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FACTORS ASSOCIATED WITH KNOWLEDGE ATTITUDE AND PRACTICE RELATED TO HEPATITIS B AND C VIRUS INFECTION AMONG MILITARY PERSONNEL IN ADDIS ABEBA

A Thesis submitted in partial fulfillments of the requirements for award of degree of the master in public health

By

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DUCHS

Factors associated with knowledge attitude and practice related to hepatitis B and C virus infection among military personnel in Addis Ababa

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STUDENT DECLARATION

Factors associated with knowledge attitude and practice related to hepatitis B and C virus infection among military personnel in Addis Ababa

This Thesis is my original work. It has not been presented for a degree in any other University

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ABBRIVATION AND ACRONYMS

AOR- Adjusted Odds Ratio

CI- Confidence Interval

COR- Crude Odds Ratio

DAAS -Direct Acting Antivirals

DNA -Deoxy Ribo Nucleic Acid

DUCHS- Defense University College of Health Science

HAV-Hepatitis A virus

HBeAG-Hepatitis B endogenous Antigen

HBsAg-Hepatitis B Surface Antigen

HBV-Hepatitis B virus

HCC- Hepatocellular Carcinoma

HCV-Hepatitis C virus

HDV- Hepatitis D virus

HEV-Hepatitis E virus

IRB – Institutional Review Board

KAP- Knowledge, Attitude, Practice

NS5A- Nonstructural protein 5A

PAS - Proportional Allocate to Size

RNA –Ribo Nucleic Acid

SPSS -Statistical Package for Social Sciences

SRS- Simple Random Sampling

SVR -Sustained Virological Response

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ABSTRACT

Background- Military personnel are high-risk people for sexually transmitted and blood born diseases such as hepatitis B and C virus. Data regarding knowledge of hepatitis B and C has been reported to be low among respondents in different studies. Although several studies were done on HBV and HCV infections among different risk groups, so far there is no published data about factors associated with knowledge, attitude and practice related to hepatitis B and C virus infection among military personnel in Addis Ababa.

Objective - To assess knowledge, attitude and practice and associated factors related to hepatitis B and C virus infection among military personnel in Addis Ababa.

Method- A cross-sectional descriptive study design was conducted from February to march 2018. Total of 427 military personnel were randomly selected by lottery method. Data were collected using pre-tested structured questionnaire through face to face interview and analyzed by using SPSS version 20.

Result- a total of 427 military personnel were on the study 55%, 86.9% and 70% of the study participant hadpoor knowledge, positive attitude and poor practice respectively with X knowledge score of 6.88 ± 2.124 SD. Knowledge score was statistically significant with age [AOR=0.662, 95%CI (0.351-1.249) p=0.048]Rank [AOR=1.199, 95%CI (0.712-2.019) p= 0.012], Attitude [AOR=2.677, 95%CI (1.381-5.188) p= 0.042] and practice [AOR=1.996, 95%CI (1.301-3.061) p= 0.006]. X attitude and practice scores were 4.66±1.245 SD and 4.52±1.617SD respectively. Religion, knowledge and practice werepredictor for attitude with p value 0.009, 0.005 and 0.006 respectively. Practice was significantly associated with knowledge [AOR=1.196, 95%CI (1.301-3.061) p= 0.002] and attitude [AOR=3.486, 95%CI (1.441-8.434) p= 0.006].

Conclusions- KAP of the study participant shows poor knowledge, positive attitude and poor practice. Educational campaigns among military personnel should be intensified with focus being on behavior modification.

CHAPTER I INTRODUCTION

1.1 Background

Hepatitis is a serious global public health problem and is characterized by the inflammation of liver(1). The hepatitis B virus was discovered in 1965 when Blumberg and coworkers found the Hepatitis B surface antigen which was originally called the Australia antigen because it was found in serum from an Australian patient(2). A few years later, Dane (1970) visualized the HBV. Since then, considerable progress has been made regarding the epidemiology, virology, natural history, and treatment of this hepato-tropic virus(3). Merck created the first hepatitis B vaccine in 1982, this was plasma derived, but these have largely been replaced by recombinant derived ones, which were introduced in 1986. In 1989 the Centers for Disease Control and Prevention and Chiron came together to identify the hepatitis C (HCV) virus. There isn't a vaccine for HCV at this time(4). In 1991, the WHO recommended that HB vaccine should be introduced into the Expanded Programme of Immunization (EPI)(5).

In many cases hepatitis B and C can lead to permanent liver damage including liver cirrhosis or hepatocellular carcinoma and even death(1).According to Global hepatitis report 2017WHO estimates that in 2015, viral hepatitis was responsible for 1.34 million deaths. This number was comparable with the number of deaths from tuberculosis, but higher than the number of deaths from HIV. In 2015 WHO estimates that, 257 million persons, or 3.5% of the population, were living with chronic HBV infection in the world. The African and Western Pacific regions accounted for 68% of those infected. Moreover, 71 million persons were living with HCV infection in the world in 2015, accounting for 1% of the population. In addition 2.3 million Persons living with HIV also had HCV infection. HCV infection is unevenly distributed in the world. The European and Eastern Mediterranean regions are more affected, but there are variations in prevalence across and within countries(6).

In Ethiopia, although nationwide survey report is lacking, an estimated prevalence of 10–15 % HBV infection and 2–5 % HCV infection were reported. More than 60 % of chronic liver disease and up to 80 % of HCC were caused by HBV and HCV chronic infection(7,8).The prevalence of HBsAg was found to be 6.9% in HIV positive adults(4). The

prevalence of HBV and HCV found to be 3.1% and 1.0% respectively in adult population at community level (10).And among military personnel HBV and HCV were reported to be 4.2% and 0.2% respectively(11).the prevalence of viral hepatitis showed great variability among different risk groups that should be taken into consideration when designing a more appropriate epidemiological investigation. In this regard, 4.7–6.2 % seroprevalence of HBV has been reported among blood donors(12,13). In other risk groups prevalence rate reported were5.6 % among HIV infected persons, 4.7 % among medical waste handlers, 10.9 % among street dwellersand 10.4 % among prisoners(14-17).Moreover the prevalence of HCV infection was reported 0.7–1.7 % among blood donors(12,13), 0.7 % among medical waste handlers(15) and 5 % among HIV positive individuals (14)

Hepatitis virus is highly contagious, 50-100 times more infectious than HIV, and is transmitted between people through blood, semen, vaginal fluids and mucous membranes(18). HBV and HCV are primarily transmitted via the muco-cutaneous route: infected blood transfusion, unprotected sex (although less common with HCV), and the use of non-sterilized needles and syringes (especially in injection drug use, tattooing, scarification, and nosocomial transmission)(19). Although HBV has been detected in saliva, tears, breast milk, sweat, and urine, there is minimal evidence of transmission through exposure to these fluids where no blood is present, and breastfeeding has not been shown to increase risk of infection(20). Sign and symptoms include jaundice, fever, loss of appetite, fatigue, dark urine, joint pain, abdominal pain, diarrhea, nausea, and vomiting. Very rarely, viral hepatitis can cause liver failure and death. For all types of viral hepatitis, symptoms are less common in children than in adults, and for people of any age with HCV infection, they are less likely to experience symptoms.(21). One should not judge by appearance: most infected people look perfectly healthy and have no symptoms of disease, yet be highly infectious(22).Persons infected with HBV or HCV are usually unaware of their infection, as they do not have well-defined symptoms before complications emerge

The risk of sharing utensils such as hair-brushes, combs, razors and toothbrushes is common among people living in groups that can facilitate transmission of the viruses (23). Moreover, usually soldiers travel from place to place for different missions and stay

longer apart from their family. This may force soldiers to have multiple sex partners that can expose them for different sexually transmitted infections (STIs) including HBV and HCV.

Diagnosis of HBV and HCV cases is usually incidental, (e.g. on donating blood, antenatal visits (antenatal screening for HCV is not mandatory in the country, although many tertiary hospitals and private hospitals do screen pregnant women for viral hepatitis), pre-employment screening for emigration requirements, and at HIV clinics(19). Diagnosis is made for HBV and HCV through HBsAg and hepatitis C antibodies (anti-HCV) respectively. Where HBsAg is a part of the virus which will usually appear 6-12 weeks after infection in the blood (24).

Treatment for acute hepatitis B it is not usually necessary in the first six months. Nine out of ten new infections in adults clear up on their own, with or without treatment. In this early stage of disease, treatment makes very little difference to the chances of a cure. Antiviral drugs may only be necessary and helpful in rare cases, if the acute infection causes very aggressive liver inflammation. In case of chronic(long-lasting) hepatitis B, Some people need treatment, while others should wait. Treatment does not usually cure hepatitis B, but it can turn an 'aggressive' hepatitis B infection into a mild infection. This can stop the liver from being damaged. Chronic hepatitis B can be treated with pegylated interferon alpha or with pills called nucleoside or nucleotide analogues.Treatment continues for 24 to 48 weeks(24).

Hepatitis C treatment used to consist of ribavirin and interferon, generally in the pegylated, longer-lasting form, which boosts the body's own immune system, most of the new drugs work differently, attacking the virus itself. They primarily target one of three distinct parts of the virus called the protease, the polymerase and the NS5A area and are therefore known respectively as protease inhibitors, polymerase inhibitors and NS5A inhibitors. Collectively they are known as Direct Acting Antivirals (DAAs). Initially used with interferon, they are now being increasingly used in combination with each other and without interferon. This is allowing much shorter courses of treatment, 12 weeks or less, with fewer, more tolerable side effects.The aim of treatment for hepatitis C is achieve a Sustained Virological Response (SVR), meaning that the virus is not de-

tectable in blood originally 24 weeks, now more frequently 12 weeks, after treatment has stopped. This is the equivalent of a cure because the virus does not return, unless the person is newly infected. The new drugs are showing SVR rates of approaching 100% in trials. However this depends on which combination is used, how much liver damage the patient has, with those with cirrhosis generally doing less well. One of the most exciting aspects of the new drugs is that in the absence of interferon they appear to be safe enough to use on people who have decompensated cirrhosis, offering them the chance both of a cure and an improvement in their condition, perhaps no longer needing a transplant. The new drugs are expensive in the developed world and in some countries this is limiting their use. Many governments are currently in discussions with the manufacturers to secure lower prices. In the developing world, some manufacturers have already announced 'access programmes' and the others will undoubtedly follow. These programmes generally involve significantly lower prices and sometimes licensing agreements with generic manufacturers(24). Primary prevention activities include screening and testing of blood, plasma, tissue, organ and semen donors; virus inactivation of plasma derived products; risk reduction counseling services and implementation of infection-control practices. Secondary prevention activities include identification and testing of persons at risk and management of infected persons (8).

