

HEPATITIS B AWARENESS AND PREVENTIVE PRACTICES AMONG PREGNANT WOMEN IN HARGEISA, SOMALILAND

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Abstract: Hepatitis B virus (HBV) is serious public health problem which infected approximately 2 billion people worldwide. The Asia and the South-Western Pacific region including Somaliland are classified as Intermediate endemic for HBV infection with mother to child HBV transmission remains an important mode of transmission. Awareness and advocacy have been prioritized by the World Health Organization (WHO) due to lack of knowledge about the disease. The current knowledge, attitude and practice (KAP) among key affected populations such as pregnant women in Hargeisa, Somaliland is unknown. This study investigates the level of KAP of pregnant women attending antenatal clinics (ANCs) at Edna Aden hospital as evidence for effective HBV awareness raising and advocacy program

Objectives: The General objective of this study is to assess Knowledge, attitude and practice of pregnant women towards Hepatitis B Virus Infection attending antenatal clinic at Edna Adan maternity hospital, Hargeisa, Somaliland. **Methodology:** Institution based cross-sectional study was conducted among 414 pregnant women at Edna Aden hospital. The data was collected using structured questionnaire through face-to-face interview. Systematic random sampling was used to select the study population

Result: The knowledge mean score among pregnant respondents was 10.71 ± 4.75 SD which is below the cut –off – point of 12. Attitudes were measured using 7 questions and the mean score was 3.94 ± 1.28 SD which is below the average cut- off point of 4. Similarly, the mean score of practice was poor 4.59 ± 1.3 SD. The practice scale was consisting of 8 questions with a cut-off point of 5.

Conclusion: The present study revealed poor level of KAP among women attending ANC at Edna Aden maternity hospital, Hargeisa, Somaliland. Approximately 61.6% of pregnant women attending Edna Aden ANCs in the current study had low level of KAP towards HBV with lack of understanding of the basics of infection control and the prevention of transmission of HBV.

Keyword: KAP, hepatitis B infection, pregnant mothers.

1. INTRODUCTION

Hepatitis B is a viral infection that attacks the liver and can cause both acute and chronic disease. The virus is transmitted through contact with the blood or other body fluids of an infected person. ^[1]

Hepatitis B virus (HBV) infection remains a serious global public health problem. Globally, there are an estimated 240 million people chronically infected with HBV, with more than 686,000 deaths annually due to complications of hepatitis B, including cirrhosis and hepatocellular carcinoma. In China, a 2016 national survey found a prevalence of hepatitis B surface antigen (HBsAg) to be 7.6% among women of childbearing age, and a recent

study of 15 million couples in rural China demonstrated a seroprevalence of 5.2% in women 20–49 years old. Hepatitis B prevalence is highest in sub-

Saharan and East Asia, where 5–10% of population is chronically infected. Hepatitis B prevalence is highest in subSaharan Africa and East Asia, where between 5–10% of the adult population is chronically infected.^[2]

In Somaliland, although the rate of the transmission seems high, and the number of people who have the infection is increasing, no scientific research is done up to now. But contrary Hepatitis B virus (HBV) infection results in substantial human morbidity and mortality, predominantly through the consequences of chronic infection. Scientific research estimates of the number of people chronically infected with HBV have ranged from 240 million to 350 million, with more than two billion humans globally ever having been infected.^[3,4]

A number of studies worldwide have evaluated the level of pregnancy women on knowledge, attitudes and behaviours regarding infection control guidelines and precautions and found unsatisfactory response and emphasized the need for further improvement of this kind of knowledge and practice.^[5]

In addition, health institutions and professional associations in Somaliland are not research oriented. Somaliland can be considered as country with intermediate endemicity for HBV. HBV vaccine for infants is available in majority of the health centers, but vaccination of HBV for adults is available in only some private clinics in the country.

Hence this study explores the knowledge, attitudes and practices towards HB infection among pregnant women, and its associated factors and. The results of this study will provide strategic guidance to the decision makers to be able design appropriate and effective strategies and intervention to mothers, babies and health workers as well as general population. The results from this study will also offer information to health professionals, academicians and researchers locally, regionally and globally.

2. LITERATURE REVIEW SUMMARY

2.1: introduction

This section focuses on the review of literature on similar studies that have been carried out on knowledge attitude and practice about hepatitis B infection among pregnant women's. It contains literature from online journals, websites and text books. Literature on these studies will be very important while discussing results later.

2.2 Epidemiology of Hepatitis B

Epidemiologically, hepatitis B was first discovered in 1965 in the serum of Australians, the epidemiologists known as Australian antigen, the viral particle was discovered in 1970 and in 1980s the sequencing of the viral genome and first testing of the hepatitis B vaccine. Globally Hepatitis B virus infection is considered as a major public health problem and around 30% of global population's serological tests show positivity of either current or past infection.^[6]

According to WHO, regions prevalence of HB ranges from 0.20% to 13.55% in Americas and 0.48% to 22.38% in the African region. The sero-prevalence of HBs Ag is 3.61% worldwide with African region has the highest endemicity 8.83% and 5.26% for the Western Pacific region Aparna Schweitzer et al (2015). According to data from the neighboring countries of Kenya and Ethiopia by Aparna Schweitzer et al (2015), the prevalence estimates are 5.16% and 6.03% respectively.^[7]

2.3 Knowledge of pregnant women about hepatitis B viral infection

A study done in Vietnam about hepatitis B infection knowledge of pregnant mothers revealed that Out of 18 HBV questions, the mean knowledge score was 12.05 ± 3.37 (mean $\pm$ SD) and the median was 12 (interquartile range (IRQ) 10–15). Only 10.8% of study participants provided correct answers to all 12 questions on HBV transmission modes and preventive measures. 36.1% provided correct answers to all 4 questions regarding prevention of mother-to-child prevention.^[8]

