

KNOWLEDGE, ATTITUDES AND PRACTICES REGARDING HEPATITIS A & E AWARENESS AMONG BIOLOGICAL AND NON- BIOLOGICAL STUDENTS

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ABSTRACT

Aims and objectives: To determine and assess the level of awareness and knowledge among biological and non-biological respondents regarding HAV/HEV. **Methods:** Respondents filled a pre-tested structured questionnaire. The variables accessed were their knowledge of disease regarding etiology, mode of transmission, and prevention & control measures. It was observed that there was significant difference in the knowledge among students from biological sciences and non-biological sciences students. **Results:** Data showed that, 92% of respondents from biological sciences (BS) group and 58% of non-biological sciences (NBS) had knowledge about HAV/HEV. Furthermore, 68% of respondents from BS group and 17% of respondents from NBS group had knowledge about the mode of transmission and spread of HAV and HEV infection. **Conclusion:** Awareness campaigns should be conducted to make people aware of the ways HAV/HEV spreads, its mode of transmission, severity of infection and preventive measures to minimize its spread as well as chances to acquire HAV/HEV infections. It is important to understand the need to educate people, especially from lower socio-economic status as they might not know about these infections and how it spreads.

KEYWORDS: Hepatitis A; Hepatitis E; KAP study; Knowledge; awareness.

INTRODUCTION

The disease commonly described as Jaundice in Greek, Chinese and Roman literature was actually the viral inflammation caused by Hepatitis A. The term infectious was used to describe this disease because it happens to occur in form of epidemics. The term Hepatitis A was first introduced by^[1] and is caused by five of the viruses which belong to different families of viruses. Its major site of replication and infection is liver and is known to cause jaundice. Studies show that the disease of jaundice, spreads mostly through the fecal-oral route. Because HAV spreads easily in the environment, it mostly causes infections in form of epidemics.^[2,3]

The main reason of the epidemics in Pakistan is the contamination of water and socioeconomic condition of society. Several outbreaks have been reported during the years in different areas of Pakistan in 1993 there was

outbreak in Islamabad because of breakdown of water treatment plant affecting people of different age groups. The HEV causing epidemic in Sargodha in 1987 was identified central Asian genome type 1^[4] and the epidemic in Abbottabad which occur in 1998^[5] was also the same genotype as of the HEV epidemic occur in Sargodha, a city 3000km away from Abbottabad. Both the epidemics occur with the gap of only 18 months. Due to the geographic importance of Pakistan there are chances that HEV virus spread from different regions of Asia to Pakistan. It was reported that Abbottabad epidemic was caused by HEV was introduced from central Asia and Sargodha epidemic travelled from China to Pakistan.^[4,6]

Around 90% of population of Pakistan become infected with HAV before reaching the age of 10 years because of poor sanitary conditions,^[2,7,9] Out of which, 50-60% of

cases of acute viral hepatitis are reported in pediatric population of Pakistan.^[10] While as compared to pediatrics, 5.1 to 6.4% of adults have been found to be infected with HAV.^[11] By the age of 5, almost 96% of population is exposed to HAV while 98-100% of adult population becomes exposed to HAV in Pakistan.^[12,14]

HAV was isolated from the stools of infected persons, which ultimately lead to the development of diagnostic tests, propagation in cell culture, molecular characterization, and development of a vaccine.^[15,17]

Hepatitis E virus (HEV) is the causative agent of hepatitis E, and is endemic in Pakistan and it transmitted through fecal oral route. It occurs mostly during the rainy season when there are high chances of floods and there is mixing of drinking water with sewage water and people have communal life style (10). Genotype 3 HEV (HEV-3) has been isolated from human hepatitis cases and animal reservoirs globally to study the transmission routes.

Worldwide hepatitis is very common. Though it remains endemic in developing countries like Pakistan but the rate of sero-prevalance is decreasing day by day in developed countries. Asymptomatic infection of HAV occur in the case of children while on the other hand in the case of adults and older children there is a big range of infections from mild to anicteric to fulminant hepatic failure which results in the wild range of morbidity and mortality.^[18,19]

MATERIAL AND METHODS

Study design

The present study was organized by the Department of Microbiology, Pakistan kidney & liver institute and research center. A questionnaire consisting of 18 multiple-choice questions was designed to evaluate perception and understanding of respondents about hepatitis A (HAV) and hepatitis E (HEV) infection.

