

Public awareness is a key role to eradicate Hepatitis: A survey to determine the awareness and knowledge of public on Hepatitis B

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ABSTRACT

Background

Hepatitis B virus infection (HBV) is a global public health problem with 520 million people chronically affected leading to more than one million deaths per year making viral hepatitis one of the world's greatest health threats. According to Ministry of Health Malaysia, the average fatality rate due to viral hepatitis from 1991 to 1995 was about 4.2 per 100,000 populations. To date, there are still 2.4 million hepatitis B virus carriers in Malaysia and will be the source of HBV infection to others. We suspect that the current state is mainly due to lack of awareness and knowledge by the lay public. Therefore, we have embarked in this study to determine the awareness and knowledge on HBV infection among the public in the selected area of Puchong, Malaysia.

Method

The main objective of the study method was to assess the extent of Hepatitis B awareness and knowledge status of the participants. A cross sectional study was conducted about 400 subjects (>12 years of age) based on validated questionnaire which was distributed and completed by the respondent during the period from January 2013 to April 2013. The data was analyzed using the *Statistical Package for Social Sciences* (SPSS) software.

Results

Reliability test (Cronbach's alpha) was good (> 0.731) and excellent (> 0.912) for knowledge and awareness among the subjects respectively. The results show that there is a statistically significant difference in the mean knowledge and awareness of the subjects with different age ranges ($P < 0.05$), different ethnic groups ($P < 0.005$) and different education qualifications ($P < 0.005$). Around 400 respondents, 135 (81.8%) of them are well known about Hepatitis B.

Conclusion

The age, education qualification and ethnicity have an effect on the awareness and knowledge of hepatitis B among the participant. In this study all the three demographic characteristic plays a role as the predictive factor. Overall, the awareness and knowledge was found to be low and should be improved through health education and vaccination program on hepatitis B more frequently among the public especially in Puchong district.

Keywords: Hepatitis B, knowledge, awareness, reliability test, survey, vaccination.

INTRODUCTION

Hepatitis B is becoming a serious health problem in worldwide and also Malaysia (high endemic areas in developing regions). It is the important cause of acute, chronic and fulminant liver cirrhosis leading to hepatocellular carcinoma. According to World Health Organization concern (WHO-July'2012), Hepatitis B is 50 to 100 times more infectious than HIV and two billion people worldwide have been infected with the virus and about 600000 people die every year due to the consequences of Hepatitis B, leading to more than one million deaths per year making viral hepatitis one of the world's greatest health threats and estimated that 360 million people are chronic carriers (Elizabeth W. H and Ramsey Cheung, 2011). WHO also states that the viral hepatitis causes inflammation of the liver and triggers severe illness and death where the symptoms are indicated by yellowing of the skin and eyes (jaundice), dark urine, fatigue, nausea, vomiting and abdominal pain. It can spread through parenteral contact with infected body fluids as well as sexual contact. Generally in high endemic areas in developing regions with large population such as Southeast Asia, China and Africa the source of transmission of this virus is principally caused by perinatal transmission which is acquired during birth. This vertical transmission accounts for more than 50% of the chronic infection cases (Chung Pui Wah et al, 2012 and Jinlin Hou et al, 2005). An infant born to mothers with hepatitis B carriers has 90% chances of becoming chronic carriers if immune-prophylaxis is not given (Jinlin Hou et al, 2005).

Malaysia being one of the developing countries in Southeast Asia and a multiracial country has Hepatitis B virus infection in an alarming state with 1.1 million people being chronically infected with this virus. In the earlier studies, the frequency of infection was high in Chinese followed by Malays and Indians with a percentage of 36%, 26% and 15% respectively. It was also stated that Hepatitis C malignant neoplasm occurring due to HBV infection was on rise and it is one of the major leading cause of death in this country (Yap SF, 1994). In Malaysia, although hepatitis B vaccine was first made available in 1982, it is still being reported as vaccine preventable disease (Ho Chiew Lim et al, 2003 and Malaysian Pediatric Association, 2005).

According to Ministry of Health records, 5% of Malaysians suffer from hepatitis B, while 2% carry the hepatitis C virus. Statistics also show that more than 80% of hepatitis B and C patients are aged between 25 to 55 years. The recent study from the Malaysian Liver Registry, there are 746 chronic hepatitis B carriers with the features of liver decompensation during initial presentation followed by jaundice, ascites and upper gastrointestinal bleed. Since the sign and symptoms of HBV is not evident till the later stage, public are not aware of this life threatening disease.