Knowledge of hepatitis B and C has been reported to be low among respondents in different studies. A survey of knowledge about hepatitis B among new military recruits in China showed 83.6% had poor knowledge (25). Another study conducted among Saudi Arabia National Guard showed KAP with regard to hepatitis B infection from 1.8-53.3%before educational intervention (26). Also a study conducted on international students of UPM showed that level of knowledge and attitude towards hepatitis B and C were 50.3% among respondents (27). A similarly study conducted in Haramaya University on medical and health science students indicated that lack of awareness on its route of transmission and modes of prevention among medical students entering in to the profession. Out of 322 respondents 95.3% of the students were not fully vaccinated against hepatitis B (28). A survey conducted on health care workers at Bahirdar city administration showed only 52% of the respondents was knowledgeable about hepatitis B infection (29).

Military personnel are at higher risk for hepatitis B and C and no far little information is available on KAP towards the disease. This study is aimed to assess the level of KAP related to hepatitis B and C among military personnel in Addis Ababa and its associated factors.

1.2 Statement of the problem

Viral hepatitis caused 1.34 million deaths globally in 2015, a number comparable to deaths caused by tuberculosis and higher than those caused by HIV. However, the number of deaths due to viral hepatitis is increasing over time, while mortality caused by tuberculosis and HIV is declining. Most viral hepatitis deaths in 2015 were due to chronic liver disease (720 000 deaths due to cirrhosis) and primary liver cancer (470 000 deaths due to hepatocellular carcinoma). Globally, in 2015, an estimated 257 million people were living with chronic HBV infection, and 71 million people with chronic HCV infection. The epidemic caused by HBV affects mostly the WHO African Region and the Western Pacific Region. The epidemic caused by HCV affects all regions, with major differences between and within countries. The WHO Eastern Mediterranean Region and the European Region have the highest reported prevalence of HCV(6).

In Ethiopia, an old clinical study showed that liver disease accounted for 12% hospital admissions and 31% hospital mortality(19). Moreover, in Ethiopia and neighboring Kenya more than 60% of chronic liver disease and up to 80% of HCC are due to chronic HBV and HCV infections(19,30).

UnlikeHAV, HDV and HEV, which are not extensively studied, several HBV and HCV seroepidemiological studies were available in the country. However, the majority of the reports showed epidemiological variations of 2.1 to 25.0% over time and across geographical areas as well as the same localities (13, 31-39).

The clinical and public health burdens due to viral hepatitis in general are still given no emphasis in the country's health system. For instance, a recent report showed the presence of very limited knowledge, minimal awareness and underestimation of the viral hepatitis prevalence and disease burden in the country, which have resulted insufficient budgetary and organizational focus(30). Even though Ethiopia has prepared national strategic plan and guidelines for viral hepatitis still lacks the required partnerships, and re-

source mobilization as a national health response is limited. Ethiopian national defense force has no strategy for surveillance, prevention and control of viral hepatitis; Viral hepatitis screening services are not widely available except for the occasional mandatory medical checkups for work or travel purposes. Healthcare providers often take no further action after diagnosing patients with viral hepatitis due to lack of treatment guidelines and strategic frameworks for screening, diagnosis, and treatment. Besides, drugs that are effective in the treatment of viral hepatitis are available but are expensive, despite the scientific and programmatic advances, responses to viral hepatitis are fragmented or non-existent in military personnel. Response for viral hepatitis requires intra-sectoral and inter-sectoral cooperation. Within the sector, coordination among the HIV Unit, Maternal and Child Health Directorate and the NCD Unit is paramount(40). Military personnel are at higher risk because they live in military camps which predispose them to hepatitis transmission through some common routes. Moreover, military personnel travel from place to place and stay longer without their family. Most of them are young and are risk takers and exposed to STI including hepatitis B. Success in the prevention of hepatitis B and C depends to large extent on adult level of knowledge and practice. Although several studies were done on HBV and HCV infections among different risk groups, so far there is no published data about factors associated with KAP related to viral hepatitis among military personnel in the Addis Ababa city administration .Therefore this study aims to assess factors associated with KAP related to Hepatitis B and C virus infection.

1.3. Significance of the study

Prevention is the only safe strategy against high prevalence of HBV and HCV. Having adequate knowledge and proper attitude and safe practice towards this infection are the corner-stones of preventing the spread of the virus. The significance of this study is to develop baseline information that assist public health managers, to monitor and evaluate level of KAP, create awareness among stakeholders that hepatitis be considered as a public health threat in the military, prepare appropriate health education lessons based on the specific gaps identified with the purpose of improving level of KAP related to hepatitis.

1.4 Research questions

The study is expected to answer the following research questions.

What is the level of KAP of hepatitis B and hepatitis C infection among military personnel in Addis Ababa?

Is there a relationship between level of knowledge, attitude and practice?

What are the specific gaps identified in knowledge and practice?

What are potential predictors of KAP?

CHAPTER II LITERATURE REVIEW

2.1 Epidemiology of HBV and HCV

In 2015, the global prevalence of HBV infection in the general population was 3.5%. Among those born before the hepatitis B vaccine became available, the proportion of persons living with chronic HBV infection remains high. Prevalence was the highest in the African (6.1%) and Western Pacifi c regions (6.2%). Overall, about 257 million persons were living with HBV infection. In community-based studies, reports range from less than 5% to about 10%. In health-care facility-based studies, the proportion was higher. In 2015, 71 million persons were living with chronic HCV infection. Compared with HBV, the prevalence of HCV infection is lower, but more heterogeneously distributed, with differences across and within WHO regions and countries. Breaks in infection control practices and injection drug use might explain this pattern. Overall, in 2015, the global prevalence of HCV infection was 1.0%. The Eastern Mediterranean Region had the highest prevalence (2.3%) followed by the European Region (1.5%)(6).

A cross-sectional study was conducted on the prevalence of HBV and HCV infections among military personnel in Brazil in 4.1% and 0.7% of HBV and HCV infection were observed respectively among military personnel compared to the general population(41).

According to a study done on prevalence of hepatitis B and C virus infection among military personnel at Bahir Dar Armed Forces General Hospital, Ethiopia showed a prevalence of HBV and HCV infection 4.2%and 0.2% respectively. Higher prevalence of HBV infection was observed among soldiers ≥40 years. Moreover, older age, history of STI and nose piercing were significantly associated with HBV and HCV infections(11).

2.2 Review of different studies on HBV and HCV infection Knowledge

A study conducted on assessment of KAP about hepatitis B among clinicians and medical students; showed that out of 354 participants, 209 (59.04%) had adequate knowledge whereas 145 (40.96%) had poor knowledge about HB. Poor knowledge was apparent in responses to some questions relating to symptoms, transmission, treatment and vaccination. Correct response rate to cause and early symptoms were 72.3% and

69.8%respectively. Regarding transmissions through unsafe sex 77.7% and 64.1% through contaminated water and 74.6% reported that hepatitis B is treatable and 49.4% hepatitis B is self cured (42).

A study done among health workers in a tertiary hospital in India with regard to knowledge showed 253 out of 255 (99%) were aware of hepatitis B and C infection. The Awareness regarding modes of transmission of hepatitis B and C infection suggested that all interns knew about blood and blood products, as a mode of transmission, but awareness in relation to other modes of transmission was unsatisfactory. Knowledge regarding acquiring hepatitis B infection was 76% (76/100) for the dental interns, 81% (81/100) for medical and 63.6% (35/55) for nursing interns. The respondents believed that HCWs are at a risk of developing hepatitis B infection owing to their profession due to constant contact with their patients, which predisposes them to acquire and transmit infection. The result also showed that 69% dental, 68% medical and 43% nurse interns believed that HCWs are at risk of developing hepatitis C infection owing to their profession due to transmission via contact with patients,. The findings indicated that not all interns believe that HCWs can acquire hepatitis B and C infection owing to their professional contact with their patients. Some interns felt that they were safe from any transmission of infection via patients: which showed a lack of awareness among these interns. Knowledge regarding availability of hepatitis B and C vaccine indicated all dental and medical interns and 87.3% (48/55) nursing interns were aware of the presence of vaccine against HBV Moreover, 48% (48/100) of dental, 29% (29/100) of medical and 65.5% (36/55) of nursing interns agreed that the vaccine against HCV exists whereas no such viable vaccine exits at present. Knowledge regarding the existence of hepatitis B vaccine is mainly acquired by the interns due to the curriculum of medical education, which includes study of hepatitis in various subjects such as, microbiology and infection control. The study also showed 56.3% (31/55) of nursing interns claim that they became aware of the vaccine against hepatitis B during a mandatory protocol followed to be vaccinated against common transmissible diseases, while they were getting admission in the college. The difference in the result among the different groups was statistically significant ($p=<0.05$) with regard to knowledge of prevention of hepatitis B and C it was found out that 38% (38/100) of dental, 31% (31/100) of medical and 49.1% (27/55) of nursing interns

claimed to be vaccinated for hepatitis C vaccine whereas no such vaccine exists. Moreover, 60.8% (155/255) of interns agreed that wearing of gloves should be made mandatory during the insertion of an intra-venous cannula and 85.1% (217/255) of total interns agreed that patients should be screened for hepatitis B Surface Antigen (Hbs Ag) and HCV Ag before undertaking any procedure involving exposure to blood. The difference in the result amongst the groups was not statistically significant (p=<0.01) (1).

A survey done among new military recruits in China showed that out 727 participants, 608 (83.6%) were classified as having poor basic knowledge and 119 (16.4%) showed adequate knowledge about HBV. Regarding its route of transmission and prevention of hepatitis B 627 (86.3%) did not know any asymptomatic carriers of hepatitis B virus and only 262 (36.0%) knew hepatitis B could be transmitted during sexual activity(25).