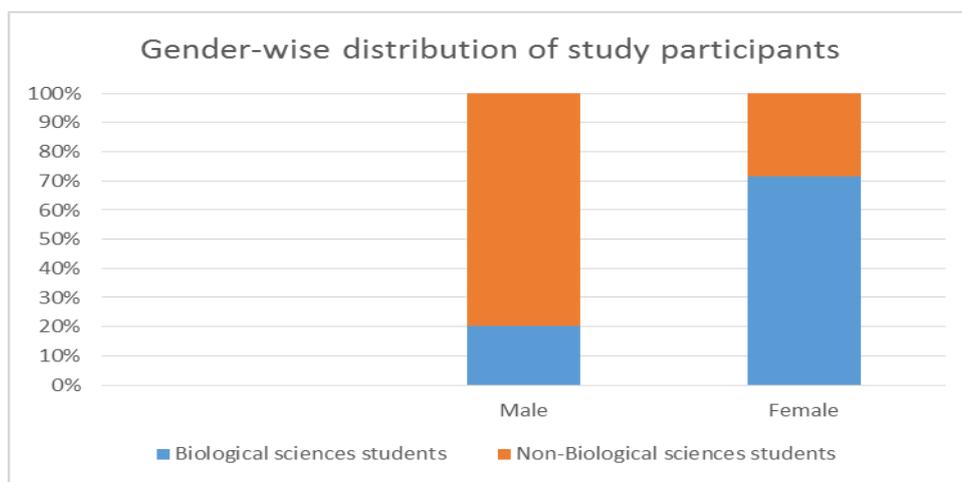


Figure 1: Gender-wise distribution of study participants.

The questionnaire was divided into three parts. First part addressed demographics which included: age, gender, marital status, educational level. Second part included basic knowledge about HAV and HEV including its mode of transmission. Another set of questions was incorporated to explore the health status of the respondents, family history of HAV or HEV infections, including their practices towards HAV & HEV screening and vaccination. The respondents were requested to

recall whether they had HAV or HEV testing, the results of the blood test, and whether they had received HAV or HEV vaccination. The questionnaire was developed in English. In this study, graduate and post-graduate students from biological science and non-biological science departments were included. They were categorized into biological sciences (BS) and non-biological sciences (NBS) groups.

Table 1: Characteristics of respondents.

| Variables | Description | n | % |
|----------------|-------------|------|------|
| Age | <18 | 379 | 30.2 |
| | 18-25 | 788 | 62.9 |
| | 26-35 | 60 | 4.7 |
| | 36-45 | 24 | 1.9 |
| Marital status | Single | 1091 | 87.2 |
| | Married | 160 | 12.7 |
| Education | Bachelors | 868 | 69.3 |
| | Masters | 329 | 26.2 |

| | | | |
|----------|-------------------------|-----|------|
| | M.Phil/PhD | 54 | 4.3 |
| Sections | Biological sciences | 778 | 62.1 |
| | Non-Biological sciences | 473 | 37.8 |

Data collection

Questionnaires were distributed among students who volunteered to participate in the study. Data was collected from total of 1251 respondents. Throughout this process, close monitoring was done to ensure quality of data and to omit any discrepancies. Respondents were requested to answer all the question with the best of their knowledge and understanding.

RESULTS

Awareness about HAV/HEV infections

Upon analysis of data, it was evident that 92% of BS group and 58% of NBS had knowledge about HAV/HEV. Furthermore, 48% of BS group said that they know about HAV/HEV infection through reading a research article, 25% through television and 8% through reading newspaper. On the other hand, 33% of NBS group learned about these infections through television, 21% through newspaper and 17% through research article.

Awareness about spread and transmission of HAV and HEV infection

Upon analysis of data obtained, it was revealed that only 68% of respondents from BS group and 17% of respondents from NBS group had knowledge about the

mode of transmission and spread of HAV and HEV infection.

Awareness about personal hygiene

Around 80-90% of the respondents from both groups were clear that improved personal hygiene, washing hands before and after eating, and drinking filtered/boiled water prevents from acquiring HAV/HEV infection.

Awareness about use of antibiotics

When asked if antibiotics can be used to treat HAV/HEV infection, 60% of respondents from BS group said "No" which means rest of the 40% of respondents believe that in viral infection, antibiotics can be used. While in NBS group 63% of respondents' response was in favor of using antibiotics in HAV/HEV infections and only 38% of them said that antibiotics cannot be used in HAV/HEV infections.

Vaccination status

When inquired about the vaccination (HAV/HEV) status, it was revealed that only 18% of respondents from BS group and 8% of NBS group were vaccinated. While, on the other hand, 26% of respondents from BS group and 29% of NBS group were uncertain whether they were vaccinated or not.

Table 2: Frequency of vaccination among respondents.

| Vaccination against Hepatitis A or E | Frequency (n) | Percentage (%) |
|--------------------------------------|---------------|----------------|
| Yes | 324 | 25.89 |
| No | 927 | 74.10 |

Blood Testing

When asked if they have had a blood test for HAV/HEV, 26% of respondents from BS group and 21% of NBS group responded as "yes" but the rest of 71% of

respondents from BS and 75% of NBS group said that they never got tested for HAV/HEV. Rest of the respondents were unsure whether they had the test for HAV/HEV or not.

