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Analysis of Knowledge, Attitude & Practices about Vaccination Against Hepatitis-B among Medical Students of Nishtar Hospital, Multan-Pakistan

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Abstract
Background of study: Being an Asian country, Pakistan has a high ratio of population infected with the HBV. Various studies carried out in Pakistan have clearly showed that medical students do not have sufficient knowledge about blood borne diseases. Health care workers are predisposed to higher risks of contracting HBV as it is transmitted through blood and body fluids and accidental contact with these fluids is inevitable while treating the patients. This risk is even higher amongst medical students during their clinical years as they have inadequate experience and skills and the exposure to contaminated fluids becomes far more likely. **Objectives of study:** To determine knowledge, attitude & practices regarding vaccination against HBV among MBBS 4th years students of Nishtar Medical College, Multan. To determine the frequency of 4th year students vaccinated against HBV**Material and Methods:** It is a cross sectional study. The sample of study was 167 students. The data was collected through a structured questionnaire.**Results:** Out of the 167 students who took part in the research,87 were females while 80 were males. Among them, 73(43%) were Day scholars while 94 (57%) were Hostilities. Out of the females,45(54.3%) had a complete knowledge of the route of transmission of HBV while from the males only 38 (45.7%) had the complete knowledge. However, the number of students vaccinated against HBV were almost equal with 55 boys and 65 girls. Among males, the families of 28 students were not vaccinated against HBV while among females 27 did not have their families vaccinated.**Conclusions:** From our analysis we concluded that females have a good knowledge about HBV than males while the ratio of students vaccinated against HBV is also more than females. We suggest that health education on Hepatitis-B should be provided and vaccination programs should be held more frequently among the students.
Keywords: Transmission of HBV, Hepatitis, Vaccination, Knowledge, Attitude.

1. INTRODUCTION

Hepatitis B is an acute systemic viral infection. According to a survey, more than two billion people are infected with hepatitis B worldwide; of those, 350 million remain chronic carriers [6]. One million people die each year due to complication of Hepatitis-B. It is transmitted mainly via blood and body secretions. Potential complications of the Hepatitis B include cirrhosis of liver and hepato-cellular carcinoma. The risk of infection by Hepatitis B virus (HBV) ranges from 6% to 30% if no prophylactic measure is adopted. Moreover, combination of vaccines and gamma globulin can reduce this risk by 90-95%. [7]. Although hepatitis B and A vaccines were approved in late 1981 and in 1992, respectively, hepatitis A and B continue to be the most frequently reported vaccine-preventable diseases [8]. Hepatitis B virus (HBV) infections may result in a wide spectrum of clinical outcomes, ranging from silent infection to subclinical disease and classical icteric hepatitis to fulminant hepatic. This disease is rapidly spreading in Pakistan [9].

1.1. Objectives of study

- To determine knowledge, attitude & practices about vaccination against HBV among 4th year students of MBBS of Nishtar Medical College, Multan.
- To determine the frequency of 4th year students vaccinated against HBV.
- To generate awareness about vaccination and prevention of HBV infection.

2. RESEARCH METHODOLOGY

2.1 Nature of study: observational cross sectional epidemiological study
2.2. Study setting Nishtar Medical College
2.3 Sample of study: 4th year students of MBBS.
2.4 Duration of Study: 12 days
2.5 Sample size: 167 students
2.6 Sampling technique: non-probability conventional
2.7 Inclusion criteria: students of 4th year MBBS both male and female
2.8 Data Collection Method: Questionnaire based interview to get answers of questions relevant to the objective of study.
2.9. Analytical technique: Descriptive statistics, including frequencies and percentages were calculated for