Only 25.8% were aware of the high prevalence of chronic hepatitis B infection in Vietnam. Only 57.9% of participants were aware that chronic HBV can cause serious consequences such as liver cirrhosis, liver failure, liver cancer, or premature death. Study participants were largely aware that HBV can be transmitted through mother-to-child (84.2%), unprotected sex (75.3%), and blood transfusions (85.8%). However, there were common misconceptions that HBV can be transmitted through sneezing or coughing (41.8%), contaminated water (45.8%), and eating with or sharing food with chronic HBV patients (52.4%).^[8]

Another assessment done in Ibadan Nigeria (2013) about the knowledge of Hepatitis B infection using a knowledge score total of 6 revealed that 76% of all women had poor scores (Table III). Knowledge was significantly better in the tertiary centre: 30.8% of women in UCH had good scores, while 15.6% and 11.1% of women in Adeoyo and the primary health centre had good knowledge, respectively (p 0.000). There were no abstentions in knowledge scoring. Knowledge about

HBV was obtained through various sources; among all respondents, common sources included counseling sessions (44.1%), books and media (52%), posters within the health facility (18.8%) and the internet (13.5%).^[9]

A systematic review and Meta analysis study done on the epidemiology of hepatitis B infection in Somalia shows that the pooled prevalence of hepatitis B infection was 18.9% and a high prevalence of all forms of viral hepatitis in Somalia indicating that chronic HBV was the commonest cause of chronic liver disease. This highlights needs for urgent public health interventions and strategic policy directions to controlling the burden of the disease. But contrary In Somaliland; unpublished data from the Ministry of Health of Somaliland showed that both blood donors and patients tested from eight hospitals in the country for the last five years has shown high prevalence rate In Hargeisa HBV infection infected 349 persons in 2014, 564 persons in 2015, In2016; 634 persons documented, 866 individuals infected by virus in 2014 and 877 persons suffer the diseased.^[10]

2.4 Attitude of pregnant women about hepatitis B viral infection

Hepatitis B virus (HBV) infection is a major public health problem in the world today. The disease is more common in Africa, Asia and the Middle-East, although developed countries have also their risks but the infection is responsible for severe morbidity and mortality of millions in the highly affected area.^[11]

A study done in Vietnam about hepatitis B infection attitude of pregnant mothers revealed that About a third of the surveyed pregnant women and mothers had concerns about having casual contact (31.8%), working with or sharing food with chronic HBV patients (37.4%). Moreover, 40.8% of respondents expressed having concerns if their child was in the same class with a child with chronic HBV infection. While most participants were aware that infant hepatitis B vaccination is necessary (86.1%) and the best time to provide a healthy and stable child the first dose of HBV vaccine is within 24 hours after birth (80.0%) , their confidence in giving their own children the hepatitis B vaccine birth dose was lower. Only 66.1% of mothers responded that they would definitely be willing to have their own child vaccinated within 24 hours even if their doctors tell them the vaccine is safe.^[8]

A study done on the attitudes of HBV among rural communities in Cameroon found a mean score of 4.7 out of 8 points. Han et al 2017 concluded that 83% were willing to screen themselves for HB and 85% of them had their children vaccinated against HBV.^[12]

2.5 Practices of pregnant towards Hepatitis B Viral Infection

Population in Africa as shown by studies have relatively poor practice in a study by (Abongwa & Afah 2016) approximately 75.7% of the general population had poor practices and only 24.3% had a good practice. In terms of screening only 20.6% have screened for HBV and 2.3% were vaccinated against HBV and 91% ask for a new syringe or sharp objects before use (Han et al 2017)^[13,14]

A study done in Vietnam about hepatitis B infection screening practice of pregnant mothers revealed that In the subgroup of 189 postpartum women surveyed, 118 (62.4%) reported receiving hepatitis B testing during their

most recent pregnancy. Among them, 17.8% reported having positive results and 10.2% were unsure of their results. 65.6% reported their newborn were administered the first dose of the hepatitis B vaccine within 24 hours of birth. 12.7% were vaccinated between 24 to 48 hours after birth and 13.7% did not receive any vaccine until 1 month of age. When asked why the infants were not vaccinated within 24 hours of birth, the following responses were given: mother did not think it was safe (28%); no vaccine available (20%); child was sick (18%); mother did not think it was necessary (14); doctor said it was not necessary (10%) and child has low birth weight (4%).^[8]

A study done on the Knowledge of hepatitis B virus infection, and access to screening and vaccination among pregnant women in Ibadan, Nigeria (2013) Showed the distribution of previous hepatitis B screening and vaccination is highlighted. A total of 124 respondents (19.5%) had previously been screened for HBV infection, while 62 (9.7%) had been vaccinated. In the index pregnancy, 54 women (8.5%) received screening. Screening rates were 3.6% (primary), 6.9% (secondary) and 28.4% (tertiary), while screening in the index pregnancy was found in 3.7% (primary), 7.7% (secondary) and 11.5% (tertiary) of women.^[15]

3. METTHODS AND TECHNIQUES

3.1 Introduction

This section presents the methodology that was used in conducting this research and describes how the study was conducted. It includes the study area, source population, study population, study design, sample population, methods for selecting the sample, inclusion and exclusion criteria, sample size and rationale, ethical consideration, tools for data collection, measure to ensure validity and reliability, variables, data collection and data analysis methods.

3.2 Research Design

An institutional cross-sectional study design was conducted from august 2018 to November 2019 to assess the knowledge attitude and practice towards hepatitis B infection among pregnant mothers attending antenatal clinic at Edna Aden hospital.

3.3 The study Area

The study area was Edna Aden Hospital in Hargeisa, MarodiJeex Region Somaliland. The hospital is a non-profit charity that was built by Edna Aden Ismail who donate her UN pension and other personal assets to build the hospital in order to address the grave health problems that endanger the lives of women and children in the Horn of Africa.

3.4 Source population

The source population of the study was all pregnant women who were visited to antenatal clinics of Edna hospital during the data collection period.

3.5 Study Population

The study population was all selected pregnant women in their second and third trimester who visited antenatal care clinic of Edna hospital during the study period.

