05). Highest frequency of vaccination was seen in teaching staff (96.55 %) and least in canteen and security staff workers (10 %), (p= < 0.05). A significant difference was noted among different staff. The status of vaccination

**VACCINATION STATUS OF HEALTH CARE PERSONNEL**

	Vaccinated (n=317)	Not Vaccinated (n=166)	P Value
Mean Age (years)	43.32 ± 8.1	38.12 ± 7.2	> 0.05
<b>Gender:</b>			
Male (n=314)	65 %	35 %	< 0.05
Female (n=169)	55 %	45 %	< 0.05
<b>Working Group:</b>			
Teaching Staff (n=29)	96.55 %	3.45%	< 0.05
TMO's (n=59)	77.65 %	32.35 %	< 0.05
House Officers (n=68)	96.55 %	3.45 %	< 0.05
Nursing Staff (n=52)	78.85 %	21.15 %	< 0.05
Nursing Students (n=97)	71.73 %	28.27 %	< 0.05
Sweepers & Class-IV (n=63)	20.63 %	79.37 %	< 0.05
Administration (n=19)	21.05 %	78.95 %	< 0.05
Paramedical Staff (n=55)	89.09 %	10.91 %	< 0.05
Laboratory Staff (n=21)	76.09 %	23.91 %	< 0.05
Others (n=20)	10 %	90 %	< 0.05

Table 2

## FAMILY VACCINATION AND SOURCE OF VACCINATION

	Done	Not Done	P Value
Family Vaccination	47.32 %	52.68 %	> 0.05
Source of Vaccination	Personal	Hospital	
	32.49 %	67.51 %	< 0.05

Table 3

varied according to the education and experience level of the staff, being lowest in the un-educated and un-experienced staff. Among the vaccinated staff, 150 (47.32 %) families were vaccinated (Table-3). The vaccination source for the staff was mostly from hospital i.e 214 (87.5 %).

Among the non-vaccinated staff, the reasons given by them were lack of knowledge in 51.2 % (n=85), lack of time in 18.07% (n=30), afraid of side effects in 17.47% (n=29), don't believe on vaccination in 6.63% (n=11); and lack of money in 3.01% (n=5). Among them only 12.65% of their families were vaccinated.

## DISCUSSION

Viral hepatitis A and B can be directly prevented by vaccination whereas viral hepatitis D can be indirectly prevented by vaccination against viral hepatitis B. Generally hospital staff have a greater probability of acquiring Hepatitis B infection because they are occupationally exposed. The need for vaccination against this disease should be considered a priority. HBV Vaccine is highly effective with 95 % seroconversion rates<sup>5</sup>.

We found 65.63 % vaccination rate in our hospital staff; the rate being lower than reported by Nilofer et al<sup>6</sup> (86%) but higher than reported by Nasir et al<sup>7</sup> (49%) and Memon et al<sup>8</sup> (64%). The vaccination rate in our study is quite comparable to studies reported from Nepal<sup>4</sup> (49%), Iran<sup>9</sup> (62%), and Brazil (72 %)<sup>10</sup>.

We found highest vaccination rate in teaching staff (96.5 %) and least in canteen and security staff (10 %). Our results differ from Neelofer et al<sup>6</sup>, SF Imam et al<sup>11</sup>, SK Suresantha et al<sup>4</sup> and Memon et al<sup>8</sup> who reported high rate in doctors and other paramedical staff as ours but least vaccination rates in nursing staff against ours where least rates were seen in security and canteen workers.

Our paramedical staff has better vaccinated status, second to teaching staff, for a very unique and appreciable reason. It's the Paramedical Staff Union, which not only solve their other problems but also looking after their

health and most of them got vaccinated from the hospital. We also found that the advance age (mean age 35 years) and increased working experience (mean 10 years) were significant factors for higher rate of vaccination. These factors suggest that greater experience of working as a hospital staff reflect more awareness regarding various communicable diseases.

One thing which is new in our study is that we have also tried to dig out the vaccination status of family members of the hospital staff. Among the vaccinated participants, 150 (47.32%) families were immunized whereas 21 (12.57%) families were immunized among the non immunized participants. The source of vaccination was mostly (87.5%) from hospital.

Despite the availability of the free vaccination in our hospital for more than a decade, 100 % coverage for vaccination has not yet been achieved; the most frequently quoted reason amongst the non vaccinated hospital staff in this study was lack of knowledge about the importance of HBV prevention and lack of time. Same reason was reported in the study done at Aga Khan University Hospital Karachi<sup>6</sup>, where as studies from Fatima Jinnah Medical College<sup>7</sup> and Allama Iqbal Medical College Lahore<sup>12</sup> have cited the main reason for not to vaccinate the cost of vaccine.

## CONCLUSION

Though 65.63% of the hospital staff is vaccinated against hepatitis B virus in LRH Peshawar of NWFP, yet more aggressive and combined efforts are needed to vaccinate the 34.37% staffs who are not protected.

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