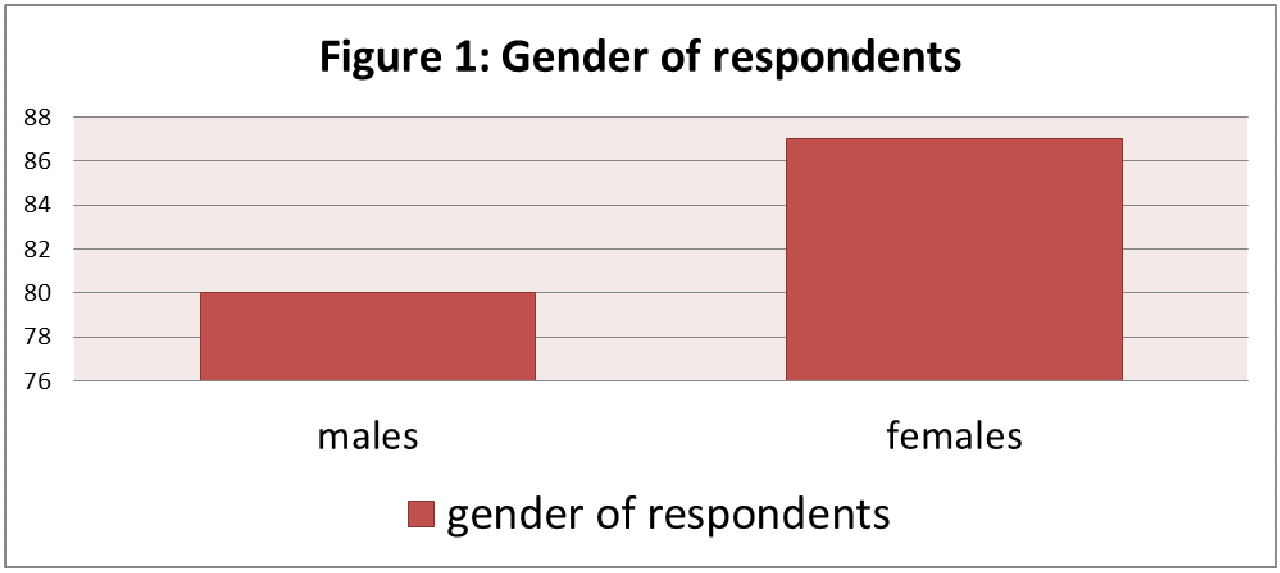
each item on the questionnaires; cases with missing data were excluded. Data was composed on MS word, Power Point & Excel.

3. DATA ANALYSIS

The results of our study are shown in the following tables and figures.

Table #1 Frequency distribution of gender ratio of respondents [N=167]

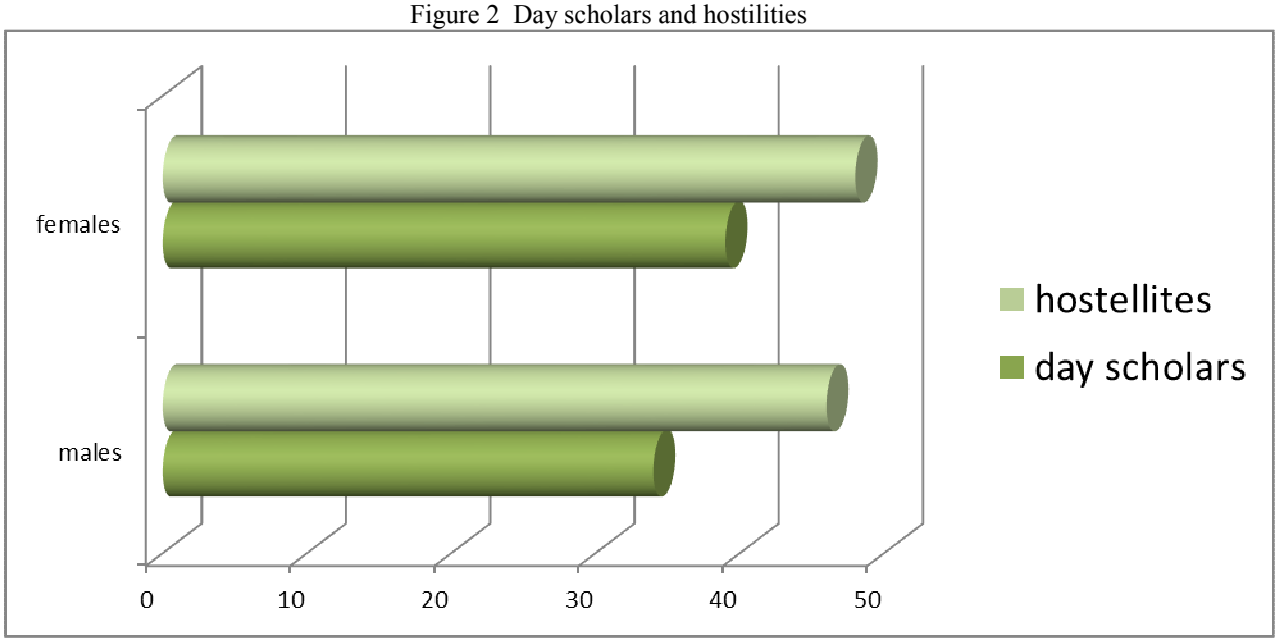
gender	Number	%age
Males	80	47.9
Females	87	52.09