A study conducted in Hawler Medical University indicated a high proportion of study participants (41%) had poor knowledge about HBV while 45% had acceptable knowledge and 14% had good knowledge. Moreover. 80% of respondents knew that HBV can be contracted from blood transfusion and 71.5% with infected needles while (56.5%) said that the disease can be transmitted through sexual contact. The proportions of respondents who had knowledge about household transmission through non-sexual routes like sharing razors, sharing toothbrushes and sharing towels were 47.5%, 60% and 32.5%, respectively. A relatively high proportion of the participants incorrectly identified routes of transmission such as faeco-oral route (38.5%), cough (37%) and holding hands (28%). In addition 51% of respondents knew that HBV is easily spread from person to person than HIV, while 65% of respondents knew that healthy carriers can infect others and 72% considered it a curable disease(43).

Across-sectional study done on factors associated with KAP related to hepatitis B and C among international students of University Putra Malaysia showed that the percentages of international students in UPM with better knowledge of hepatitis B and C (better knowledge is achieved by the respondent when the respondent obtained aggregate knowledge score of median (8 for hepatitis B and 6 for hepatitis C with inter quartile ranges of 5–10 and 2–9 respectively) or above and less knowledge for those with aggregate scores less than median score) were 50.3 % and 52.7 % for hepatitis B and hepatitis C respectively(27).

According to A study conducted on knowledge and awareness regarding hepatitis B infection among medical and dental students India: showed among the study subjects, 96.3% reported having heard of hepatitis B and 90% said it is a viral infection, but, surprisingly, 7.6% said that hepatitis B is spread by coughing. In addition 52.4% reported they had not heard of other types of hepatitis and 66% did not know that hepatitis B infection could lead to other types of hepatitis infection. Moreover 74% of the students responded that hepatitis B infection is life threatening and chronic hepatitis B infection could lead to cirrhosis but only 3% of them also said that it could lead to kidney disease(2).

A survey conducted onKnowledge about hepatitis B virus infection and attitudes towards hepatitis B virus vaccination among Vietnamese university students in Ho Chi Minh City showed 95.3% had heard about hepatitis B virus (HBV). And (55.4%) knew correctly that HBV can not be transmitted by sharing food with an infected person, and 58.4% knew that HBV can cause liver cancer. Only 47.6% knew that HBV can be sexually transmitted and 39.5% knew that HBV can be transmitted from mother to child at birth. More male than female students answered correctly that HBV can be transmitted by sharing a toothbrush with an infected person (p= 0.026). Almost all students (93.1%) thought that they would receive HBV vaccination(44).

Assessment of KAP towards hepatitis B among health care workers in a tertiary care hospital in India showed all attitude of medical professionals had knowledge of hepatitis B disease whereas 98.7% paramedical professionals had the same knowledge(3).

KAP study towards hepatitis B in Cameroon indicated Out of the 612 participants, 354(57.9%) had poor knowledge while 221 (36.1%) and 37(6.0%) showed good and very good Knowledge towards Hepatitis B respectively. Poor knowledge was noticeable in question partaking to the causative microbe, transmission, symptoms and treatment. Only 16.8% of the participants knew that HBV is a viral infection. In addition 347(56.7%) did not know that HB can be transmitted by blood or blood products. Moreover, 540(88.2%) participants stated HB had a cure (48).

KAP concerning hepatitis B infection among healthcare workers were done in Bantama, Ghana. They used to measure knowledge the scale measurement was from a maximum of

19 to a minimum of 0. Scores < 10 were taken as poor, ≥ 10 as adequate knowledge of HBV. Mean knowledge was 13.69 with SD ± 2.81 which was adequate knowledge. Knowledge was assessed by asking questions about types, transmission modes and prevention of HBV. Out of 175 participants, poor knowledge was apparent in responses to questions relating to types and transmission of HBV through faeco-oral route. Correct response rates to these questions range from 74% to 91.4% for transmission of HBV, to 74.9 to 89.1% for preventive measures of HBV(5).

A study conducted among Hospital Workers in a Nigerian Tertiary Hospital showed 367 (96%), of the participants were aware of HBV, and this was not statistically significant among the professional groups (doctors 93/94 (99%) versus nurses 159/168 (95%) versus lab technologists 64/68 (94%) versus pharmacists 51/52 (98%); *P*> 0.05). Knowledge on the transmission of HBV was good for blood as a medium for all categories of professionals.However,knowledge of other body fluids as source of infection varies among respondents.For instance, doctors had a reasonable good knowledge of saliva as a medium of infection55/94(59%) while this knowledge was poor among other professionals.Besides , only doctors had a poor knowledge that vaginal/seminal fluid could be a source of infection 25/94 (27%). Also knowledge of exchange of used needles among patients as well as infected mothers with HBV transmitting the virus to their unborn babies was good for all professionals(45).

Assessment of KAP toward prevention of hepatitis B virus infection among students of medicine and health sciences was done in Northwest Ethiopia. The result showed most of the study participants had adequate knowledge on HBV infection and its mode of transmission. Of the students surveyed, 200 (81.3 %) knew that HBV infection being associated with liver cancer. Regarding mode of transmission, 239 (97.2 %) reported contact with blood or body fluid of HBV carriers, 238 (96.7 %) mentioned unsterilized medical equipment such as needle and syringes, and 207 (84.1 %) answered unsafe sexual contact. In terms of knowledge on vaccination, 84.6 % of the respondents were aware of HBV vaccine and that it provides protection against HBV infection. However 67.1 % knew that HBV has a post-exposure prophylaxis and 52.4% stated it can be treated/or cured(46).

Another study done in University of Gondar Hospital reported that 73.1% of the participants had good knowledge on HBV transmission, progress, and its vaccination. The major sources of information about HBV were formal education (83.5%), followed by training (30.6%) and internet (17.2%).The majority of the HCPs (92.9%) knew that the virus is transmitted by infected blood. However, only 72 (24.2%) of them knew that urine is noninfectious and 21.5% did not know the number of doses of the vaccine required for complete protection of HBV(47).

2.3 Review of different studies on HBV and HCV infection attitude

Factors associated with KAP related to hepatitis B and C among international students of University Putra Malaysia showed that the prevalence of positive attitude (positive attitude is considered when a respondent got aggregate of median attitude score (25 with inter quartile range of 22–28) or above and negative attitude for those with less than aggregate scores less than median) among the respondents is 54.8 %, indicated that more than half of the respondents had positive attitude towards the disease(27).

Another study done on assessment of KAP about hepatitis B among clinicians and medical students, at Jhalawar, Rajasthan, showed out of 354 participants, 309 (79.2%) were within the positive attitude range whereas 81 (20.8%) showed a negative attitude towards HB. And 60% believed that they could become infected with HB. Moreover, 115 (32.5%) participants stated that they felt shock when they found out that they were infected with HB. Beside 226 (63.8%) of the respondents visited a physician for consultation However, 9.9% of respondents were ready to disclose their disease to their spouse and 22% to their parents. In addition more than 90% visited health facility as symptoms appeared of Hepatitis B and majority (86.4%) would go to health facility as soon as they realized the symptoms of Hepatitis B. And 31.4% thought that diagnosis and treatment of Hepatitis B is free whereas 37.9% thought it is reasonably expensive and 9.3 % did not known about cost of diagnosis and treatment. Regarding the response of participants if they would be diagnosed with hepatitis B, 31.4 % feared of death while 37.3 % feared of disease spread to family whereas 9.6% worried that they would be isolated from the society. And 71% of the participants believed that a hepatitis patient should be allowed to work routinely.

Moreover, 29.1% correctly indicated that hepatitis patients should not be isolated and 80% felt that they be not allowed strenuous exercise(42).

KAP concerning Hepatitis B infection, among healthcare workers in Bantama, Ghana showed respondents had a positive attitude towards HBV with mean score of 6.685±2.28.The majority 89.3% believed that HBV vaccination should be compulsory and 25.1% stated that they were scared of vaccination, while almost 2.2% did not trust HBV vaccination. Out of the 175, 2.2 to 25.1% were within the negative attitude range whereas 69.1- 91.9% showed a positive attitude towards HBV whereas 4.5 to 5.7% were unaware of the issues(5).

In a study conducted on KAP toward prevention of hepatitis B virus infection among students of medicine and health sciences in Northwest Ethiopia showed that 77 % were aware that they were at-risk for HBV infection, and 83.3 % agreed that following infection control guidelines would protect them from being infected at work. Further, 81.7 % acknowledged that vaccine against HBV prevents getting the infection. To assess their attitudes toward discrimination and stigma on HBV carriers, they were asked whether they are comfortable in treating HBV patients. The finding showed 82 % (202/246) were in agreement to the inquiry. While, 55.7 % thought that all patients need to be tested before receiving any health care services. Multivariate analysis of knowledge of trainees in the health care profession revealed that those trainees at higher risk of HBV infection, students of nursing (AOR5.87, 95 % CI 1.05–32.88), midwifery (AOR 2.02, 95 % CI 0.26–15.21) and anesthesia (AOR 2.93, 95 % CI 0.24–35.99) had lower knowledge on HBV compared to the students of medicine. Further, of the at-risk groups, students of nursing (95 % CI 4.70–34.11), midwifery (95 % CI 4.51–33.68), and anesthesia (95 % CI 1.25– 16.94) showed unfavorable attitude towards HBV prevention with the odds of 12.67, 12.32 and 4.61 respectively(3).

An institution-based cross-sectional study design done in 2016 on 297 HCPs working at University of Gondar Hospital on knowledge and attitude of health care professionals regarding hepatitis B virus infection and its vaccination, the finding showed 94.6%of the respondents agreed or strongly agreed that HBV infection is a major public health problem. Respondents' attitude on whether their job puts them at greater risk of HBV infec-

tion seems to favor a positive response (strongly agree and agree) (91.3%). The majority (94%) of HCPs believe that it is necessary for them to receive a hepatitis B vaccine. And 49.2% reported that they were exposed to risky conditions for HBV infection. The likely options for being exposed were listed in the survey instruments, and 47.3% being busy and 45.2% rushing at work. The most frequently taken measure after an incidence of exposure were washing with soap, water, and antiseptic (48.6%)(46).