The main objective of Malaysian Community pharmacist Association (MCPA) is also to encourage and spearhead the advancement of pharmaceutical education and pharmaceutical sciences through the publication of relevant professional information and knowledge, particularly that which are related to the community pharmacy practice and to represent the views of the members before the general public as well as in any relevant Government Board or Statutory Authority or Institution (Chua Siew Siang et al, 2008 and Sarriff A, 1994). We believe that the current state of hepatitis infection in Malaysia is due to the inadequate awareness and knowledge on HBV and very low uptake of Hepatitis B vaccination by the lay public. Hence, prevention of this disease is essential to improve the quality and health status of the community.

Therefore, keeping all in mind, we initiate a pilot survey aimed to evaluate the degree of awareness and knowledge, to create awareness which may be useful for the people to assess epidemiological differences between different types of Hepatitis and the importance of its immunization, and to take preventive measures. Identification and interpretation of the factors that determine the occurrence and knowledge on the causes of Hepatitis and to control the spread of infection. Last but not least, with the major objective of the survey is to eradicate the Hepatitis especially the fatal B which is more dangerous than AIDS (World Health Organization) from different people of various part of Puchong-Malaysia.

METHOD

STUDY DESIGN

A cross-sectional study was conducted from January 2013 to April 2013 in selected areas of Puchong. This

study was carried out to determine the knowledge and awareness of Hepatitis B among public.

Study population

This cross-sectional survey was done by means of face to face interview. This survey was performed in Puchong Jaya, Puchong Prima, Puchong Intan and Pucong Perdana district, Selangor. The study population consisted of subject 12 years and above who are Malaysian with no hearing and visual impairment and also be able to comprehend the questionnaires. Regardless of this subject younger than 12 years of age, non Malaysian and who are psychologically affected were excluded.

Survey Instrument

Questionnaires were prepared on the awareness and knowledge of hepatitis. Before starting on the survey, the questionnaire was validated by the experts in Pharmacy Department, AMU Cheras. A written consent was also obtained from the participant while participating in the survey. The participant was asked

on the socio-demographic characteristics, awareness and knowledge on Hepatitis B. There were 10 questions on awareness and 15 questions on knowledge in order to assess the participant. Explanation was provided to assist them in completing the questionnaires. Those who completed the questionnaire were given an educational pamphlet on HBV infection.

Statistical analysis

SPSS 17.0 were used to analyze the data. The data were checked frequently to prevent any mistakes and error while data entry. The demographic characteristics were analyzed using descriptive studies whereas Student's 't' test and one-way analysis of variance (ANOVA) were applied as appropriate. The Student's 't' test was used to compare two groups and ANOVA test was used to compare between more than two groups. The level of significance was set at 5% and 95% confidence intervals were used to determine statistical significance.

RESULTS

The demographic characteristics which are used to analyse the findings of this study were age, gender,

race and education qualification. Table 1 summarizes the demographic characteristics of the respondents

Table 1: Demographic characteristics of respondents

| Demographic Variables | n (%) |
|------------------------------|--------------|
| No. of respondent | 400 |
| Age (years) | |
| 12-22 | 152 (38.0) |
| 23-33 | 165 (41.3) |
| 34-44 | 41 (10.3) |
| 45-55 | 36 (9.0) |
| 56-66 | 6 (1.5) |
| Gender | |
| Female | 270 (67.5) |
| Male | 130 (32.5) |
| Ethnicity | |
| Malay | 146 (36.5) |
| Chinese | 108 (27.0) |
| Indian | 143 (35.8) |
| Others (Punjabi) | 3 (0.8) |

| Education Qualification | |
|--------------------------------|------------|
| No formal education | 15 (3.8) |
| Degree level | 165 (41.3) |
| School level | 149 (37.3) |
| Masters | 43 (10.8) |
| Others | 28 (7.0) |

Table 2 shows the ANOVA for the awareness of respondents with different age ranges, ethnic and highest education level. This table shows that respondent aged 56-66 years have the highest mean value of 69.8 and a standard deviation of 11.2 whereas respondent aged 23-33 has the lowest mean value of 61.1 and a standard deviation of 11.2. The significance value was 0.012 which is smaller than 0.05. Thus, there was a statistically significant difference in the mean awareness of respondent with different age groups. Chinese respondent have the highest mean value of 65.4 and a standard deviation of 12.1 whereas respondent from the Indian category

has the lowest mean value of 60.3 and a standard deviation of 11.7. The significance value was 0.001 which is smaller than 0.05. Thus, there was a statistically difference in the mean awareness of respondent with different ethnic groups. Category with no formal education has the highest mean value of 78.7 and a standard deviation of 4.9 whereas respondent from the masters category has the lowest mean value of 57.8 and a standard deviation of 11.5. The significance value was 0.000 which is smaller than 0.05. Thus, there is a statistically difference in the mean awareness of respondent with different education qualification.