3.6 Inclusion and Exclusion criteria **3.6.1 Inclusion criteria** of Pregnant women whose age is 15 and above was included in the study.

o Pregnant women in their second and third trimester was included in this study of Pregnant women who were ready and willing to participate was included in the study

3.6.2 Exclusion criteria

o Those women whose age is less than 15 years o Pregnant women in their first trimester were excluded from this study. o Those women who were not capable of responding to the questionnaire were also excluded.

3.7 Sample Size Determination and Sampling technique

3.7.1 Sample size determination

The sample was calculated using the formula for cross-sectional study. No previous study on the prevalence (P) of KAP towards Hepatitis B among pregnant women attending ANCs was published in the country. Therefore, it assumed a 50% KAP towards Hepatitis B among pregnant women attending ANCs at Edna hospital. Sample size for this is calculated as follows.

Based on this data the sample size is calculated as following

$$N_i = \frac{Z^2 pq}{d^2} = \frac{(1.96)^2 (0.5) (0.5)}{(0.05)^2} \quad \text{Where: } Z = \text{Confidence interval } 95\% \quad d^2 = (0.05)^2 \quad P = \text{positive prevalence } 50\%$$

$$= \frac{(3.84) (0.25)}{0.0025}$$

$Q = \text{Negative prevalence } 50\%$

$d = \text{Marginal error } 5\%$

$= 384$

The minimum sample size calculated was 384, approximately 414 (after adding 10% for non-responders, 3.7.2

Sampling Techniques

In this study, a systematic random sampling was applied. Because this technique gives every pregnant women in the study area the chance of being selected. According to the source population mentioned above the study used sample fraction of one (1) selected person out of three (3) pregnant mothers attending the antenatal clinic at Edna Aden hospital until the required sample size was obtained. **3.8 Data Collection**

3.8.1 Data Collection Method

Data was collected at the selected antenatal care room upon the arrival of pregnant mothers at the ANC room. By the principal investigator getting some assistance from the nurses working with that department. The researcher was administering the questionnaire and pregnant women were giving their response through face-to-face interview.

3.8.2 Data collection instruments

The study adopted semi structured questionnaire for data collection through reviewing different related literatures. The questions used in the questionnaire were much of closed ended questions. And it took about 25 days to get the required sample size using the systematic technique of choosing one pregnant mother out of three pregnant mothers attending the antenatal clinic. The questions used were also semi-structured questionnaire because this design enables the researcher to collect fused data with the easiest and shortest possible time that allows the researcher to collect required information. **3.9 Variables**

3.9.1 Dependent variable

The dependent variable for the study was hepatitis B virus among pregnant mothers

3.9.2 Independent variable ☐ Knowledge of HBV

☞ Attitude of HBV

☞ Practice of HBV

3.10 Quality Assurance

3.10.1 Pretest

The questionnaire was pre-tested at Edna Aden Hospital in which the study was being carried out. Corrections and readjustments were done by the researcher for any ambiguity question/s in within the questionnaire to improve the quality of the Instrument.

3.10.2 Validity

Validity is the extent to which research results can accurately be interpreted and generalized to other population; it is the extent to which a questionnaire actually measures what it is intended to measure, or how far, or to what extent the items listed in questionnaire actually address the purpose, objectives, questions and hypotheses of the study. The validity of the questionnaire was established through expert judged; two experts were asked to assess the relevance of each item in the questionnaire to the study objectives. [15]

3.10.3 Reliability

The reliability of the study was controlled by use of test-re-test method. This method was used in a procedure where a researcher first administers the questions in the questionnaire to small study subjects and then do the same process one week after compilation of the first trial to cross check the answers on the two different trials.

3.11 Data Processing and Analysis

Data cleaning was done to all completed questionnaires soon after ANC day each week by the PI in collaboration with the assisting ANC nurses. Data entry was done by the PI. The completed data entry in the MS Excel 2010 was imported to the Statistical Package for Social Sciences (SPSS) v.20.0 software for statistical analysis.

3.12 Ethical Consideration

Ethical clearance was obtained from Hope-Kampala University. The researcher protected the respondent's identities and integrity of the data by reporting data as block instead of high lighting individual cases: the researcher was not falsified the data to conform some determined opinion, the researcher was also keeping the privacy of respondents; confidentiality and integrity of the data informed consent is the sought and no information is submission. There was no any benefit that the study participants got.

Study participants was informed that publications or reports will not mention any individual names of the participants but was collective and that this survey is completely voluntary and that participants have the rights to refuse to participate or withdraw at any time before the data has begun being analyzed. The privacy of the participants was maintained at all times during the data collection by conducting the consenting in private rooms and providing a survey consent forms and survey questionnaire

4. RESULTS

4.1 Introduction

A total of 414 pregnant women participated in this study. The following results provide the socio-demographic characteristics, assessment of knowledge, attitude, practice and associated factors towards hepatitis B infection among pregnant mothers attending antenatal clinic at Edna Aden hospital, Hargeisa Somaliland.

4.2 Socio-demographic characteristics

The socio-demographic characteristics of the study participants were summarized in table 1. The mean age of the study participants was 23.2 ± 3.2 years, majority (39.4%) of pregnant women in the study were between the ages of 20-24 years. Majority of pregnant women respondents (72%) in the study were married. Almost 35.7% of the pregnant mothers in the study were illiterate that means they cannot read and write. In terms of the occupational status of the study participants, nearly 70.5% of pregnant women in the study were unemployed, and that only 29.5% of the study participants were employed.