Table 3: Frequency of Laboratory testing for HAV/HEV among respondents.

| Testing for Hepatitis A or E | Frequency (n) | Percentage (%) |
|------------------------------|---------------|----------------|
| Yes | 589 | 47.08 |
| No | 662 | 52.91 |

Liver failure

When inquired about the fact that (HAV/HEV) cause hepatic failure, it was revealed that only 68% of respondents from BS group and 42% of NBS group were aware of the fact that HAV/HEV can cause liver failure. While, on the other hand, 31% of respondents from BS group and 58% of NBS group were uncertain about the liver failure caused by HAV/HEV.

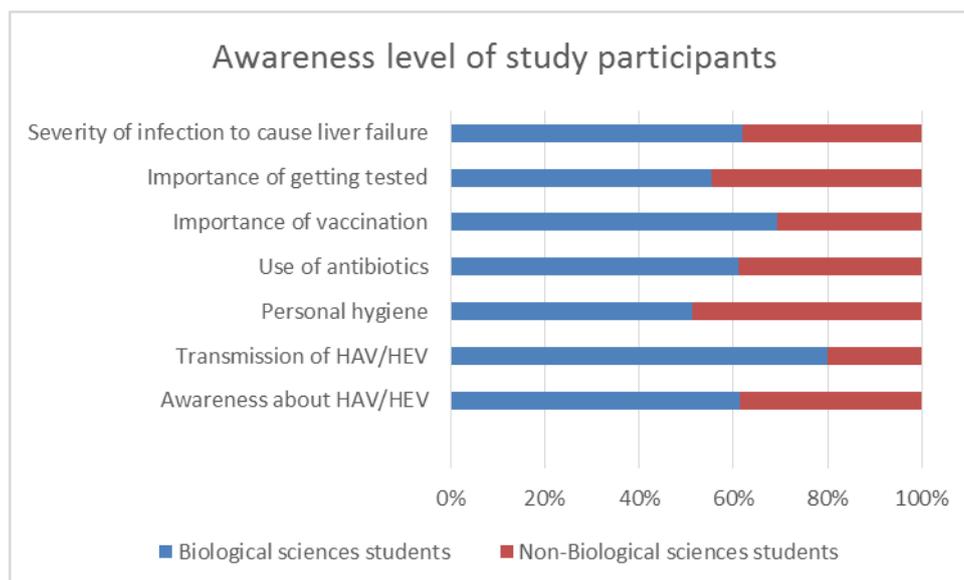


Figure 2: Percentage distributions of HAV/HEV awareness by respondents.

DISCUSSION

Knowledge and understanding about HAV/HEV is critical in general public of Pakistan because of increasing number of incidents.^[20] In this study, it was observed that despite the fact that 92% of respondents from biological sciences group heard about the HAV/HEV infection 68% had knowledge about the transmission of hepatitis A & E. On the other hand, 58% of respondents from non-biological sciences group heard about the disease out of which only 17% had knowledge about its transmission. These results mirror the results obtained from the research done in 2011 to evaluate the level of awareness level among dental students and general public.

This shows significance difference in the awareness level among people from biological sciences and non-biological sciences background. People were found to mistake spread of hepatitis A & E infections with hepatitis B & C, which suggests that there is need to spread awareness about the differences in their spread and severity of these infections. These results were similar to the survey conducted in Hong Kong about awareness of hepatitis B infection in public where people found to mistake hepatitis B for hepatitis A.^[21]

Just like there is awareness about the spread of HBV/HCV infections,^[21] there is need to educate people about HAV/HEV as well (22). Although only 20% of BS group had a family history of HAV/HEV still 18% of them had vaccination against it. But the trend is different in NBS group as only 8% of them had vaccination against HAV/HEV while 28% of them had family history of the infection. Which showed that people from biological science background were more aware of the fact that they should be vaccinated to prevent this disease. Overall knowledge about these infections of both groups was sufficient, but the knowledge about the risk factors was very low.^[23,34]

Almost 70% of the respondents from both groups were unaware of the fact that screening of these kind of infections is critical in preventing the disease as only 26% from BS and 21% from NBS group got tested for it. However, 68% from BS and 42% from NBS group were aware of the fact that HAV/HEV can cause liver failure as well. Screening and vaccination behaviors are interlinked and are associated with respondents' educational level and occupation as demonstrated in awareness survey conducted in Hong Kong.^[21]

CONCLUSION

This survey highlights the need to spread awareness among students of Pakistan about HAV/HEV infection. Awareness campaigns should be conducted to make people aware of the ways HAV/HEV spreads, its mode of transmission, severity of infection and preventive measures to minimize its spread as well as chances to acquire HAV/HEV infections. It is important to understand the need to educate people, especially from lower socio-economic status as they might not know about these infections and how its spreads.

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CONFLICT OF INTEREST

The authors have no conflict of interest with any of the research work done by other colleagues/authors.

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