Original Article

KNOWLEDGE REGARDING HEPATITIS-B AMONG EPI VACCINATORS WORKING IN DISTRICT SOUTH, KARACHI

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ABSTRACT

Objective: To determine the level of knowledge among EPI vaccinators of district South, Karachi, regarding Hepatitis B virus infection.

Methodology: This is a cross-sectional study conducted in District South, Karachi, Pakistan in June 2003. All vaccinators working in EPI program in the South district of Karachi and having experience of more than one year were included 122 vaccinators were interviewed through a semi-structured pre-tested questionnaire. The data collected was entered in EPI info 6 version and was analyzed by using statistical package SPSS.

Results: One hundred twenty two vaccinators were interviewed. About 80% were male and 20% were female. Forty three percent had intermediate, 27% matriculate, 23% graduate and 4.9% postgraduate education. Majority (95%) mentioned that liver is affected by hepatitis B. Only 64% responded that a virus is the cause. Regarding transmission of hepatitis B, 47% mentioned infected blood transfusion, 50% contaminated needles, 25% un sterilized instruments and only 22% mentioned sexual contact. It is diagnosed clinically and by laboratory according to 22% and 76% respondents respectively. A 65% mentioned that it is curable and 38.5% said it is a preventable disease. Vaccination, use of disposable syringes, use of sterilized instruments and practicing safe sex can prevent Hepatitis B according to 34%, 30%, 13% and 6.5% vaccinators respectively.

Conclusion: Our study concluded that the knowledge about hepatitis B among vaccinators is inadequate. There should be ongoing training program for their professional development.

KEY WORDS: Hepatitis B, Vaccinators, Knowledge, Immunization.

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INTRODUCTION

Hepatitis B infection is a major public health problem. About two billion people are affected with hepatitis B worldwide and more than 350 million have chronic, life long infection.[1] Health workers are at particular risk of developing the infection. In a study from Egypt combined HbsAg and HBs frequencies by occupational group were, nonprofessional staff (60%) dentists (32%) graduate nurses (33%) physicians (29%) and student nurses (26%).[2] In a community-based study in Hafizabad, hepatitis B surface antigen (HBsAg) was positive in 4.3% of residents and anti-hepatitis C virus antibody was positive in 6.5% of residents.[3] In northern area of Pakistan, 3.3% of healthy blood donors were found HBsAg positive, 4.0%

were anti-hepatitis C virus positive and 0.007% was anti-human immunodeficiency virus positive.[4] In Pakistan the incidence of hepatitis B is significantly high. A study conducted in Pakistan showed that 31% cases of acute viral hepatitis, 60% cases of chronic liver disease and 59% of hepatocellular carcinoma are due to HBV infection.[5] The health care workers are especially at a high risk, hence vaccination is very important to protect this group from acquiring this infection. A study conducted at Allama Iqbal Medical College, Lahore, reported that only 49% of health care workers were vaccinated including nurses, lab technicians, doctors and paramedics.[6]

The vaccinators working in EPI program vaccinate the children less than three years of age, and are front line health workers responsible to educate the mothers regarding prevention of hepatitis B infection. They are also at risk of acquiring infection during the vaccination campaign. A comprehensive knowledge of vaccinators about hepatitis B is essential to save and to impart education to the communities they serve. This study was conducted to assess the knowledge of vaccinators about hepatitis B infection. This assessment will identify the gaps in knowledge and will be helpful in planning effective health education campaign for health care staff.

SUBJECTS AND METHODS

A cross-sectional study was conducted in the EPI centers of south district, Karachi. It comprises of four town offices. All vaccinators working in EPI program in the south district Karachi, and having experience of more than one year were included in the study. A total of 122 vaccinators were interviewed through a semi-structured pre-tested questionnaire. Information was obtained regarding socio demographic and knowledge variables. The data was collected in the month of June 2003. Principal investigator visited all the EPI centers of district South Karachi; the vaccinators who were not available were interviewed at a later visit. The data collected was entered in EPI info 6 version and was analyzed by using statistical package SPSS.

RESULTS

Fifty two percent vaccinator belonged to age range 35-44 years, 31% to 25-34 years and 17% were equal or above 45 years of age. Majority (80%) was male while 20% were females. Seventy seven percent were married, 19% unmarried and 3.2% were widowed. Regarding educational status, 43% had intermediate, 27% matriculate, 23% graduate, and 4.9% postgraduate education. Sixty-five percent had job experience of 11-20 years, 18% of 1-10 years and 16% had 21 or more years of job experience.

