

Original Research Article

Assessment of Awareness and Knowledge of Hepatitis B among the Residents of Puchong, Malaysia

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Abstract

Purpose: To assess the level of awareness and knowledge of Hepatitis B infection in the selected area of Puchong, Malaysia.

Methods: A cross sectional study was conducted among 400 subjects (> 12 yrs of age) using validated questionnaire which was distributed and completed by the respondent 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 0.731 and 0.912 for knowledge and awareness, respectively, in the pilot study. The results showed that there was a significant difference in the mean knowledge and awareness of the subjects among various age groups ($p < 0.05$), ethnic groups ($p < 0.005$) and educational qualifications ($p < 0.005$). Out of 400 subjects, 48.5 % were not aware of and 66.5 % had never taken vaccine for Hepatitis B.

Conclusion: Overall, the level of awareness and knowledge of hepatitis B is low. Each of the three demographic characteristics such as age group, ethnic group and educational qualification are a predictive factor. This low level of awareness and knowledge should be improved through health education and frequent vaccination programs on Hepatitis B among the public; especially in Puchong, Malaysia.

Keywords: Hepatitis B, Knowledge, Awareness, Reliability test, Survey, Vaccination

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INTRODUCTION

Although Malaysia is one of the developing nations in Southeast Asia, the rate of Hepatitis B infection is becoming a growing concern where approximately 1.1 million people are chronically infected with this virus [1]. Since the signs and symptoms are not very obvious, members of the public are not aware of this disease.

In earlier studies, the frequency of this 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 and it shows one of the major leading cause of death in this country [2]. In Malaysia, although Hepatitis B vaccine was first made available in 1982, the disease is still being reported as a vaccine preventable disease [3,4]. Based on Ministry of Health, Malaysia records, 5 % of Malaysians suffer from hepatitis B, while 2 % carry the hepatitis C virus [5]. Statistics also shows that more than 80 % of hepatitis B and C patients are aged between 25 to 55 years. Since, the sign and symptoms of HBV are not evident till the later stage, public are not aware of this life threatening disease. 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 [6,7]. Hence, prevention of this disease is essential to improve the quality and health status of the community.

Therefore, this paper reports a pilot survey aimed to evaluate the degree of awareness and knowledge of hepatitis B, 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 providing knowledge on hepatitis would be of relevance in the control of the spread of infection. The major objective of the survey was to assess the level of awareness and knowledge of Hepatitis B infection in the selected area of Puchong, Malaysia

EXPERIMENTAL

Study design

A cross-sectional study was carried out to determine the level of knowledge and awareness using content and face validated questionnaire on Hepatitis B among public. The study was conducted among 400 subjects of different age groups, education levels and ethnicity from January to April 2013 in various parts of Puchong, Malaysia.

Study population

This survey was performed in Puchong Jaya, Puchong Prima, Puchong Intan and Puchong Perdana, Malaysia. The study included respondents who were 12 yrs and above, who were Malaysian with no hearing and visual impairment and also be able to comprehend the questionnaires. The respondents' characteristics included in the questionnaire were gender, age, ethnicity, and education qualifications. Participation in the study was voluntary and the questionnaire was interviewer administered. The study was approved by the ethics committee of the Research and Innovation Center – CRI (ref. no. AMU/AEC/HS-FOP/2013), Asia Metropolitan University, Selangor, Malaysia.

Study sample size

The required sample size for the present study was calculated based on the total population of the particular area selected (335419) for the study as previously described [8].

Survey instrument (Questionnaire)

The questionnaire was prepared in English which is relevant to the awareness and knowledge of Hepatitis B and also the content validity on questionnaires was done by experts in the Faculty of Pharmacy, Asia Metropolitan University, Selangor, Malaysia in order to validate it. A written consent was taken from the subjects while conducting the survey for their participation in this study. Participants were given a questionnaire and asked them to administer on the socio-demographic characteristics, awareness and knowledge on Hepatitis B. Explanation was provided to few participants to assist them in completing the questionnaire. There were 10 questions on awareness and 15 questions on knowledge in order to assess the participant. Those who completed the questionnaire were given an educational pamphlet on HBV infection which was in both Malay and English to improve, remind and share to others. The questionnaire was rated by 'yes' or 'no' grade to assess the knowledge and good, average and poor to assess the awareness as per the suggestion of expert committee of AMU, Malaysia. Participants were encouraged to seek further information and vaccination for hepatitis B from the hospitals nearer to them.

Reliability of the instruments

Pilot study was carried out to further modify and ensure the clarity and reliability of the questionnaire. Samples of 100 were taken from the public to discover any difficulties in understanding the questions. Reliability test were carried out for the two categories, knowledge and awareness respectively.

Statistical analysis

Statistical Package for Social Sciences (SPSS) version 17.0 (SPSS Inc, Chicago, IL) licensed by AMU, Malaysia was used to analyze the data compiled from the survey study. The data were checked repeatedly to prevent any mistakes and error while entry the data in to the SPSS. The demographic characteristics were analyzed using descriptive studies for each item on the questionnaires; cases with missing data were excluded. Student's t test and one-way analysis of variance (ANOVA) were applied as appropriate (Post Hoc comparisons using the Tukey HSD test). In addition, comparisons of the level of knowledge and awareness on Hepatitis B and its vaccination among the four groups of subjects such as age, gender, ethnicity and educational qualification were made by descriptive analysis. 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 and used to determine statistical significance.