Table 1: socio-economic and demographic characteristics of pregnant women at Edna hospital, Hargeisa, Somaliland, 2019

Age	Frequency	Percentage
15-19	43	10.4

20-24	163	39.4
25-29	98	23.7
30-34	54	13.0
35-39	39	9.4
40-44	17	4.1

Occupational status	Frequency	Percentage
Employed	122	29.5
Not employed	292	70.5

Marital status	Frequency	Percentage
Married	358	86.4
Single	8	2
Divorced	26	6.3
Widowed	22	5.3

Educational status	Frequency	Percentage
Illiterate	148	35.7
Primary	81	19.6
Secondary	70	16.9
University	115	27.8

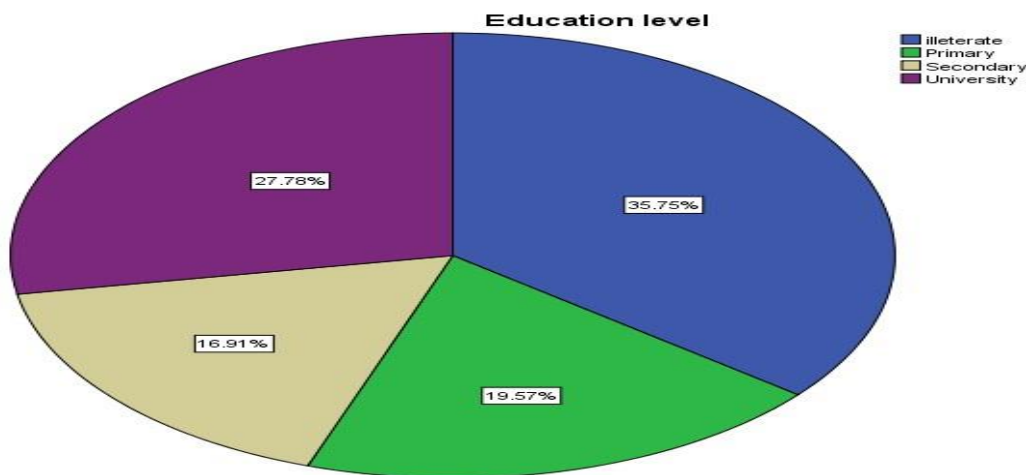


Figure 1: Educational status of the pregnant mothers

This graph demonstrated the distribution of the study participants on their educational status and the result shows about 35.7% of the pregnant mothers were illiterate that means they don't read and write and the about 27.8% of the mothers were in a university level indicating a good status of education and the remaining 19.6% and 16.9% were primary level and secondary level respectively.

4.3 Assessment of knowledge towards HB

The result of the ANC women participants 'assessment of their knowledge towards Hepatitis B in the study was summarized in Table 2. The scoring system and cut-off level to measure HBV knowledge in this study were described in the methodology section. In summary, knowledge was assessed in three categories and divided in to good, fair and poor knowledge and the cut point scoring system was 12-18 for good knowledge of hepatitis B and 6-11 for fair knowledge and 0-5 for poor knowledge of hepatitis B. Based on this you need to put how many of them has good, fair and poor knowledge.

Out of 414 respondent the result of average knowledge's found its be mean of 53.9% which was sub classifies into about 46.1%. of responds were having good knowledge of hepatitis B and on other 38.4% of responds have a fair knowledge and the remaining 15.3% you have poor knowledge on hepatitis'B. The knowledge mean score among pregnant respondents was 10.71 ± 4.75 SD which is below the cut –off –point of 12.

Approximately 74.8% of the pregnant women participants mentioned that they have heard about hepatitis as a disease. An estimated 61.1% of pregnant women participants indicated that HB infection was caused by bacteria indicating insufficient knowledge about disease aetiology

Table 2: knowledge of pregnant mothers about hepatitis B at Edna Aden hospital, Hargeisa, Somaliland, 2019

Hepatitis B Knowledge Items (Answers for positive knowledge)	Yes N (%)	NO N (%)	Not sure N (%)
1. Have you ever heard about a disease called hepatitis	310 (74.8)	80(19.3)	24(5.8)
2. Can Hepatitis B virus cause liver disease	283 (68.4)	107(25.8)	24(5.5)
3. Will an infected person remain infected for life	280(67.6%)	128(30.9%)	6(1.5%)
4. Is hepatitis B caused by bacteria	253 (61.1)	66 (16)	95(24.9)
5. Is hepatitis B caused by virus	124 (29.9)	186 (45)	104(25.1)
6. Can hepatitis B infection affect any age group	290(70%)	92(22.2%)	32(7.8%)
7. Can Hepatitis B be transmitted through casual contact such as holding of hand	283 (68.4)	105(25.4)	26(6.3)
8. Can Hepatitis B have transmitted through unsterilized equipment	313(75.6)	71(17.1)	30(7.2)
9. If your husband is carrier of Hepatitis B, are you at risk of being infected	305(73.7)	80(19.3)	29(7.0)
10. Can Hepatitis B vaccine prevent Hepatitis B	282(68.1)	92(22.2)	40(9.6)
11. Can Hepatitis B transmit from mother to child	240(58.0)	140(33.8)	34(8.2)
12. Can Hepatitis B transmit during labor	223(53.0)	136(32.4)	55(13.2)
13. Can Hepatitis B transmit by unsafe sex	241(58.2)	124(30.0)	49(11.8)
14. Can hepatitis B infection transmit from person without symptoms	187(45.2%)	124(29.9)	103(24.9%)
15. Is hepatitis B curable or treatable	178 (43)	180 (43.5)	56 (13.5)
16. Is vaccine available for hepatitis B infection	145(35.0%)	76(18.3%)	193(46.7%)