Table#2 Ratio of day scholars & hostilities among the respondents: [N=167]

Gender	Day scholars	%age	Hostilities	%age
Males	34	42.5	46	57.5
Females	39	44.8	48	55.2

Figure 2 Day scholars and hostilities

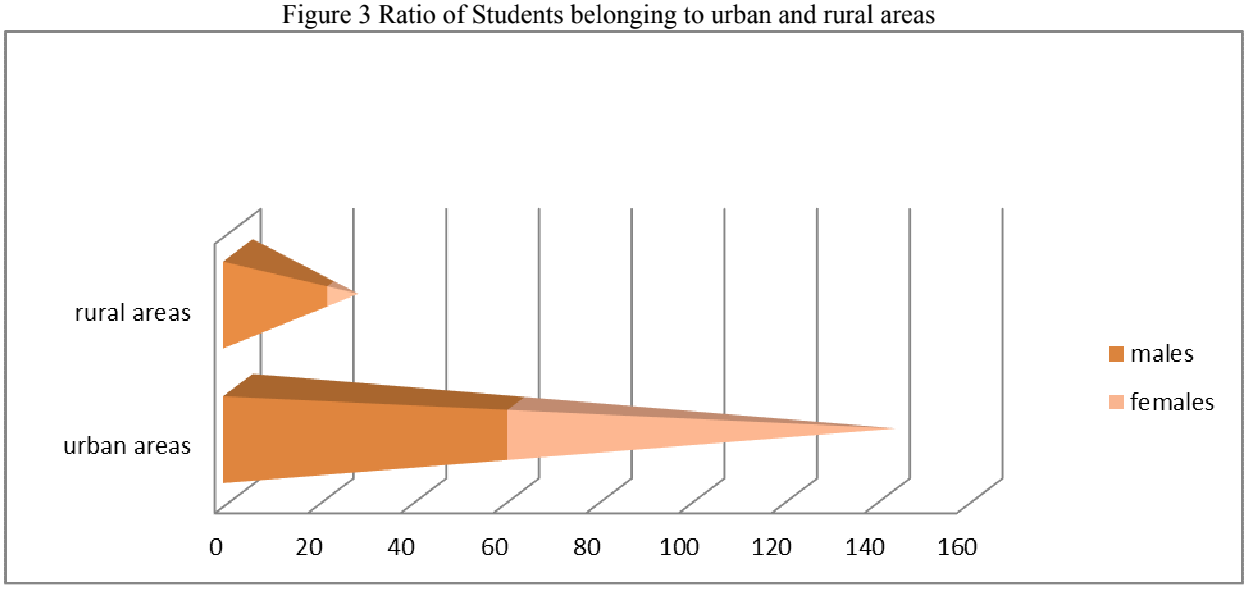


According to the above data, more hostilities participated in the research than the day scholars.