RESULTS

Sample size for the present study was calculated based on the total population in Puchong area, State Selangor, Malaysia. The calculated sample size was 384 subjects and the study was conducted using 400 subjects.

Based on the pilot study with around 100 subjects, the feedback showed that the questionnaires were easy to be understood and was convenient for the public. In addition, the reliability test was carried out for the two categories such as awareness and knowledge. The Cronbach's alpha values for each category were obtained with the mean \pm sd values of 0.731 (23.83 \pm 2.70) as good and 0.912 (63.36 \pm 11.80) as excellent for the awareness and knowledge segment, respectively [9-11].

The demographic characteristics which used to categorize the findings of this study are gender, age, race and education qualification. In the total numbers of participants (n = 400), 38.0 % aged between 12-22 years and 41.3 % aged between 23 and 33 years. The percentage of the participants who are in the age bracket of 34 - 44 years was 10.3 % while percentage of those in the range of 45 to 55 years was 9.0 %. The least population comprised of the age category

ranging from 56-66 years consisting 1.5 %. In the gender category, 67.5 % were female and the remaining 32.5 % were male. In terms of ethnicity, the majority of the population is of Malay stock with 36.5 %, the second largest is Indian with 35.8 %, followed by Chinese with 27.0 %. The smallest percent of respondent were others consisting of Punjabis with 0.8 %. Based on the results, the numbers of participants with a graduate degree qualification were higher than the participants from other levels of education. Most of the participants in this study had tertiary education and there was a vast difference between each category. The percentage of participants that had graduate degree was 41.3 % and that of the school certificate was 37.3 %. Moreover, the participants with postgraduate degree of master were 10.8 % and the participants with diploma were 7.0 %. Besides that, there was a small amount of participants who didn't have a formal education (3.8 %).

Based on the descriptive analysis, the mean awareness of females about Hepatitis B was 63.53 \pm 11.84 and the males were 63.00 \pm 11.73. The means of the knowledge of females and males about Hepatitis B were 22.00 \pm 2.66 and 21.52 \pm 2.71 respectively. The differences in both awareness ($p = 0.67$) and knowledge ($p = 0.096$) in gender category were statistically insignificant.

Table 1 shows the ANOVA for the awareness of respondents with different age ranges, ethnic and highest education level (Post Hoc comparisons using the Tukey HSD test). This

Table 1: Association between demographic variables and the awareness and knowledge of respondents

| Age (years) | Demographic variable N (%) | Awareness (mean \pm SD) | p-value | Knowledge (mean \pm SD) | p-value |
|--------------------------------|----------------------------|---------------------------|---------|---------------------------|---------|
| 12-22 | 152 (38.0) | 64.70 \pm 12.00 | | 22.26 \pm 2.65 | |
| 23-33 | 165 (41.3) | 61.10 \pm 11.20 | | 21.30 \pm 2.56 | |
| 34-44 | 41 (10.3) | 63.30 \pm 11.24 | | 21.71 \pm 2.80 | |
| 45-55 | 36 (9.0) | 66.70 \pm 12.55 | | 22.58 \pm 3.06 | |
| 56-66 | 6 (1.5) | 69.80 \pm 11.23 | | 22.67 \pm 2.80 | |
| Total | 400 | 63.40 \pm 11.79 | 0.012 | 21.85 \pm 2.69 | 0.008 |
| Ethnicity | | | | | |
| Malay | 146 (36.5) | 64.87 \pm 11.20 | | 22.12 \pm 2.56 | |
| Chinese | 108 (27.0) | 65.44 \pm 12.11 | | 22.41 \pm 2.58 | |
| Indian | 143 (35.8) | 60.30 \pm 11.65 | | 21.21 \pm 2.77 | |
| Others (Punjabi) | 3 (0.8) | 61.33 \pm 9.82 | | 18.67 \pm 1.15 | |
| Total | 400 | 63.36 \pm 11.80 | 0.001 | 21.85 \pm 2.69 | 0.000 |
| Education qualification | | | | | |
| No formal education | 15 (3.8) | 78.67 \pm 4.88 | | 25.20 \pm 1.37 | |
| Degree education | 165 (41.3) | 58.98 \pm 10.76 | | 20.72 \pm 2.42 | |
| School | 149 (37.3) | 69.44 \pm 9.81 | | 23.30 \pm 2.30 | |
| Master | 43 (10.8) | 57.81 \pm 11.50 | | 20.58 \pm 2.04 | |
| Others (diploma) | 28 (7.0) | 57.14 \pm 8.20 | | 20.89 \pm 2.38 | |
| Total | 400 | 63.36 \pm 11.80 | 0.000 | 21.85 \pm 2.69 | 0.000 |

SD = standard deviation, N = no. of subjects

table shows that respondents aged 56-66 years of age had the highest mean value of 69.83 ± 11.23 whereas respondent aged 23-33 had the lowest mean value of 61.13 ± 11.25 . The differences in awareness in the age categories were significant ($p = 0.012$). Chinese respondents have the highest mean value of 65.44 ± 12.11 whereas respondents from the Indian category have the lowest mean value of 60.29 ± 11.65 . There was a statistically difference ($p = 0.001$) in the mean awareness of respondent with different ethnic groups.