17. Is hepatitis B infection vaccine available in 87(21%) 74(17.9%) 253(61.1%)
Somaliland

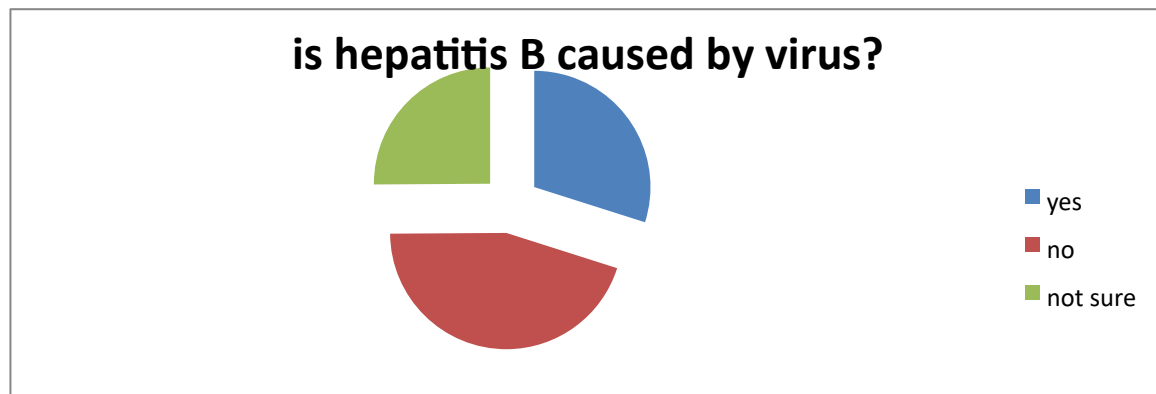


Figure 2: is hepatitis B caused by virus

Only about 29.9% of pregnant women participants correctly indicated that HBV infection was caused by a virus and the rest which the majority of the study participants didn't know that the disease is caused by a virus these indicates the decreased knowledge of pregnant mothers about hepatitis B infection.

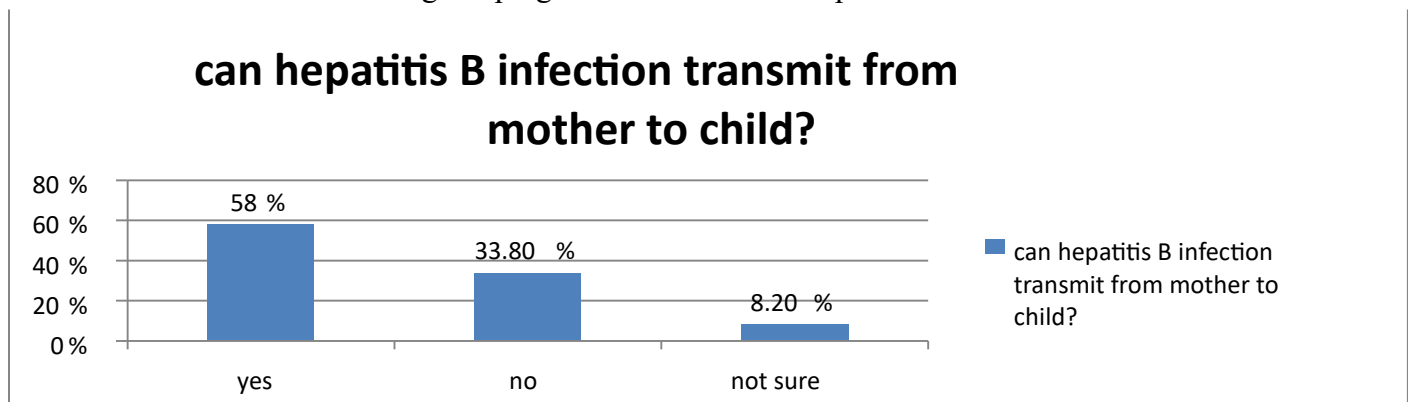


Figure 3: hepatitis B transmission from mother to child

This pictures shows that most pregnant women (58%) in the study knew that HBV can be transmitted from mother to child indicating an average proportion of study participants with knowledge about disease transmission via mother to child during child delivery

4.4 Assessment of attitude towards HB

The result of the ANC women participants' assessment of their attitude towards Hepatitis B in the study was summarized in Table 3. Each of the attitude related question was labeled with positive or negative attitude. The scoring system and cut-off level to measure attitude towards HBV in this study were described in the methodology section. In summary attitude was assessed by dividing in to two categories subdivided as positive attitude and negative attitude respectively and the scoring system was giving 5-7 questions for positive attitude and <4 questions for negative attitude respectively.

Table 3: Attitude of pregnant mothers about hepatitis B infection at Edna Aden hospital, Hargeisa, Somaliland, 2019

Hepatitis B attitude items	Frequency	Percentage
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1. Do you think you can get hepatitis B

infection

Yes	77	18.6
No	243	58.7
I don't know	94	22.7

2. What will be your reaction if you found that you have hepatitis B

Fear	253	61.1
Shame	44	10.6
Surprise	28	6.8
Sadness	89	21.5

3. Do you think that hepatitis B has laboratory test

Yes	273	65.9
No	109	26.3
Not sure	31	7.5

4. Who could you talk to your illness

Physician	273	65.9
Spouse	78	18.5
Parents	44	10.6
Other relatives	19	4.6

5. What will you do if you think that you have symptoms of hepatitis B

Go to health facility	307	74.1
Go private GP's	26	6.3
Go to traditional healer	30	7.2
Do nothing	51	12.3

6. If you have symptoms of hepatitis B at what stage will you go to a health facility

Own treatment fails	27	6.5
After a month of the appearance of symptoms	33	8
As soon as a realize the symptoms	268	64.7
Will not go to a health facility	86	20.8

7. What worries you most if you will be diagnosed with hepatitis B

Fear of death	198	47.8
Fear of disease spread to family	173	41.8
Cost of treatment	15	3.6
Isolation from the society	28	6.8

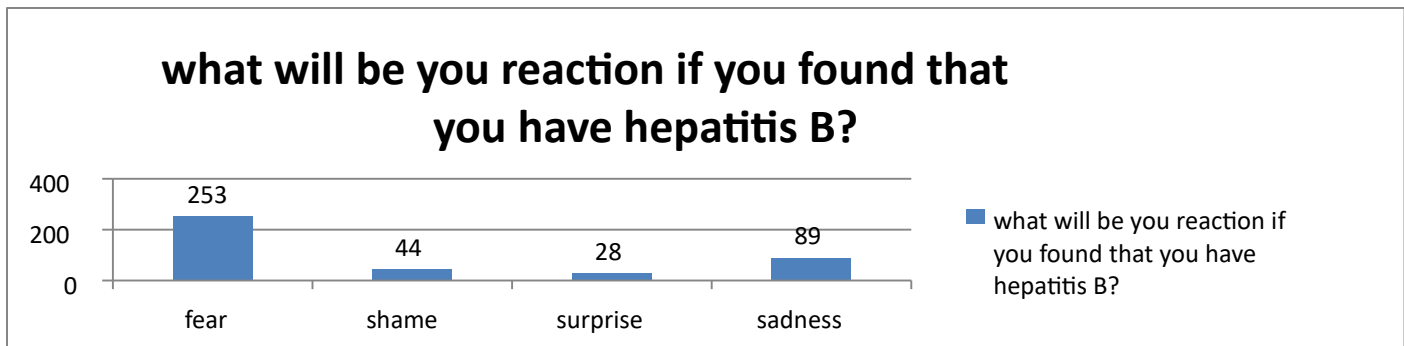


Figure 4: reaction if hepatitis B occurred

About 253(61.1%) of pregnant women participants demonstrated some sense of fear with regards to the long-term implications of HBV infection indicating a positive attitude essential in disease prevention.