Table#3 Frequency distribution of Ratio of students belonging to urban & rural areas : [N=167]

Gender	from urban areas	%age	From rural areas	%age
Males	60	75	20	25
females	82	94.32	5	5.74

Figure 3 Ratio of Students belonging to urban and rural areas



The data given in Table 3 and Figure 3 show that most of female respondents belonged to urban areas.

Table # 4 Frequency Distribution of Knowledge among respondents about route of transmission of HBV: [N=167]

Knowledge about HBV	males	Females
complete knowledge	38	45
Incomplete knowledge (sexual)	27	22
_____(parenteral)	13	12
(vertical)	3	8

Figure 4 Knowledge about route of transmission of HBV

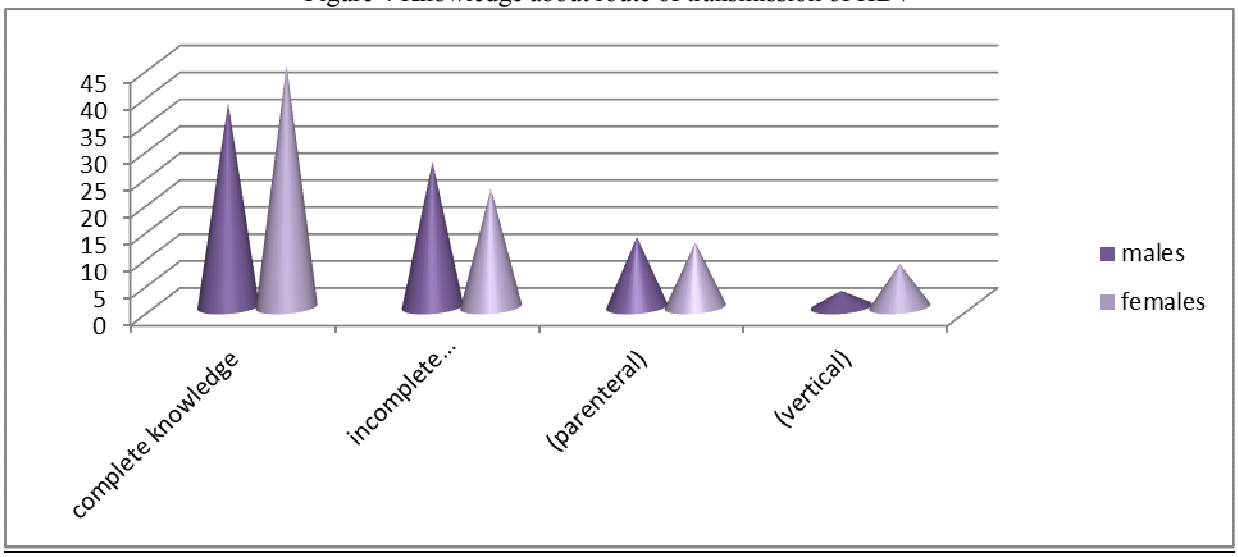


Table # 5 Frequency Distribution of Knowledge among respondents about HBV infection (N=167)

Status of knowledge	males	%age	Females	%age
Complete	31	37.3	52	62.5
Incomplete	49	58.3	35	41.6