2.4 Review of different studies on HBV and HCV infection practice

A cross sectional study done on KAP about hepatitis B among clinicians and medical students; at Jhalawar, Rajasthan, showed 173 (48.9%) never went for HB screening but majority 290 (81.9%) of participants were immunized against HB. In addition 338 (95.5%) asked for a fresh syringe when required and 343 (96.9) always asked barber to change blade or for safe equipments for ear and nose piercing when required. while 334 (94.4%) agreed with the statement that they asked for screening of blood and blood products before transfusion. Moreover , 342 (96.6%) agreed that they will go for further investigations and treatment if they are infected with HB and 126 (35.6%) participants opted for not sharing food/utensils/water etc. with others. And one fourth of the study participants 94, (26.6%) reported they would avoid meeting with person. Besides 156 (44.1%) have ever attended any educational program on HB. The mean score for HB related practices was 6.8 ± 1.13 showing poor practices among the study participants(42).

Assessment of KAP towards hepatitis B among health care workers in a tertiary care hospital in India indicated 55(79.7%) of medical staff was vaccinated. Among them 29(42.02%) had taken 3 doses whereas 26(47%) had taken only 2 doses. Among vaccinated 88% had taken it within past 5 yrs, 8% within 5-10yrs and 4% before 10yrs. 48(59.25%) of paramedical staff was vaccinated. Among them 24(24%) had taken 3 doses, 18(18%) had taken 2 doses whereas 6 (6%) had taken only 1 dose. Among vaccinated 79% had taken it within past 5 yrs, 12% within 5-10 yrs and 9%before 10yrs. 14(20%) medical professionals had not taken vaccination. When asked about reason 84%had ignored vaccination in spite of awareness whereas 16% had non availability of vaccine. 33(40.70%) of paramedical staff were not vaccinated. Reason for non- compliance being ignorance (72%), non availability of vaccine (12%) and lack of awareness (16%)(3).

KAP study concerning Hepatitis B infection, among healthcare workers in Bantama, Ghana showed the majority of HCWs (70.9%) had never been exposed to needle stick injury and 43.1% had tested themselves after needle stick injury. In addition 37.5% of the respondents had themselves tested for HBV within 21 days of needle stick injury. And about 74.4% had taken HBV vaccine while about 41.8% had their immunity checked(5).

A study conducted in Haramaya University among medical and health science students showed, 276 (85.7%) were never screened for HB and 279 (86.6%) stated a negative immunized status against HB. Moreover 102 (31.7%) never asked for screening of blood and blood products before transfusion, and 53 (16.5%) never asked for a new syringe when required. Furthermore, 245 (76.1%) had never participated in any education program on HB. The mean score for HB related practices was 2.04 ±1.15 revealing poor practices among the study participants. Out of 322 participants, 43 (13.4%) were vaccinated against HBV. In the vaccinated group, 15 (4.7%) completed all 3 doses of their vaccination schedule and remaining 28 (8.7%) students were incompletely vaccinated. Reasons for not getting vaccinated were lack of information in 67 (20.8%), no need was felt 9 (2.8%), 15 (4.7%) had fear of injection and 45 (14%) said out of ignorance(28).

CHAPTER IIICONCEPTUAL FRAMEWORK

The conceptual framework shows the relationship between categories of independent variables and dependent variables also within independent variables of KAP on hepatitis Band C among military personnel. Many studies indicated that socio demographic characteristics like sex (females are caution in their day to day life routines as compared to men), educational level (The more people advances in study the more likely they know about the disease and skills through seminars along with media), Marital status which is related to safer practice. Having previous history of hepatitis is a predictor of hepatitis B and C knowledge. Several studies referred importance of health education programs in empowering the people by providing them ample education. Receiving complete hepatitis b vaccine makes more conscious health wise. The more people perceive the hepatitis B and C disease as a threat the more they eager to become aware of the disease through different source of information and bring behavioral change also develop care seeking behaviors.

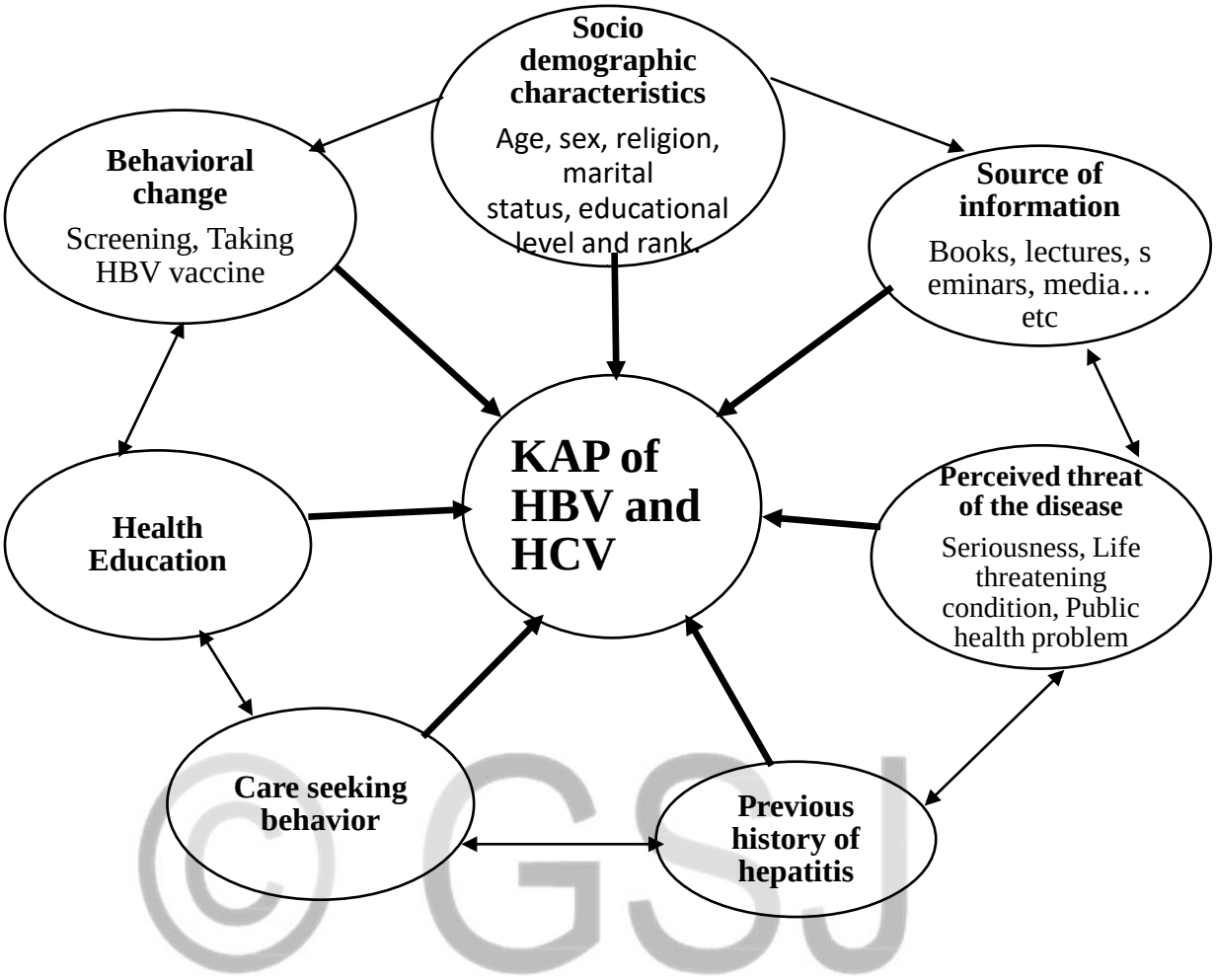


Figure 1.Conceptual frame work on factors associated with KAP related to hepatitis B and C viral infection among military personnel.

CHAPTER IVOBJECTIVES

4.1 General Objective

To assess factors associated with KAP related to Hepatitis B and C virus infection among military personnel, Addis Ababa.

4.2 Specific Objectives

The specific objectives of the study were to:

Determine level of KAP with regard to hepatitis B infection among military personnel

Assess level of KAP with regard to hepatitis C infection among military personnel

Find out if there is an association between knowledge, attitude and practice related to hepatitis B and C infection

Find out main predictors of KAP

CHAPTER V METHODS AND MATERIALS

5.1 Study area

The study was conducted in military residential camps in Addis Ababa. There are a total of 17 military residential camps namely Costra, Feresegna, Jalmeda, signal, Teyet bete, Populare, Bisrate gebriel, Lebu, Gofa, Kaliti, Lideta, General debebe, Bela, Shegole, Bole bulbula, Jemo3 and Jemo2.the estimated number of household was 4835. The houses were allotted to military personnel based on their level of rank; PVT, corporals, sergent, lutenant, captains, majors, and colonels.

Signal camp: is one of the military residential camp for higher military officers and their families. It is located at Yeka sub city, Kebele 11/12. The estimated households in the camp was818 residents.

Lebu camp: is one of the military residence camp for lower officers military personnel and their families. It is located in Nifas Silk Lafto sub city Woreda 2. Number of estimated households was 200 during the study period.

Gofa camp: is also military residence camp for both high officers and non officers it is located in Nifas Silk Lafto sub city Kebele52. The estimated of households was 1446.

In Addis Ababa there are a total of 16 level 1 hospitals mainly working on prevention. Each level 1 hospital has pharmacist, laboratory technicians, nurses and health officers. And stool examination, urine analysis, malaria, VDRL, widal/wilflex tests are availableWith 2 beds for emergency resustation , PITC and VCT services are given at these level1 hospitals.

5.2 Duration of the study

The study was conducted from February – March 2018 in the military residential camps selected for this study.

5.3Study Population

The source population was all military personnel living in Addis Ababa military residential camps. The study populations were those military personnel living in the selected military residential camps who meet the inclusion criteria and selected for the

study. The study participants were both male and females. The study population also represents all ranks in the army.