4.5 Assessment of practices towards HB

Practices towards HBV among ANC women respondents in the study were assessed by asking eight questions as shown in Table 4. Each question consisted of good or poor practices. The scoring system and cut-off level to measure Practice among ANC women towards HBV in this study were described in the methodology section. The scale measured practice from a maximum of 8 to a minimum of 0. Scores of more than 5 (>) were classified as having good practice while scores of less or equal to 5 were classified as having poor practice towards Hepatitis B.

Table 4: practice of pregnant mothers about HBV at Edna Aden hospital, Hargeisa, Somaliland, 2019

Hepatitis B practice items	Frequency	Percentages
1. If you receive blood transfusion, would you ask if the blood has been screened for HBV		
Yes	344	83.1
No	70	16.9
2. Are you vaccinated against hepatitis B virus?		
Yes	65	15.7
No	349	84.3
3. If yes on question 2 how many doses of HB vaccine did you received		
One dose 17	4.1	
Two dose 16	3.9	
Three doses	32	7.7
Answered no to question 22	349	84.3
4. Do you share personal items (sharp, tattoo, instruments, toothpaste) with others		
Yes	46	11.1
No	271	65.5
Not sure	97	23.4

5. In case you are diagnosed with hepatitis B would you go for further investigation

Yes	312	75.4
No	18	4.3
Not sure	84	20.3

6. Would you avoid contact with hepatitis B infected person

Yes	293	70.8
No	105	25.4
Not sure	16	3.9

7. Would you share food with hepatitis B infected person

Yes	269	65
No	110	26.6
Not sure	35	8.4

8. Have you ever participated in health education program related to hepatitis B

Yes	66	15.9
No	309	74.5
Not sure	39	9.6

4.6 Over all KAP mean scores result of the study subjects Table 5: Overall KAP mean score of the study subjects

KAP mean score of the study subjects Variable	Mean Score $\pm$ sd	Cut –off –point
Knowledge	10.71 $\pm$ 4.75	12
Attitudes	3.94 $\pm$ 1.28	4
Practice	4.59 $\pm$ 1.3	5

percentage of poor knowledge, negative attitude and poor practice

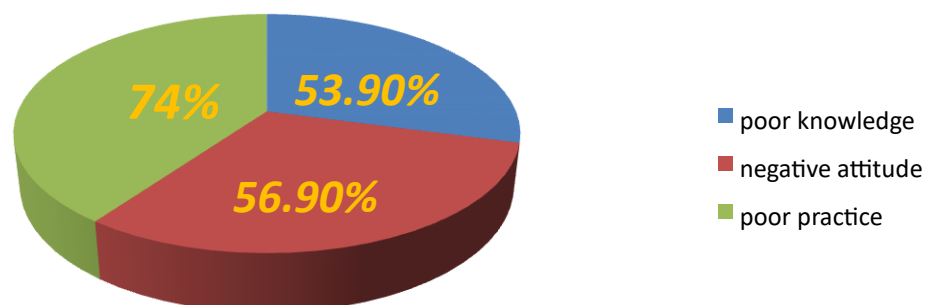


Figure 5: percentages of poor knowledge, negative attitude and poor practice

The table 6 below demonstrates the means cores of the KAP variables; the knowledge was measured using a scale comprised of 18 questions. The knowledge mean score among pregnant respondents was 10.71 ± 4.75 SD which is below the cut –off –point of 12. Poor knowledge towards Hepatitis B infection among respondents accounted for 53.9% as depicted by figure number 34 Attitudes scale was composed of 7 questions; the mean score was 3.94 ± 1.28 SD which is below the average cut- off point of 4. Furthermore, about 56.9% of pregnant women had negative attitudes towards hepatitis B infection. Similarly, the mean score of practice was poor 4.59 ± 1.3 SD. The practice scale was consisting of 8 questions with a cut-off point of 5. Approximately, 74% of study subjects revealed that they had poor practice towards Hepatitis B virus infection.

5. DISCUSSION

5.1. Introduction

This study opted to contribute on the public heath responses to HBV by investigating the current level of KAP towards hepatitis B among key population in HARGSIA SOMAALILAND The current cross-sectional study revealed a poor KAP towards HBV among women attending antenatal clinic in their first and return antenatal visit in clinics in Edna hospital. This is the first ever study done on the KAP of HBV conducted among women attending antenatal clinic in Edna hospital Hargeisa Somaliland with no similar study or data previously published in the country.