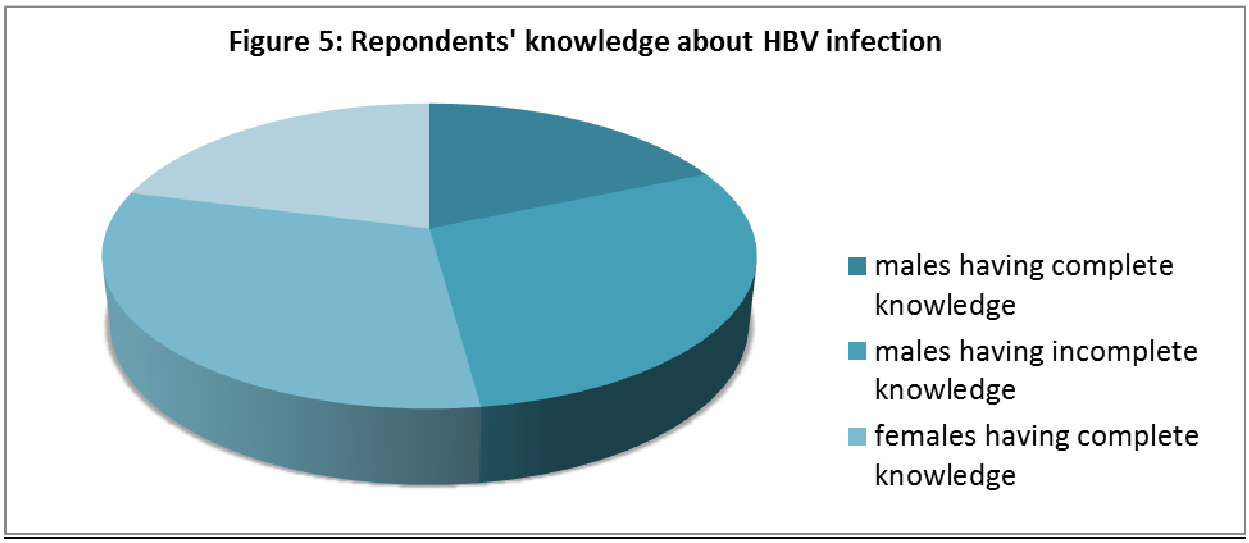
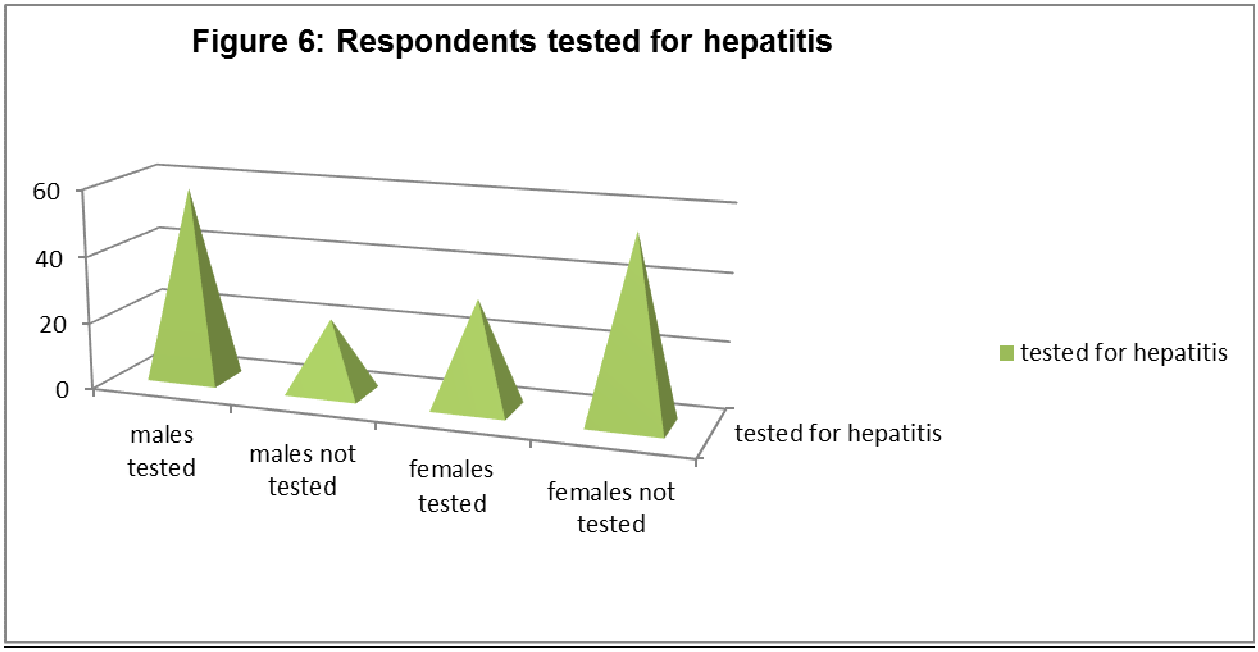


Table #6 Frequency Distribution of No. of students tested for Hepatitis: [N=167]

Gender	tested	%age	Not tested	%age
Males	58	72.5	22	27.5
females	32	36.7	55	63.2



The above Figure shows that more males than females had been tested for Hepatitis.