Inclusion and exclusion criteria

Inclusion criteria

Military personnel residing in Signal, Gofa and Lebu camps

Military personnel stayed in the camp ≥3 month

Those who were willing to participate in the study

Exclusion criteria

Military personnel were not resident of the camps

Who stayed in any of the camps for <3 months

Who were unwilling to give informed consent.

Who were ill for an interview.

Who were not military but members of the family living in the camp.

5.4 Study design

A cross sectional descriptive study design was used. This design was chosen because the study aims to measure level of KAP and determine relationship between independent and dependent variable.

5.5 Variables

In this study the following variables were collected

Socio demographic characteristics such as age, sex, educational level, rank, marital status, religion

Knowledge related to the disease such as cause, route of transmission, symptoms, prevention

Attitude such as perceived susceptibility and seriousness of the disease related to life threatening, factors related to behavioral change such as whether a person would like to be screened or not, health seeking behavior

Practice such as exposure to sharp injury, whether a person uses sterilized syringe or not

For predictors of good practice knowledge and attitude was included as independent variable

5.5.1 Independent variables

Socio-demographic characteristics such as age, sex, religion, marital status, educational level, rank.

5.5.2 Dependent variable

Knowledge

Attitude and

Practice towards hepatitis B and C infection.

5.6 Operational definitions

Good knowledge, positive attitude and good practice are considered if the respondent gives correct answer above 70% of the question. (Based on the study conducted onassessment of KAP toward prevention of hepatitis B virus infection among students of medicine and health sciences (46).

Knowledge; awareness, understanding, or information about cause, transmission, symptom, prevention and treatment of hepatitis b and c viral infection that has been obtained by experience or study.

Good Knowledge: Refers for those study participants who answer 8 out of 11 of knowledge questions and above correctly.

Poor knowledge: Refers for those study participants who answer less than 8 out of 11 of knowledge questions correctly.

Attitude; The belief and feeling of the respondents about screening, vaccination and treatment for HBV and HCV.

Positive Attitude: Refers to those study participants who scored 4 and above out of 6 of attitude questions

Negative Attitude: Refers to those study participants who scored less than 4 of out of 6 attitude questions

Practice; The action taken by individual respondents to go for screening.

Good Practice: Refers to those study participants who correctly respond to practice questions and score 6 and above out of 8.

Poor Practice: Refers to those study participants who correctly respond to practice questions and score below 6 out of 8.

5.7 Data collection instrument and methods

The data was collected from study subjects using pre-tested structured questioner through face to face interview adopted from previous similar studies and were modified to fit the local situations containing items to assess KAP towards hepatitis B and C. The questionnaire consisted of 34 questions divided into 4 sections that cover questions to assess socio demographic characteristics, and the rest on knowledge, attitude and practices of respondents. The questionnaire has a guideline that guides the interviewer and explains to study participants the purpose and use of the survey. The questioner was prepared in English and translated to Amharic for consistency.

5.8 Sample size determination

The sample size was calculated using a formula for single population proportion. Taking in to account the non response rate (f) 10%

$$\mathrm{n} = \frac{1}{1-f}\frac{z(\alpha/2)^2\, p(1-p)}{d^2}$$

Whereas n =sample size

Z α/2 = the 95% confidence level (1.96)

P = estimated proportional of level of good knowledge 0.50 (since the level KAP of military personnel is unknown so, we take 50%)

d = margin of error (level of precision)

Based on the formula sample size will be

$$n = \frac{1}{1-0.10} \frac{(1.96)^2\ 0.5(1-0.5)}{(0.05)^2}$$

n = 427

With 10% non response rate the total sample size was 427

5.9 Sampling technique

The study sites were selected randomly by lottery methods from list of military residential camps stratified by rank. Then the study subjects from each selected strata was selected using systematic sampling method until the required sample size was reached.The sampling calculated was based on sampling interval every 6^{th} house were included in the study. The sample size was proportionally allocated by rank and gender. This wasdone in order to include females as study participants. In addition females are very important in HBV and HCV infection.

5.10 Sampling plan

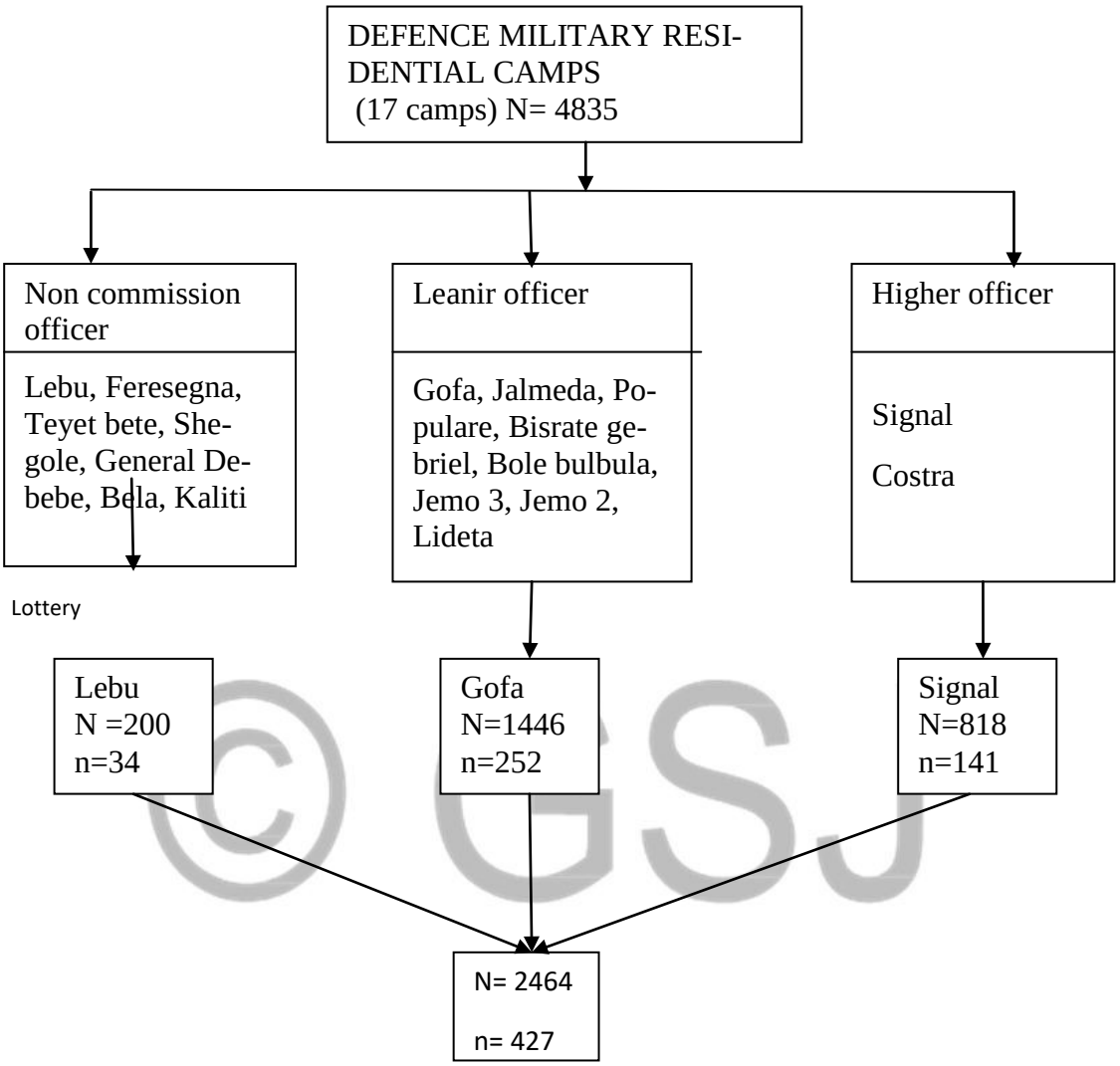


Figure 2. Schematic presentation of sampling procedure

5.11 Quality assurance

Data quality was maintained through careful design of questionnaire through standardizing and translation from English to Amharic and back to English, as well as, pretesting for relevant amendment. To maintain data quality one day training for data collectors was undertaken by the principal investigator. The principal investigator and data collectors made a day to day contact during the whole period of data collection. At the end of each data collection the questionnaires wasreviewed and checked for completeness, accuracy and consistency by data collectors and investigator and corrective discussion were undertaken with all the research team members. A reminding remark was given during morning times on how to eliminate or minimize errors and take corrective actions timely. Before starting data collection each study subjects was informed about the purpose and significances of the study by the data collectors to get more concern by the respondents.Data was also checked during entry and analyses.

5.12 Data analysis

The collected data was cleaned, coded and entered to Epi data 3.1 and exported to the Statistical Package for Social Sciences (SPSS) version 20. Descriptive statistics was analyzed using frequencies, proportions and percentages. Data was presented in tables, graphs...etc. To identify the determinants of KAP, binary and multiple logistic regression models with KAP towards hepatitis B and C viral infection as a dependent variable was constructed. The degree of association between dependent and independent variables was described using crude odds ratio (COR) and adjusted odds ratio (AOR) with 95% confidence interval (CI) as an indicator of the strength of association. Potential predictors was analyzed through bivariant analysis and those co-variant with $p<0.20$ were (0.20) was included in the multivariate logistic model in order to find out potential predictors of KAP.

5.13 Ethical considerations

Ethical clearance was obtained from IRB of DUCHS. Clear communication and permission was conducted and obtained respectively from responsible bodies in the study area. Written consent was taken from each selected participant to confirm voluntary participation and those who did not volunteer were not included in the study. Confidentiality was ensured throughout the process. Any personnel identifiers were not included in the questionnaire. Before starting, each study subjects were informed about the purpose and use of the study by the supervisor to get the consent of the respondents. The consent form was written in Amharic and was designed to the lowest educational level possible. In the consent form the procedures how the study is to be done and the benefit of the study was indicated.

5.14 Dissemination of the result

Result from the study will be disseminated to DUCHS as partial fulfillment of master of public health. Result from the study will be disseminated to the study participants through staff of defense main health directorate. A copy of thesis will be given to DUCHS to be kept at the library for future reference, the finding, will be presented in seminars and research conferences.