Category with no formal education had the highest mean value of 78.67 ± 4.88 whereas respondents that had master's degree had the lowest mean value of 57.81 ± 11.50 . The differences in mean awareness in the different education qualification categories were significant ($p = 0.0001$).

The respondents in the age range of 56 - 66 years had the highest mean value of 22.67 ± 2.80 whereas respondent between 23- 33 years of age had the lowest mean value of 21.30 ± 2.52 . The difference in knowledge in the age groups were significant ($p = 0.008$). Chinese respondent had the highest mean value of 22.42 ± 2.58 , whereas respondents from the others category which consist of Punjabi had the lowest mean value of 18.67 ± 1.15 . The differences in awareness in the ethnic groups were significant ($p = 0.000$). Groups with no formal education had the highest mean value of 25.20 ± 1.37 , whereas respondent from the masters group had the lowest mean value of 20.58 ± 2.04 . Thus, there is a statistically difference in the mean knowledge of respondent with different education qualification ($p = 0.000$).

DISCUSSION

The socio demographic characteristics used to evaluate the knowledge and awareness of the respondent about Hepatitis B were age, gender, education qualification and ethnicity. The three factors such as age, ethnicity and also education qualification affected the knowledge and awareness of Hepatitis B significantly.

In this study, there is a statistically difference in the mean knowledge of respondents with different age range where the older subjects has poor awareness and knowledge when compared to the younger subjects. The reason might be due to problem of comprehension and recall ability of the older population which was a contrast to the younger population who are highly

educated and are exposed to countless health information via pamphlets, books and also internet which are the major sources of information. This finding was in agreement with the recent study on Hepatitis B which found that lower knowledge of Hepatitis B was predominant in older population [12]. Therefore, appropriate information should be given to them. It was also explained in the study [7] which 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 about 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. A study reported that there were no significant differences in Hepatitis B knowledge and sex but there was a significant difference among the subjects of different education qualification background on both awareness and knowledge of Hepatitis B [12]. This was in an agreement with the studies that level of knowledge of Hepatitis B is influenced by the education level. This statement was also supported by another study which stated that those who were highly educated were more aware of HBV infection and its vaccine [13].

While comparing the subjects from different ethnic groups, the data showed differences in the knowledge and awareness of Hepatitis B. In terms of awareness, the Chinese were lower than the Indians. In terms of knowledge, the Chinese again were the lowest in the others category which includes Punjabi 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. It was stated that the Chinese has the highest exposure to HBV (36 %) followed by Malays (26 %) and the lowest infection rate among all was the Indian (15 %) of exposure [6].

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 females have poor knowledge on how to protect themselves from Hepatitis B. A study claimed that the major transmission of Hepatitis B in Malaysia is via perinatal transmission from mother to infant [6]. Among the Malaysian

pregnant women, 10-40 % of them were carriers of Hepatitis B antigen (HBeAg) and 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 [12]. With the national and childhood immunization program established in Malaysia, sexual transmission of the virus can be prevented and the public will be more aware of their sexual behaviors.

The national immunization program 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 [7]. According to the result of this study, respondents have stated that they have received Hepatitis B vaccination previously. The highest proportion was in the age category 23 – 33 years (42.4 %) and the lowest in the age category 56 – 66 years (16.7 %). Although they have been vaccinated, it is not known whether they completed the course of vaccination. Therefore, preventive approach should be taken immediately to improve vaccination coverage among the public.

Study requirements and justification

Successful implementation of the national childhood immunization program has inevitable outcome as Hepatitis B is the principal cause of infection among healthy adolescent and adults. Moreover, an awareness program on hepatitis is also important as a preventative measure to prevent any mishaps to occur [7]. In addition to it, misconception on the symptoms of hepatitis should be corrected through educational efforts so that the false sense of security will not be compounded by the widespread [12].

Hence, a high prevalence rate of Hepatitis B in Malaysia needs more attention of the governing body to prevail over the stumbling block due to unawareness among the public. Therefore, investigating the barriers will be an excellent approach to increase the level of awareness among public.

Limitations of the study

This study has several limitations. One of it was language barrier where the respondents had difficulty in English although translation and

explanation was given to them. Therefore, it is better to have questionnaires in both Malay and English. Besides that, the respondent may be forgetful or not thinking within the full context of the situation. Therefore, we could not judge how truthful a respondent is being and there is no way of telling how much of thought a respondent has put in.

CONCLUSION

Age, education qualification and ethnicity affects awareness and knowledge of Hepatitis B among the public of the area studied. Overall, awareness and knowledge is low and should be improved through an educational program which deals with the areas of weakness in order to improve the awareness and knowledge status.

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