Table # 7 Frequency Distribution of Vaccination status of respondents: [N=167]

Vaccination status	males	%age	Females	%age
YES	55	45.8	65	54.16
NO	25	53.19	22	46.8

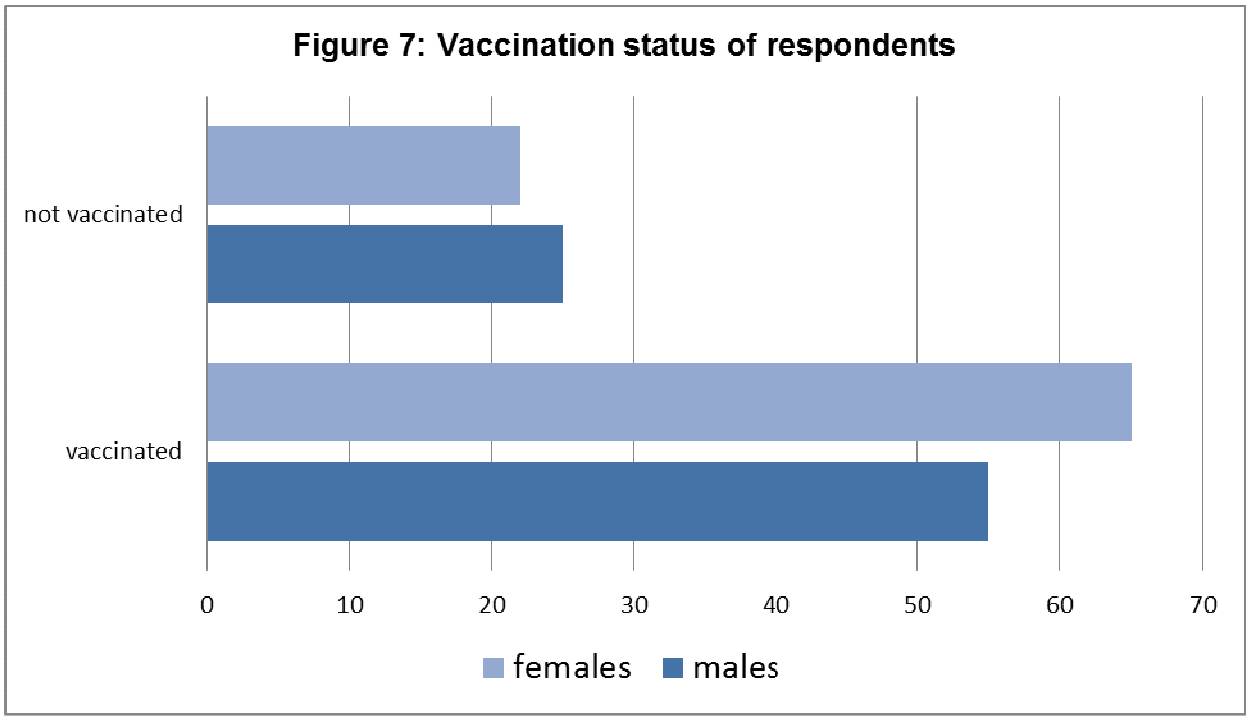


Table # 8 Vaccination status of families of Respondents: (N=167)

Vaccination status	males	females
Families vaccinated	52	60
------(parents)	6	21
------(siblings)	10	23
------(both)	36	30
Families not vaccinated	28	27