CHAPTER VI RESULT

6.1Socio-demographic characteristics of the study subjects

A total of 427 military personnel were enrolled in the study. The response rate was 100%. Of the total study subjects 333 (78%) were male while the rest 94 (22%) were female. The age distributions range from 18-52 years with the X age of 38.43± 8.30 SD years and with the median age of 40 years IQR of 13 (32-45). In addition 212 (49.6%)were in age group between 38-47 years. Moreover 336 (78.7%) were orthodox Christians while 29 (6.8%) and 62 (14.5%) were Muslim and Protestant respectively. (Table 1)

Table 1 Socio-demographic characteristics of the study population, Addis Ababa, February, 2018 (n=427)

Variables	No	%
Age in years		
18-27	52	12.2
28-37	106	24.8
38-47	212	49.6
≥48	57	13.3
Sex		
Male	333	78
Female	94	22
Religion		
Orthodox	336	78.7
Muslim	29	6.8
Protestant	62	14.5
Marital status		
Single	94	22
Married	333	78
Educational level		
1-8	19	4.4
9-12	72	16.9
Diploma	130	30.4
Degree and above	206	48.2
Rank		
Private	28	6.6
NCO*	81	19
Leanir officer**	159	37.2
Higher officer***	159	37.2
Monthly income		
2000 and below	34	8
2001-3000	65	15.2
3001-4000	142	33.3
4001-5000	129	30.2
Above 5000	57	13.3

*****NCO 2nd corporal-staff surgent

** Leanir officer 2nd lefetenant – capitain

*** Higher officer major- coronel

Of the total the majority 333 (78%) were married. Data on educational level showed that 206 (48.2%) military personnel had degree and above. In terms of military rank, most of the respondents 159(37.2%) were leaner officer and higher officer followed by non commission officer, which accounted for 81 (19.9%). Besides 142 (33.3%) had income between 3001-4000Birr. (Table1)

6.2 Knowledge of hepatitis B and C viral infection

Out of the 427 participants, interviewed 192 (45%) had good knowledge where as 235 (55%) poor knowledge. The X knowledge score was 6.88 with SD ± 2.12.

Majority of the respondents 368(86.2%) have heard about hepatitis B and C while 59(13.8%) reported to have never heard about hepatitis B and C. The main source of information for those who heard about hepatitis B and C were health facility and media 34% and 29.9% respectively. The remaining stated lectures and seminars, family and friends, books and journal articles as well as internet accounted for 13.9%, 11.4%, 6.5% and 4.3% respectively.

Out of 427 respondents 292(68.4%) of the respondents correctly identified hepatitis B and C are viral infection, while the remaining 107(25.1%) bacterial, and 9(2.1%) protozoan, 9(2.1%) parasite and 10(2.3%) others (don't know). Majority of the respondent 410(96%) have no history of hepatitis. (Table2)

About route of transmission of hepatitis B and C viral infection only 226(52.9%) correctly identified route of transmission such as blood and blood products, infected needles, sexual intercourse with infected person, vertically from mother to child. The proportion of respondents who had knowledge about house hold transmission through non-sexual routes like sharing sharps and sharing tooth brush were 236 (55.3%) and 254(59.5%). A relatively high proportion of the participant incorrectly identified route of transmission such as faeco oral 185 (43.3%), contaminated water 149 (34.9%) and cough 130 (30.4%). (Table2)

More than half of the respondent 285(66.7%) knew that HBV and HCV is more easily spread from person to person than AIDS, while about 341(79.9%) knew that HBV and HCV carriers although they look healthy can easily infect others.(Table2)

Regarding the knowledge of the respondent about the organs affected by hepatitis B and C 361(84.5%) of the respondent correctly answered to it by choosing liver. (Table3)Respondents were asked about most important sign of hepatitis B infection 348(81.5%) identified correct answer which is eye gets yellow and 26(6.1%) responded abdominal pain. (Table3)

Table 2 Level of knowledge on cause, route and mode of transmission (n=427)

Knowledge variables	Response			
	Yes		No	
	No	(%)	No	(%)
Causative organism				
Viral	292	68.4	135	31.6
Bacterial	107	25.1	320	74.9
Protozoal	9	2.1	418	97.9
Parasite	9	2.1	418	97.9
Other*	10	2.3	417	97.7
Knowledge about route of transmission				
Blood and blood products	312	73.1	115	26.9
Infected needles	269	63	158	37
Sexual intercourse with infected person	248	58.1	179	41.9
Vertically from mother to child	220	51.5	207	48.5
Faeco oral	185	43.3	242	56.7
Contaminated water	149	34.9	278	65.1
Sharing sharps	236	55.3	191	44.7
Sharing tooth brush	254	59.5	173	40.5
Coughing	130	30.4	297	69.6
Knowledge about mode of transmission				
HBV and HCV is more easily spread from person to person than AIDS	285	66.7	142	33.3
HBV and HCV carriers although they look healthy can easily infect other	341	79.9	86	20.1
HBV and HCV can be spread by eating food prepared by an infected person	130	30.4	297	69.6
HBV and HCV can be spread by holding hands with an infected person	129	30.2	298	69.8

*don’t know

Majority 365 (85.5%) of the study participants responded that hepatitis B and C infection are life threatening and 289(67.7%) were aware of availability of vaccine which prevent hepatitis infection while 249(58.3%) incorrectly identified the presence of vaccine for hepatitis C infection.

Only 140(32.8%) of the study participant give correct answer that hepatitis B cannot be cured but the remaining 162(37.9%)and125 (29.3%) responded it can be cured and don't know respectively. Slightly less than half 208(48.7%) of the respondent were answer hepatitis C has treatment which was the correct answer.

Table 3Level of knowledge related to sign, organ affected, prevention availability(n=427)

Knowledge variable	No	%
Sign of the disease		
Abdominal pain	26	6.1
Diarrhea	11	2.6
Eye gets yellow	348	81.5
Cough	16	3.7
Other*	26	6.1
Organ affected		
Liver	361	84.5
I don't know	49	11.5
Other**	17	4
Prevention		
Vaccine availability		
Hepatitis B		
Yes	289	67.7
No	54	12.6
I don't know	84	19.7
Hepatitis C		
Yes	249	58.3
No	64	15
I don't know	114	26.7
Treatmentavailability		
Hepatitis B (cure)		
Yes	162	37.9
No	140	32.8
I don't know	125	29.3
Hepatitis C		
Yes	208	48.7
No	98	23
I don't know	121	28.3
Knowledge		
Good knowledge	192	45
Poor knowledge	235	55

*nausea, poor appetite **heart, kidney, Brain

6.3 Attitude of hepatitis B and C viral infection

Of the total 427 respondents 371 (86.9%) majority had a positive attitude towards hepatitisinfection. The X attitude scorewas 4.66 with SD ±1.24.

Table 4 Attitude of the respondents regarding hepatitis B and C infection (n=427)

Attitude	Response					
	Yes		No		I don't know	
	N	%	N	%	N	%
Hepatitis B and C are serious public health problems	331	77.5	56	13.1	40	9.4
Job puts at high risk of acquiring HBV and HCV	129	30.2	231	54.1	67	15.7
Would like to get screened for hepatitis B and C	394	92.3	21	4.9	12	2.8
Like to get vaccinated for hepatitis B free of cost	396	92.7	17	4.0	14	3.3
like to get further investigation or treatment if found positive	383	89.7	23	5.4	21	4.9
Healthy people need vaccination	356	83.4	41	9.6	30	7.0
Attitude						
Positive attitude	371	86.9	56	13.1		
Negative attitude	56	13.1	371	86.9		

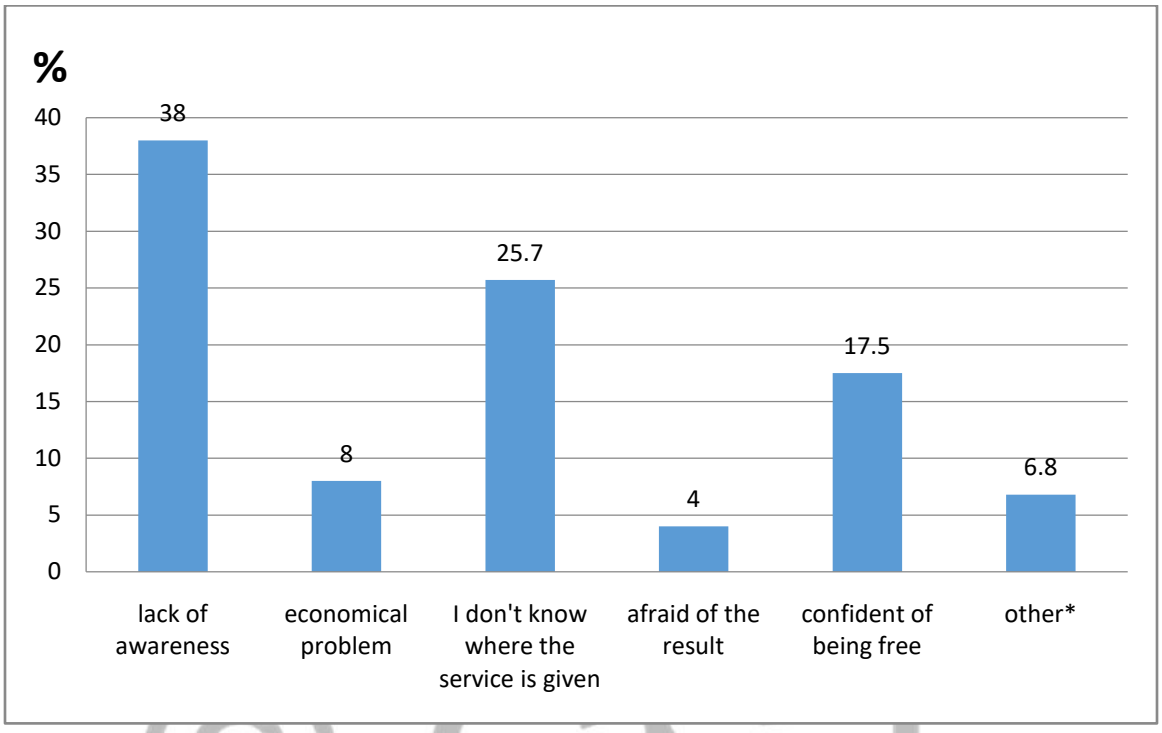
6.4 practice of hepatitis B and C viral infection