Table-I shows the knowledge about hepatitis B among vaccinators. When they were asked about the organs affected by hepatitis B

Table-I: Distribution of knowledge variables regarding hepatitis B among vaccinators (n=122)

Variables	*Frequency*	*Percent*
Body organs affected in Hepatitis B		
Liver	116	95.08
Don't know	5	4.10
Stomach	1	0.82
Causes of Hepatitis B		
Food	12	9.83
Bacteria	30	24.59
Virus	78	63.93
Don't know	2	1.64
Infected blood transfusion cause for Hepatitis B		
Yes	58	47.5
No	64	52.45
Contaminated needles cause for Hepatitis B		
Yes	61	50
No	61	50
Un sterilized instruments cause for Hepatitis B		
Yes	31	25.40
No	91	74.5
Sexual contact cause for Hepatitis B		
Yes	27	22.13
No	95	77.86
Knowledge about sign and symptoms GIT problem		
Yes	38	31.14
No	84	68.85
Eye and skin changes		
Yes	50	40.98
No	72	50.01
Weakness		
Yes	26	21.31
No	96	78.68
Weight loss		
Yes	08	6.55
No	114	93.44

infection, 95% mentioned liver. Only 64% responded that a virus is a cause of hepatitis B, 25% said that bacteria are the cause, 9% said food and 2% did not know. Regarding mode of transmission of hepatitis B, 47% mentioned infected blood transfusion, 50% contaminated needles, and 25% un-sterilized instruments and only 22% mentioned sexual contact. Regarding sign and symptoms, 41% mentioned eye and skin, 31%, gastrointestinal tract 21% weakness and 6.5% weight loss.

Table-II shows the various level of knowledge regarding hepatitis B among vaccinators. Regarding diagnosis of hepatitis B, 22% said that it diagnosed clinically, 76% said through laboratory and 2% did not know about diagnosis.

Table-II: distribution of knowledge variables regarding hepatitis B among vaccinator (n=122)

Variables	*Frequency*	*Percent*
Diagnosis of Hepatitis B		
Clinical	27	22.13
Laboratory	93	76.23
Don't know	2	1.64
Hepatitis B is curable		
Yes	79	64.75
No	43	35.24
Hepatitis B is Preventable		
Yes	47	38.52
No	75	61.47
Vaccine available as a preventive measure		
Yes	42	34.42
No	80	65.57
Use of disposable syringes as a preventive measure		
Yes	37	30.32
No	85	69.67
Use of sterilized instruments as preventive measure		
Yes	16	13.11
No	106	86.88
Practicing safe sex prevents Hepatitis B		
Yes	8	6.55
No	114	93.46
Knowledge about hepatitis vaccine name		
HEPA B VAC	69	56.56
ANGIREX B	41	33.61
Don't know	12	9.84
Knowledge about dosage of vaccine		
Correct	120	98.36
Incorrect	2	1.64
Knowledge about correct route of administration		
Correct	121	99.18
Incorrect	1	0.82
Knowledge about temperature at which vaccine is kept		
Correct	114	93.44
Incorrect	8	6.56

65% mentioned that hepatitis B could be cured while 35% said that it is incurable. About 38.5% said that hepatitis B could be prevented while 61% said that it is not preventable. Regarding knowledge about preventive measures, only 34% mentioned vaccination and 30% stated use of disposable syringes, 13% said use of sterilized instruments and 6.5% stated practicing safe sex. About 10% did not know about the name of vaccines used for prevention of hepatitis B. More then 90% knew the correct dosage, route of administration and appropriate temperature at which vaccine is kept.

DISCUSSION

Hepatitis B virus infection is an emerging health problem worldwide and a common infection in Pakistan. Awareness about the disease is necessary in prevention and control of disease and particularly among health care workers. Our study showed gap in knowledge about hepatitis B among health care workers. Similar findings have been reported from other countries. A study conducted at Chicago about paramedic's knowledge and attitude towards hepatitis showed that the paramedics underestimate the risk of acquiring hepatitis B.[7] Our study also showed that vaccinators underestimate the mode of transmission and sign and symptoms of disease while majority were aware of the cause of the disease. Another study conducted in Tokyo among health care staff about knowledge of hepatitis among health care worker report similar kind of findings.[8] Knowledge regarding preventive measures plays an important role in control of the disease, and health care staff if knowledgeable about preventive measures, provides this knowledge to rest of the communities, which come into contact with them in their day-to-day activities. A study conducted in Egypt about knowledge, attitude and practice of health care staff regarding protective measures for prevention of hepatitis B and C, such as hand washing and recapping the used syringes and needles, the knowledge was found unsatisfactory.[9] Our study also found a that small

number of vaccinators mentioned use of disposable syringes, sterilized instruments, safe sex and vaccination serve as protective measure for prevention of hepatitis B. In Pakistan due to lack of knowledge patient showed greater demand for injection, which is attributable to transmission of Hepatitis B and C.[10]

The average number of injections per person per year is 8.5 and 49% of patient receive injections at their first visit.[11] Another study from Pakistan in 18 clinics of peri- urban areas showed that 94% of injections used were unsafe.[12] Another study was conducted in Karachi on knowledge, attitude and practice of hepatitis B and C, which showed that most of the health care workers had enough knowledge of possible risk and mode of disease transmission. However knowledge about preventive aspect was found lacking.[13] A study conducted in Iran report similar findings about knowledge regarding transmission of disease.[14]

CONCLUSIONS

Our study found that the knowledge about hepatitis B among vaccinators is inadequate. Hence a training program for their professional development is recommended.

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