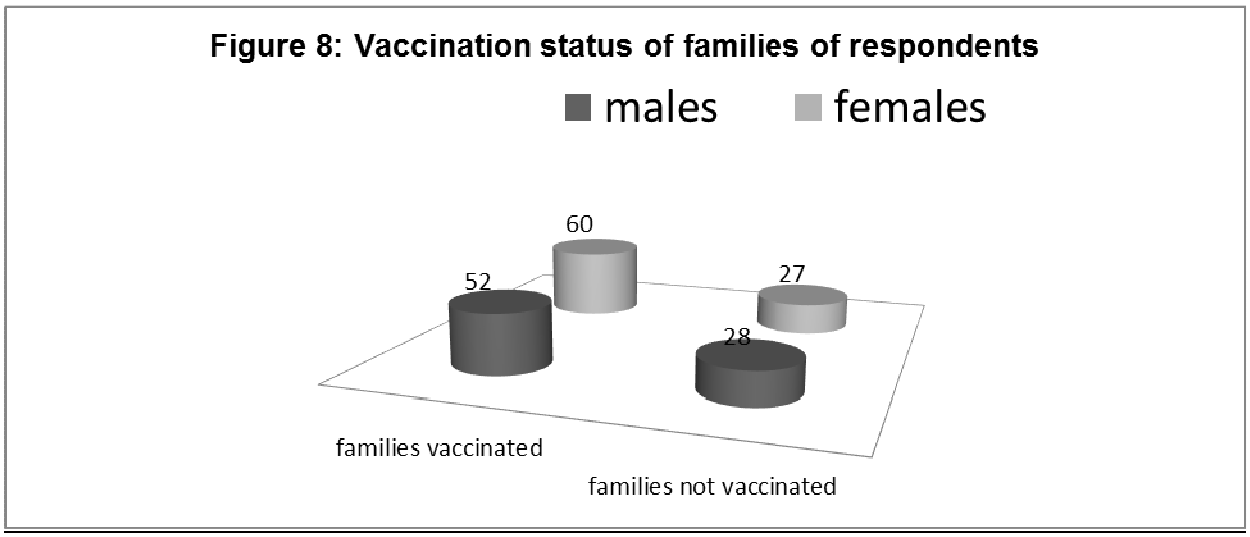
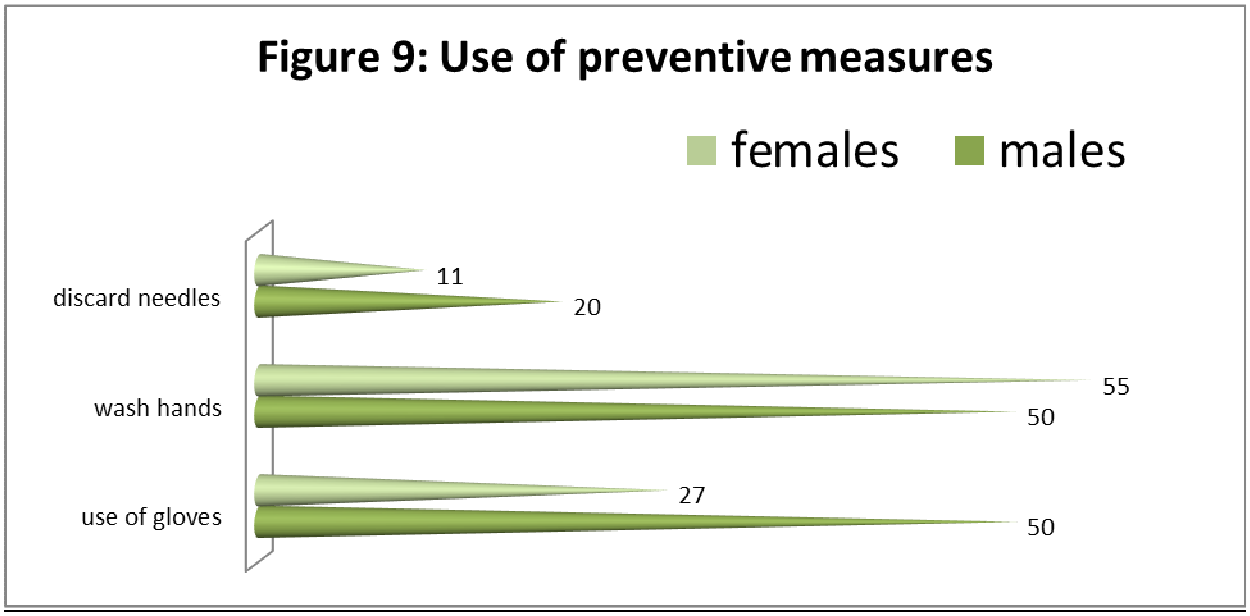