Table 2: ANOVA for the awareness of respondents with different age, ethnic and highest education level

| Age | N | Mean | Std. Deviation | Sig |
|------------|----------|-------------|-----------------------|------------|
| 12-22 | 152 | 64.7 | 12.0 | 0.012 |
| 23-33 | 165 | 61.1 | 11.2 | |
| 34-44 | 41 | 63.3 | 11.2 | |
| 45-55 | 36 | 66.7 | 12.6 | |
| 56-66 | 6 | 69.8 | 11.2 | |
| Total | 400 | 63.4 | 11.8 | |

| Ethnicity | N | Mean | Std. Deviation | Sig |
|------------------|----------|-------------|-----------------------|------------|
| Malay | 146 | 64.9 | 11.2 | 0.001 |
| Chinese | 108 | 65.4 | 12.1 | |
| Indian | 143 | 60.3 | 11.7 | |
| Others (punjabi) | 3 | 61.3 | 9.8 | |
| Total | 400 | 63.4 | 11.8 | |

| Education qualification | N | Mean | Std. Deviation | Sig |
|-------------------------|-----|------|----------------|-------|
| No formal education | 15 | 78.7 | 4.9 | 0.000 |
| Degree education | 165 | 58.9 | 10.8 | |
| School | 149 | 69.4 | 9.8 | |
| Master | 43 | 57.8 | 11.5 | |
| Others (diploma) | 28 | 57.1 | 8.2 | |
| Total | 400 | 63.4 | 11.8 | |

Table 3 shows the anova for the knowledge of respondents with different age range, ethnicity and education qualification. This table shows that the respondent between 56-66 years has the highest mean value of 22.7 and a standard deviation of 2.8 whereas respondent between 23-33 years has the lowest mean value of 21.3 and a standard deviation of 2.5. The significance value is 0.008 which is smaller than 0.05. Thus, there was a statistically difference in the mean knowledge of respondent with different age range. Chinese respondent have the highest mean value of 22.4 and a standard deviation of 2.6 whereas respondent from the others category which consist of

Punjabi has the lowest mean value of 18.7 and a standard deviation of 1.2. The significance value was 0.000 which is smaller than 0.05. Thus, there was a statistically difference in the mean awareness of respondent with different ethnics. Group with no formal education has the highest mean value of 25.2 and a standard deviation of 1.4 whereas respondent from the masters group has the lowest mean value of 20.6 and a standard deviation of 2.0. The significance value was 0.000 which is smaller than 0.05. Thus, there was a statistically difference in the mean knowledge of respondent with different education qualification.

Table 3: ANOVA for the knowledge of respondents with different age, ethnic and highest education level

| Age | N | Mean | Std. Deviation | Sig |
|-------------------------|-----|------|----------------|-------|
| 12-22 | 152 | 22.3 | 2.6 | 0.008 |
| 23-33 | 165 | 21.3 | 2.5 | |
| 34-44 | 41 | 21.7 | 2.8 | |
| 45-55 | 36 | 22.6 | 3.1 | |
| 56-66 | 6 | 22.7 | 2.8 | |
| Total | 400 | 21.8 | 2.7 | |
| Ethnicity | N | Mean | Std. Deviation | Sig |
| Malay | 146 | 22.1 | 2.6 | 0.000 |
| Chinese | 108 | 22.4 | 2.6 | |
| Indian | 143 | 21.2 | 2.8 | |
| Others (punjabi) | 3 | 18.7 | 1.2 | |
| Total | 400 | 21.8 | 2.7 | |
| Education Qualification | N | Mean | Std. Deviation | Sig |
| No formal education | 15 | 25.2 | 1.4 | 0.000 |
| Degree education | | | | |
| School | 165 | 20.7 | 2.4 | |
| Master | 149 | 23.3 | 2.3 | |
| Others (diploma) | 43 | 20.6 | 2.0 | |
| | 28 | 20.9 | 2.4 | |
| Total | 400 | 21.8 | 2.7 | |

DISCUSSION

This study was carried out with 400 respondents and all of them were able to answer the questionnaire accordingly. The socio demographic characteristic used to evaluate the knowledge and awareness of the respondent on hepatitis B was age, gender, education qualification and ethnicity. The three factors that affect the knowledge and awareness of hepatitis B according to the data analysis and findings were age, ethnicity and also education qualification. The data analysis and findings also shows there was a statistically significant difference in the mean knowledge and awareness of the respondent with different age ranges, different ethnic origin and also with different education qualification.