This study presented poor knowledge attitudes and practices (KAP) mean scores among the respondents, the study highlighted poor knowledge about 66% with a mean score of 10.71 ± 4.75 SD that is below the average cut –off point of 12. And this is highly consistent with a study conducted in some parts of Ghana showed 41% of pregnant women were aware of hepatitis B viral infection. In which the rest 59% were unaware of the infection and this numbers remain nearly the same in most underdeveloped countries due to high illiteracy rates and poor socio-economic status^[17]

5.2. Knowledge towards HBV

The result demonstrated an inadequate knowledge among majority (40%, of ANC women in the study with an overall mean knowledge score of 10.71 ± 4.75 . Although majority of women respondents (74.8%) had ever heard of Hepatitis B, a small proportion of pregnant women in the study actually knew about the etiology of HBV. Only 29.9% of pregnant women in the study knew that HBV infection was caused by a virus. This result was consistent with the outcome of the study by Frambo et al. in Cameroon with only 17% and 8% of pregnant women knew that HB was a disease caused by virus and HB infected person will remain infected for life respectively. The results thus highlighted urgent need for health education on HBV among pregnant women especially during antenatal visits to curb the disease burden. Frambo et al (2014) [12]

This study also revealed significant stigma associated with people having chronic HBV in the study area. About two third (65%) of participants expressed concerned about eating with, sharing food or casual contact with chronic HBV patients. One explanation could be because approximately more than half (68%) of the women surveyed believed that HBV can be transmitted through, contact with an infected person such as holding of hands contaminated food and water, or eating or sharing food with chronic HBV patients. The stigma and pattern of knowledge deficits observed in this study regarding HBV was similar to a previous study among adult residents in Ho Chi Minh City in which 55% had the mistaken impression that HBV can be spread by sharing eating utensils and 61% felt that persons with chronic HBV infection put others at risk. It is widely recognized that HBV related stigma can negatively affect health behaviours related to screening, prevention, diagnosis and treatment for HBV

infection. Further research into this area to understand the magnitude, underlying reasons and its impact is necessary to evaluate effective interventions to improve awareness and tackle stigma in HBV in Somaliland.^[18]

5.3. Attitude towards HBV

The overall attitude towards HB among ANC women in the study was found to be poor with majority of women respondents (64.7%, n=280) failed to correctly surpass two third (2/3) of questions pertaining to attitude towards HBV. The mean attitude score was 4.08 ± 1.2 indicating a poor level of attitude towards HBV among the study subjects. Only 18.6% and 61.1% of ANC women respondents believed that they are at risk of HBV infection and have felt some sense of fear about acquiring the disease respectively. These results are consistent with the study conducted by UI Haq et al. in

Pakistan among asymptomatic healthy population, where only 20% and 32% think that they are at risk of HBV infection as well as fear being found to have HB respectively. Individual perception of being susceptible to a disease is the first positive attitude to disease prevention as far as the health belief model is concern.^[19]

The results of the current study further revealed that majority of ANC women respondents (65.9%) in the current study were confident to disclose their disease to a medical doctor and that health facility or private GPs was the first choice for treatment of HBV symptoms among (80.4%) of the women respondents. In addition, 64.7% of women possess positive attitude of early health care seeking as soon as they realize HBV. These results demonstrated much higher rates of positive attitude for trusting health personnel and modern treatment as well as positive health seeking behaviour in comparison to responses to similar questions in the study by UI-Haq et al. in Pakistan with very low rates of 13%, 30%, and 26% respectively. These differences are likely due to the difference in study population and setting of each study where pregnant women are likely to have access to available health care services. This further indicates a great public health concern of ongoing risk of HBV transmission to healthy individuals due to negative attitude and behaviour.^[19]

Generally, fear to a disease is considered as positive attitude to disease prevention and control, in this study, approximately 3.6% perceived HB testing and treatment as expensive, which indicates a poor sign of preventing the high-cost consequences of HBV. This result is inconsistent with a study conducted by Baig VN, Gupta PK and Sharma AK, et al (2015). Were about only 10% of the respondents expressed HB treatment and investigation as expensive. Regarding the knowledge of preventive measures, only 35% were aware of the existence of HB vaccine for adults and only 21% knew that this vaccine is available in Somaliland.^[20]

5.4. Practice towards HBV

The overall level of practice towards HBV was found to be poor among majority (73.7%, n=305) of women respondents in the current study. The mean practice score was 4.59 ± 1.3 indicating a poor level of practice towards HBV among the study subjects. About nearly more than half (62%) of the women respondents took their youngest child for vaccination against HBV which raises concern on early transmission of HBV among children and opportunity for continuous awareness on the importance of HBV vaccination among pregnant women

The result further revealed that majority of women (70.8%) opted to avoid contact with HBV infected patients and refused to share food (65%) with HBV infected patients. This again shows the existence of stigma and discrimination among women respondents in the study and also created opportunity for more advocacies on the transmission of HBV infection among pregnant women at Edna Aden maternity hospital. This is further supported by the fact that only one in ten women (15.9%) had ever attended any HBV educational program.

It is noteworthy that information related to HBV and hepatitis B vaccine was not relatively accessible to pregnant women at the study site. Most of the study participants reported that they don't receive information about HBV prevention (74.5%) Statistical analysis also showed that exposure to information during pregnancy has a positive impact on HBV knowledge score as well as on whether the mother received the hepatitis B vaccine. This finding

emphasizes a need to improve education programs targeting women of childbearing age about HBV and the benefits of hepatitis B antenatal testing and hepatitis B vaccine. It is also necessary to review existing antenatal educational programs and materials to ensure that key messages are effectively conveyed to the target audiences.

6. CONCLUSION

In conclusion, the present study revealed poor level of KAP mean scores among respondents and variations in risk factor distribution among women attending ANC at Edna Aden maternity hospital, Hargeisa, Somaliland. This KAP study of HBV in the country indicates that approximately 54% of pregnant women attending Edna Aden ANCs in the current study had low level of Knowledge towards HBV with lack of understanding of the basics of infection control and the prevention of transmission of HBV. And another nearly 57% have a negative attitude about hepatitis B infection

The poor knowledge and inadequate attitudes and practices in the transmission and prevention of the disease, calls attention the risk to which the newborn and birth attendants are exposed.