Table # 9 Frequency distribution of preventive measures used by students: (N=167)

Preventive measures	Males	Females
Use of gloves	50	27
Wash hands	50	55
Both of above	6	6
Discard needles	20	11
All of above	4	6



4. FINDINGS

Knowledge attitude and practice studies are useful steps to assess extent to which an individual or community is in a position to adopt a risk-free behavior for this disease, in this case Hepatitis B. All healthcare professionals can contribute to create awareness for disease. However, deficiency of knowledge among future doctors along with rise in the prevalence of HBV disease poses a severe threat to the people involved in healthcare. Medical students, in addition to healthcare workers, need to have a thorough knowledge about HBV, its mode of transmission and the benefits of vaccination so that they could not only protect themselves but also promote better management of this disease.

According to a survey in USA 2002-2003, 75% of medical students and doctors were vaccinated. In research studies carried out in Pakistan in 2009, 82% in Nishtar Medical College Multan,49% in Allam Iqbal Medical College Lahore,86% in Agha Khan Karachi,80% in QMC Bahawalpur,76% in King Edward Medical College Lahore,52% in Dow Medical College and Civil Hospital Karachi, and 70% in Sir Ganga Ram Lahore were vaccinated [8]. Our studies at Nishtar Medical College show that out of 167 students surveyed, 54.3% of the females had full knowledge of the route of transmission of HBV while only 45.7% male students had complete knowledge. However, the number of students vaccinated against HBV were almost equal with 55 boys and 65 girls. Among males, the families of 28 students were not vaccinated against HBV while among females 27 did not have their families vaccinated. Knowledge about the preventive measure of washing hands and using gloves is common. But about half of the students do not know about needle stick safety despite the fact that the risk of transmission of blood borne infection after a needle stick injury is significantly problematic, since the risk of contracting HBV after parenteral exposure is 30 percent.

5. CONCLUSIONS

The empirical evidence of our study show that female students have a good knowledge about HBV than males. The ratio of students vaccinated against HBV is also more in females than males. However, more males had been tested for HBV but their families were less vaccinated. It could be concluded that there is a need in medical universities to emphasize on vaccination of the students before they join clinical practice to avoid risk of disease. Also, medical universities should carry out screening and vaccination programs for HBV as this virus is highly infective, yet there are safe and effective vaccine is available. HBV can cause several complications and there

seems to be an urgent need for universities to introduce measures that would help control its spread.

6. RECOMMENDATIONS

1.Awareness about HBV should be raised among the medical students as well as among general public through seminars, brochures, pamphlets and media campaigns.
2.This awareness should contain the knowledge about the modes of transmission, the pathology of HBV infection and the ways of prevention against it.
3. Free camps should be set up for imparting knowledge as well as testing and vaccinating the people against HBV.
4. Medical Students should be prepared to raise awareness of HBV in their families and relatives.
5. Special awareness among pregnant ladies and IV Drug abusers is needed.
6. All blood for transfusion should be screened for HBsAg.
7. All health care personnel (medical students, Doctors, Surgeons, Dentists) should be especially vigilant about washing hands, discarding needles and using gloves.

7. LIMITATIONS

This study has the following limitations: -

► All data were self-reported and the validity of the responses were not evaluated.

► The history of vaccination and blood tests was based on the ability to recall and this might introduce inaccuracy in recording of the data

►Since the research was carried out by students among students so there was some non-seriousness in the responses.

►By using the convenience sampling based on voluntary basis, the proportion of gender and numbers of subjects were not the same in each group, thus potentially introducing bias into the analysis.

► People may have had difficulty in comprehension and tended not to answer the questions, especially those regarding knowledge of the disease

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