In this study, there was a statistical difference in the mean knowledge of respondent with different age range where the older subjects has poor awareness and knowledge when compared to the younger subjects. The reason is older population usually encounter problem in comprehending and they fail to remember as they usually have problem in recalling whereas the younger population are highly educated and are exposed to countless health information via pamphlets, books and also internet which is the major source of information. The recent literatures on hepatitis B by Charlotte A Wu (2007) found that lower knowledge of hepatitis B in older population. Therefore proper linguistically appropriate information should be given to them. It was also explained by Ho Chiew Lim (2003), they have affirmed that healthcare workers and undergraduates had better knowledge on hepatitis as they have advanced education level as well as exposed to more health information.

On the whole, level of awareness and knowledge regarding Hepatitis B was on a par among the females and males regardless of age, ethnicity and education qualification. This is because there is no difference in opinion among the gender. According to Charlotte A Wu (2007), states that there were no significant differences in hepatitis B knowledge and sex. There was a significant difference among the subjects of different education qualification background on both awareness and knowledge of hepatitis B. This was also stated by Ho Chiew Lim (2003) that level of knowledge of hepatitis B is influenced by the education level. This statement was

also supported by Bijay Misra (2012) stating those who were highly educated are more aware of HBV infection and its vaccination.

While comparing the subjects from different ethnic groups, the data showed differences in the knowledge and awareness of hepatitis B. In terms of awareness, Chinese showed the lowest, whereas the Indian had a good awareness. In terms of knowledge, Chinese again showed the lowest awareness and the others category which includes Punjabi showed the good knowledge on hepatitis B. The explanations on the level of awareness and knowledge of hepatitis B and ethnicity have not been discussed clearly in the literatures. Yap SF (1994) has stated that the Chinese has the highest exposure to HBV with 36% followed by Malays with 26% and the lowest infection rate among all was the Indian with 15% of exposure.

The public also had a very poor knowledge and awareness on the vaccination status. Majority of them have never heard of Hepatitis B vaccination and they are not aware regarding the number of shots given for this vaccination regardless of age and education qualification. This may be due to their carelessness or they have overlooked it. Apart from this, this study also shows that 57.4% of the female population has poor knowledge on how to protect themselves from hepatitis B. A study done by Yap SF (1994), claimed that the major transmission of Hepatitis B in Malaysia is via perinatal transmission from mother to infant. Among the Malaysian pregnant women, 10-40% of them were carriers of hepatitis B e antigen (HBeAg) where there is a high chance of them transmitting the virus to their child. Besides that there were also cases where the prevalence of pediatric vaccination was low with only 10-38% of those aged 3-18 years completed all three shots. It has also been avowed that sizable portion of the participants did not know whether they have been tested or vaccinated against HBV (Charlotte A Wu et.al, 2007). With the national and childhood immunization programme established in Malaysia, sexual transmission of the virus can be prevented and the public will be more aware of their sexual behaviours.

The national immunization programme in Malaysia has been integrated since 1989. Ministry of Health Malaysia have reported that vaccination coverage among the babies were 98.3% for first dose, 91.6% for second dose and 89.6% for third dose and there

were no available data regarding vaccination among adults (Ho Chiew Lim et.al, 2003). According to the result of this study, respondents have stated that they have received hepatitis B vaccination before. The highest percentage was from the age category 23-33 (42.4%) and the lowest percentage was from the age category 56-66 (16.7%). Although they have been vaccinated, we do not know whether they have completed the course of vaccination. Therefore, preventative approach should be taken immediately to improve the vaccination coverage among the public.

CONCLUSION

As a conclusion, the age, education qualification and ethnicity has an affect on the awareness and knowledge of hepatitis B among the participant. The predictive factor in this study was the three demographic characteristic. Overall, the awareness and knowledge was low and should be improved through an educational programme in order to improve the awareness and knowledge status among the public.

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