Of the total respondents 299 (70%)had poor practice towards hepatitis infection. With X score 4.52 with SD ±1.62.Moreover 280 (65.6%) never had hepatitis screening. In addition 301 (70.5%) asked for new syringe before use and 67.9% asked barber or hair dresser to use new blade or clean equipment. (Table 5)

Table 5 Practice of hepatitis B and C viral infection among the study population Addis Ababa February, 2018 (n=427)

Practice variables	Response	No	%
Exposure to sharp injury in your work area	Yes No I don't know	121 263 43	28.3 61.6 10.1
Test after sharp injury	Yes No I don't know	70 47 6	56.9 38.2 4.9
Screening for HBV and HCV	Yes No	147 280	34.4 65.6
Ask for screening of blood before transfusion	Yes No	331 96	77.5 22.5
Ask for a new syringe before use	Yes No	301 126	70.5 29.5
Ask barber or hair dresser to use new blade or clean equipment	Yes No	290 137	67.9 32.1
use condom always during sexual contact out of spouse	Yes No	370 57	88.7 13.3
Participation in health education program related to hepatitis	Yes No	160 267	37.5 62.5
Practice	Good practice Poor practice	128 299	30.0 70.0

Figure 3 Reasons for not screened for HBV and HCV infection among the study population Addis Ababa February, 2018 (n=427)



*not giving attention, screening service is not available in AFRTH unless for peace keeping mission or symptoms are developed, not thinking it is necessary

6.5 Factors associated with knowledge, attitude and practice

Factors associated with knowledge

The crude analysis revealed as sex, marital status, educational leveland income of the respondents was significantly associated with their knowledge towardshepatitis B and C.Married respondents had 2.437 times more likely to have a good knowledge towards hepatitis B and C virus than single respondents [COR=2.437 ,95% of (1.485-4.001). Respondents who had educational level of 1-8 had 0.419 times less likely to have a good knowledge than those who had degree and above about HBV and HCV [COR=0.419, 95%CI(0.153-1.144).Respondents with income of 2000 and below had 0.093 times less likely to have a good knowledge towards hepatitis B and C than those with income of 5000 and above [COR=0.093,95% CI(0.031-0.278)] and females were 1.015 times more likely to have a good knowledge than males [COR=1.015, 95%CI (0.640-1.608) but this association was insignificant after adjusting for confounding variables.

Table 6 Factors related to level of knowledge about hepatitis B and C in Bivariate and Multivariate logistic regression (n=427)

variable	Knowledge of HBV and HCV		odds ratio (95% CI)		P value
	Poor know-ledge No (%)	Good knowledge No (%)	Crude	Adjusted	
Age					0.048
18-27	47(90.4)	5(9.6)	0.077(0.027-0.224)	0.215(0.057-0.814)	
28-37	52(49)	54(51)	0.755(0.395-1.446)	0.920(0.410-2.095)	
38-47	112(52.8)	100(47.2)	0.649(0.360-1.172)	0.677(0.355-1.292)	
≥48	24(42.1)	33(57.9)	1	1	
Sex					0.038
Male	183(55)	150(45)	1		
Female	52(55)	42(45)	1.015(0.640-1.608)		
Religion					0.102
Orthodox	176(52.4)	160(47.6)	1.775(1.006-3.132)		
Muslim	18(62)	11(38)	1.193(0.477-2.982)		
Protestant	41(66.1)	21(33.9)	1		
Maritalstatus					0.000
single	67(71.3)	27(28.7)	1		
Married	168(50.4)	165(40.6)	2.437(1.485-4.001)		
Educational level					0.003
1-8	13(68.4)	6(31.6)	0.419(0.153-1.144)		
9-12	52(72.2)	20(27.8)	0.349(0.195-0.626)		
Diploma	72(55.4)	58(44.6)	0.731(0.470-1.136)		
Degree and above	98(47.6)	108(52.4)	1		
Rank					0.012
PVT	25(89.3)	3(10.7)	0.113(0.033-0.388)	0.304(0.068-1.368)	
NCO	63(77.8)	18(22.2)	0.268(0.146-0.493)	0.416(0.195-0.890)	
leanier officer	70(44)	89(56)	1.194(0.768-1.856)	1.224(0.719-2.083	
Higher officer	77(48.4)	82(51.6)	1	1	
Income					0.000
2000 and below	29(85.3)	5(14.7)	0.093(0.031-0.278)		
2001-3000	46(70.8)	19(29.2)	0.223(0.104-0.479)		
3001-4000	73(51.4)	69(48.6)	0.511(0.271-0.965)		
4001-5000	67(52)	62(48)	0.500(0.263-0.953)		
above 5000	20(35)	37(65)	1		
Attitude					0.042
Negativeatttude	43(77)	13(23)	1	1	
Positive attitude	192(51.8)	179(48.2)	3.084 (1.605-5.924)	2.065(1.026-4.154)	
Practice					0.006
Poor practice	182(61)	117(39)	1	1	
Good practice	53(41.4)	75(58.6)	2.201(1.444-3.355)	1.893((1.205-2.975)	

After controlling for possible confounding variables age and rank of the respondents was found to be significantly associated with their knowledge towards hepatitis B and C leanier officer were found to have 1.224 times more good knowledge than higher officers [AOR=1.224 ,95% CI(0.719-2.083)]. Those age between38-47 are 0.677 times less likely to have a good knowledge towards hepatitis B and C than those age above 48 [AOR=0.677, 95%CI (0.355-1.242)]. (Table 6)

In multi variant analysis age and rank are predictors of knowledge. Attitude and practice are significantly associated with knowledge with P value 0.042 and 0.006 respectively. (Table 6)

Factors associated with attitude towards hepatitis Band C infection

In bivariant analysis age, sex, religion, rank, marital status, income, knowledge and practice werestatistically associated with attitude. Those married were 1.352 times more likely to have a positive attitude than those single.

According to result of multivariate analysis religion, knowledge and practice weresignificantly associated with attitude.

Table 7 factors related to level of attitude about hepatitis B and C in Bivariant and multi-variate logistic regression (n=427)

Variable	Attitude of HBV and HCV		COR(95% CI)	AOR (95% CI)	Pvalue
	Negative attitude No (%)	Positive attitude No (%)			
Age					0.029
18-27	13(25)	39(75)	0.167(0.044-0.625)		
28-37	12(11.3)	94(88.7)	0.435(0.118-1.611)		
38-47	28(13.2)	184(86.8)	0.365(0.107-1.247)		
≥48	3(5.3)	54(94.7)	1		
Sex					0.109
Male	39(11.7)	294(88.3)	1.664(0.893-3.101)		
Female	17(18.1)	77(81.9)	1		
Religion					0.009
orthodox	36(10.7)	300(89.3)	3.148(1.633-6.069)	2.873(1.460-5.654)	
Muslim	3(10.3)	26(89.3)	3.274(0.876-12.243)	2.766(0.713-10.728)	
Protestant	17(27.4)	45(72.6)	1	1	
Marital status					0.000
Single	15(16)	79(84)	1		
Married	41(12.3)	292(87.7)	1.352(0.712-2.569)		
Educational level					0.379
1-8	5(26.3)	14(73.7)	0.404(0.135-1.216)		
9-12	10(13.9)	62(86.1)	0.896(0.404-1.962)		
Diploma	15(11.5)	115(88.5)	1.107(0.563-2.180)		
Degree and above	26(12.6)	180(87.4)	1		
Rank					0.003
PVT	7(25)	21(75)	0.290(0.105-0.800)		
NCO	19(23.46)	62(76.54)	0.315(0.149-0.668)		
leanier officer	16(10)	143(90)	0.863(0.406-1.833)		
Higher officer	14(8.8)	145(91.2)	1		
Income					0.013
2000 and below	10(29.4)	24(70.6)	0.087(0.018-0.429)		
2001-3000	12(18.5)	53(81.5)	0.161(0.034-0.752)		
3001-4000	17(12)	125(88)	0.267(0.060-1.197)		
4001-5000	15(11.6)	114(88.4)	0.276(0.061-1.251)		
above 5000	2(3.5)	55(96.5)	1		
Knowledge					0.005
poorknowledge	43(77)	192(81.7)	1	1	
Goodknowledge	13(6.8)	179(93)	3.084 (1.605-5.924)	2.589(1.327-5.051)	
Practice					0.006
Poor practice	50(16.7)	249(83.3)	1	1	
Good practice	6(4.7)	122(95.3)	4.083(1.704-9.785)	3.481(1.426-8.495)	

Factors associated with practice of hepatitis B and C infection

In bivariant analysis sex was statistically significant with good practice measure males were 1.422 times more of good practice than females (COR=1.422, 95% CI (0.942-2.401)

In multi variable analysis knowledge and attitude were found to be associated with practice of hepatitis B and C.