7. RECOMMENDATION

- It is highly recommended that primary prevention of increasing advocacy and awareness of HBV be prioritized by the responsible Government ministry (Such as health, education, and social welfare) and other relevant stakeholders (SIPPA, WHO, UNICEF, and SPC) in the country to improve the KAP of women attending ANC towards HBV.
- Further on, on-going HBV awareness activities should be implemented among health care workers and pregnant women.
- In addition, community education trainings are needed among target population focusing on gaps in misconceptions about the disease etiology, transmission, silent nature of the infection, preventative measures and availability of treatment in the country.
- Establishing links between relevant Government ministries, departments, stakeholders and communities is also recommended for effective promotion of HBV to increase KAP among ANC women and vulnerable population towards HBV.
- Furthermore, it is recommended that promotion of HBV should utilize health workers and the print media (Newspapers and magazines) in the urban settings for maximum benefits.
- Lastly but not the least it is further recommended that a national KAP survey of HBV using mixture of quantitative and qualitative design method is warranted among asymptomatic population to establish the level KAP difference for specific public health action and policy development by the MHMS taking into account midwifery practices and HB vaccination acceptability.

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REFERENCES

- Orgul, G., Ozkan, E. U., Celik, H. T., & Beksac, M. S. (2017). Autoimmune hepatitis and pregnancy: report of two cases with different maternal outcomes. *Clin Exp Hepatol*, 3(4), 212-214. doi:10.5114/ceh.2017.71445

- Chawla, R. M., Shetiya, S. H., Agarwal, D. R., Mitra, P., Bomble, N. A., & Narayana, D. S. (2017). Knowledge, Attitude, and Practice of Pregnant Women regarding Oral Health Status and Treatment Needs following Oral Health Education in Pune District of Maharashtra: A Longitudinal Hospital-based Study. *J Contemp Dent Pract*, 18(5), 371377
- Ott JJ, Stevens GA, Groeger J, Wiersma ST. 2012. Global epidemiology of hepatitis B infection: New estimates of age-specific HBsAg seroprevalence and endemicity. *Vaccine* 30: 2212–2219.
- Lavanchy D. 2004. Hepatitis B virus epidemiology, disease burden, treatment, and current and emerging prevention and control measures. *J Viral Hepat* 11: 97–107.
- Chan OK, Lao TT, Suen SS, Lau TK, Leung TY. Knowledge on hepatitis B infection among pregnant women in a high endemicity area. *Patient education and counseling*. 2011 Dec 1;85(3):516-20
- Trépo C, Chan HL, Lok A. Hepatitis B virus infection. *The Lancet*. 2014 Dec 6;384(9959):2053-63.
- Schweitzer A, Horn J, Mikolajczyk RT, Krause G, Ott JJ. Estimations of worldwide prevalence of chronic hepatitis B virus infection: a systematic review of data published between 1965 and 2013. *The Lancet*. 2015 Oct 17;386(10003):1546-55.
- Pham, T.T.H., Le, T.X., Nguyen, D.T., Luu, C.M., Truong, B.D., Tran, P.D., Toy, M. and So, S., 2019. Knowledge, attitudes and practices of hepatitis B prevention and immunization of pregnant women and mothers in northern Vietnam. *PloS one*, 14(4), p.e0208154.
- Adeyemi, A.B., Enabor, O.O., Ugwu, I.A., Bello, F.A. and Olayemi, O.O., 2013. Knowledge of hepatitis B virus infection, access to screening and vaccination among pregnant women in Ibadan, Nigeria. *Journal of obstetrics and gynaecology*, 33(2), pp.155-159.
- Hassan-Kadle MA, Osman MS, Ogurtsov PP. Epidemiology of viral hepatitis in Somalia: Systematic review and meta-analysis study. *World journal of gastroenterology*. 2018 Sep 14;24(34):3927.
- Jadoon, S. M., Adeel, M., Aslam, S., & Rasool, A. (2017). Hepatitis B And Hepatitis C Virus In Women With First Pregnancy. *J Ayub Med Coll Abbottabad*, 29(4), 614-618
- Frambo, A. A., Atashili, J., Fon, P. N., & Ndumbe, P. M. (2014). Prevalence of HBsAg and knowledge about hepatitis B in pregnancy in the Buea Health District, Cameroon: a cross-sectional study. *BMC Res Notes*, 7, 394. doi:10.1186/1756-0500-7-394.
- Abongwa LE, Sunjo NS, Afah NG, Abongwa L, Sunjo N, Afah N. Assessment of Knowledge, Attitude and Practice towards Hepatitis B among two rural communities of the Anglophone regions in Cameroon. *Sciences*. 2016;4(03):2016.
- Han, S.Y., Innworks Co., 2017. Case for portable communications terminal. U.S. Patent Application 29/546,182.

- Adeyemi, A.B., Enabor, O.O., Ugwu, I.A., Bello, F.A. and Olayemi, O.O., 2013. Knowledge of hepatitis B virus infection, access to screening and vaccination among pregnant women in Ibadan, Nigeria. *Journal of obstetrics and gynaecology*, 33(2), pp.155-159.
- Sonpar, A., Brown, K., Chen, J., Megran, D., Sabo, M., Cervera, C., . . . Kabbani, D. (2018). Dual infection in pregnancy: Disseminated *Mycoplasma hominis* and necrotizing herpes simplex 2 hepatitis. *Int J Infect Dis*, 71, 1-3. doi: 10.1016/j.ijid.2018.03.006
- Abdulai MA, Baiden F, Adjei G, Owusu-Agyei S. Low level of Hepatitis B knowledge and awareness among pregnant women in the Kintampo North Municipality: implications for effective disease control. *Ghana medical journal*. 2016;50(3):157-62.
- Dam L, Cheng A, Tran P, Wong SS, Hershow R, Cotler S, Cotler SJ. Hepatitis B stigma and knowledge among vietnamese in Ho Chi Minh City and Chicago. *Canadian Journal of Gastroenterology and Hepatology*. 2016;2016.
- ul Haq, N., Hassali, M.A., Shafie, A.A., Saleem, F., Farooqui, M. and Aljadhey, H., 2012. A cross-sectional assessment of knowledge, attitude and practice towards Hepatitis B among healthy population of Quetta, Pakistan. *BMC Public Health*, 12(1), p.692.
- Baig VN, Gupta PK, Sharma AK, Swarnkar M. Assessment of knowledge, attitude and practice about Hepatitis B among clinicians and medical students: A cross-sectional study. *Natl J Community Med*. 2015; 6:415-22.