Table 8 Factors related to level of practice about hepatitis B and C in Bivariate and multi logistic regression

Variable	Practice of HBV and HCV				P value
	poor practice No (%)	Good practice No (%)	COR(95% CI)	AOR(95% CI)	
Age					0.712
18-27	40(77)	12(23)	0.650(0.277-1.526)		
28-37	74(69.8)	32(30.2)	0.937(0.467-1.878)		
38-47	146(68.9)	66(31.1)	0.979(0.522-1.838)		
≥48	39(68.4)	18(31.6)	1		
Sex					0.001
Male	228(68.5)	105(31.5)	1.422(0.842-2.401)		
Female	71(75.5)	23(42.5)	1		
Religion					0.104
Orthodox	235(70)	101(30)	1		
Muslim	16(55)	13(45)	1.890(0.877-4.075)		
Protestant	48(77.4)	14(22.6)	0.679(0.358-1.286)		
Marital status					0.000
Single	68(72.3)	26(27.7)	1		
Married	231(69.4)	102(30.6)	1.155(0.695-1.920)		
Educational level					0.799
1-8	15(79)	4(21)	0.578(0.185-1.811)		
9-12	51(70.8)	21(29.2)	0.893(0.497-1.607)		
Diploma	92(70.8)	38(29.2)	0.896(0.555-1.446)		
Degreeandabove	141(68.4)	65(31.6)	1		
Rank					0.083
PVT	23(82.14)	5(17.86)	0.447(0.161-1.243)		
NCO	64(79)	17(21)	0.547(0.291-1.687)		
leanier officer	105(66)	54(34)	1.058(0.664-1.687)		
Higher officer	107(67.37)	52(32.7)	1		

Income					0.072
2000and below	28(82.35)	6(17.65)	0.295(0.106-0.823)		
2001-3000	51(78.5)	14(21.5)	0.377(0.171-0.833)		
3001-4000	97(68.3)	45(31.7)	0.638(0.339-1.202)		
4001-5000	40(69.8)	39(30.2)	0.596(0.312-1.137)		
above 5000	33(57.9)	24(42.1)	1		
knowledge					0.002
poorknowledge	182(77.4)	53(22.6)	1	1	
Goodknowledge	117(61)	75(39)	2.201(1.444-3.355)	1.996(1.301-3.061)	
Attitude					0.006
Negativeattitude	50(89.3)	6(910.7)	1	1	
Positive attitude	249(67)	122(33)	4.083(1.704-9.785)	3.486(1.441-8.434)	

CHAPTER VII DISCUSSION AND CONCLUSION

Discussion

Viral hepatitis is considered one of the serious public health problem especially in the developing countries as it can lead to fatal consequences of liver cirrhosis and hepatocellular carcinoma. KAP surveys have been used as important sources of data to design health intervention methods and public health policies. In Ethiopian national defense force, there is a paucity of data regarding the knowledge, attitude and practices towards HBV and HCV infection among military personnel. The current study sought to assess KAP on HBV and HCV infection.

The result of this study revealed that 55% respondents had poor knowledge the study is better than a study conducted on new military recruits in Chinawhich showed that 83.6% had poor basic knowledge (25). Another study conducted in Iraq among medical university indicated 41% had poor knowledge about HBV (43). Similarly study done among international students of University of Putra Malaysia showed 50.3% and 52.7% had better knowledge for hepatitis B and C respectively (27).In contrast level of good knowledge of73% was reported in Gondar (47). This difference from our study might be due to the lack of health education campaign targeting important health problems in military personnel may also have contributed to this serious absence of knowledge.

According to the result of this study 86.2% have heard about hepatitis B and C virus infection, but in a study conducted on medical and dental students showed 96.3% heard of hepatitis B viral infection (2) and 95.3% was reported among Vietnamese university students (44). These possible slight difference from our study might be due presence of addressing this topic during training in their schools.

In this study 52.9% of the respondents responded that HBV and HCV are viral infection only 16.8% in Cameron (48) and a study conducted in India showed 90.3% among medical and dental students.Such difference might be due to difference in the characteristics of the study population and other difference such as socioeconomic and culture.

Despite the different military rank, educational level of the study participants, our result showed that overall knowledge regarding HBV and HCV route of transmission and mode of transmission was low (52.9% and 63.5% respectively). The proportion of respondents

who had knowledge about house hold transmission through non-sexual routes like sharing sharps and sharing tooth brush were 55.3% and 59.5%. a relatively high proportion of the participant incorrectly identified route of transmission such as faeco oral (43.3%), contaminated water (34.4%) and cough (30.4%).this finding was consistent with the previous study from Iraqthat reported poor knowledge of the study participants which was 38.5% faeco oral and 37% cough (43). Study participants wrongly identified faeco oral route and its attributes like eating foods prepared by an infected person and cough as mode of transmission such wrong perception might be related to their confusion between HBV, HCV and HAV infection which is common among people.

Regarding route of transmission 41.9% and 48.5% of the respondents did not know that HBV and HCV infection are transmitted through sexual intercourse with infected person and vertically from mother to child. Similar study conducted in china among military recruits showed 64% sexual transmission (25) and 42.5% Iraq (43). Similarly, 52.4% and 60.5% among Vietnamese university students responded sexual intercourse with infected person and mother to child transmission respectively. This difference can be explained by cultural mores in Ethiopia that cause barrier for exchange of information about sensitive and intimate questions such as sex. Also lack of knowledge is considered to be serious since it is one of the most common ways of HBV and HCV transmission.

In relation to availability of the presence of vaccine to prevent hepatitis B infection 67.7% of the respondents were aware. But the study conducted in Indiashowed all dental and medical intern and 87.3% nursing interns were aware of the presence of vaccine(1) which were in line with the finding from a study conducted among medical and health science students of North West Ethiopia (46). Such a difference with our result might be that our study participants were military personnel. It is evident that health science students should have better level of knowledge.

In this study showed that 67.2% of the study participant responded that hepatitis B can be cured. 52.4% among students of medicine and health science in North West Ethiopia (46). Only studies done in India and Iraq reported 49.4% and 72% among medical students respectively (42, 43). Our finding was higher than that of India. A study done in two rural communities in Cameroon reported 88.2% (48) and this is higher compared to

our finding. These differences among study groups might be due to many factors such as strength of the public health service, availability and accessibility of health care and advanced health system.

As far as determinants of knowledge score is concerned age and rank are predictors for good knowledge. Attitude and practice were significantly associated with good knowledge. Another study conducted at Iraq among medical students showed good knowledge were significantlyhigher among older students in clinical year study(43). A study conducted among military recruits in china showed age and sex were statistically associated with a higher mean knowledge score (25) this discrepancy might be due to the nature of the study subjects.

In this study, the overall attitude towards HBV and HCV infection among the participants was positive. Majority 77.5% of the respondents believe that hepatitis B and C are serious public health problem. Most of the respondents (92.7%) would like to get vaccinated for hepatitis B free of cost this finding was in line with the report from Gondar among health care professionals (46). This study indicated the level of positive attitude was higher compared to studies done in University of Putra Malaysia international students (27) these might be due to exposure to different health education programs or this finding could also be explained by popular HIV and STIs campaign. Favorable attitude towards vaccination is important in prevention of hepatitis B .studies have shown a link between HBV and primary liver cancer. And reduction in incidence is associated with immunity. In addition HBV vaccination reduces risk of transmission by 70%.

In this study 65.6% had never screened for HBV and HCV infection. This figure is higher as compared to a study done in India 173(48.9%) among clinical and medical students (42), but, inferior to a study conducted in Haramaya University among medical and health science students 85.7%.(28).Reasons for the observed difference of finding between different research results might be due to the difference level of awareness among study groups and economic difference of the study population which causes poor accessibility and affordability of the screening service in developing countries. The difference in this study and Haramaya study might be due to mandatory hepatitis screening for different mission of military personnel.

Conclusion

In this study much more than half of the respondents had poor knowledge, positive attitude and poor practice towards hepatitis B and C viral infection. Which generally suggests that the dissemination of better information regarding hepatitis B and C viral infection to military personnel is crucial.

Knowledge gap were found in route and mode of transmission and causative organism of HBV and HCV infection and availability of vaccine against HBV infection.

Practice gaps were identified as screening (testing) for HBV and HCV infection and participation in health education programs related to HBV and HCV infection.

Among socio demographic variables age and rank were predictors for good knowledge while. Religion found to be the only predictor for positive attitude and no socio-demographic variables were found to be predictors for a good practice.

Attitude and practice were significantly associated with good knowledge

Knowledge and practice were significantly associated with positive attitude.

Knowledge and attitude were significantly associated with good practice.

Limitation of the study

Qualitative study design was not included only quantitative study was done.
Studies on military related with KAP were not available in Ethiopia and African countries.

CHAPTER VIII RECOMMENDATIONS

To improve the KAP of the study participants the following recommendations are made;

Education be intensified with focus on behaviors modification related to safer sex and harm reduction practices.

Health education on hepatitis which is becoming a hidden epidemic be integrated with HIV prevention, control and care program.

Introduce screening program among military personnel in order to detect infection early.

Develop surveillance indicators of level of KAP so that it is continuously monitored.

Enhance advocacy and awareness rising to reduce transmission in military community.

Further study should be conducted in other level of health care settings and other part of the country so as to have broader understanding of KAP of the military personnel.

Further studies related to sero-prevalence should be conducted to measure incidence of HBV and HCV and to evaluate effects of psycho social interventions.

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10 APPENDICES

Questionnaire

English version questionnaire

Introductory guide

Hello! My name is _____ and I provide you questionnaire on behalf of s/r Triza Tsige and she is a post-graduate student in Defense College of Health Science, Department of Masters of Public Health. She is conducting a research on factors associated with knowledge, attitude and practice related with HBV and HCV among military personnel in Addis Ababa. The main purpose of the study is to collect information necessary to describe the level of knowledge, attitude and practice of military personnel towards HBV and HCV infection the use of this study is to identify KAP gap and to recommend possible solution. To attain this purpose of the study your honest and genuine participation is very important and highly appreciable. The procedure of getting the information is through face to face interview. Please ask me to repeat if you don't understand the question that I ask you. The interview will take5-10 minute. Please be assured that all the information gathered will be kept strictly confidential and your name does not need to be written in any page of the questionnaire. Only the researcher has the access of the information and used it for the study purpose only. You have a full right not to participate in this study.

Thank you!

Section A: Socio-demographic characteristics of the respondent		**Code**
101. What is your age?	_____	
102. Sex	Male Female	1 2
103. Religion	orthodox Muslim Protestant Catholic other (specify) _____	1 2 3 4 5
104 marital status	Single Married Divorced Widowed	1 2 3 4
105 what is your	unable to read and write	1

educational level?	read and write 1-8 grade 9-12 grade Diploma Degree and above	2 3 4 5 6
106 what is your Ranks?	Pvt Non commission officer Leanir officer Higher officer Other (specify) _____	1 2 3 4 5
Section B: Respondents Knowledge about Hepatitis B and C infection		
201. Do you know or have you heard of Hepatitis B and C? (If no go to question No 203)	Yes No	1 2
202. If you hear, from where did you hear?	Books and journal articles Lectures and seminars Media Family and friends internet	1 2 3 4 5

	Oth-er(specify)_____ _____	6
203. Which part of our organ does Hepatitis B and C affects?	Liver Heart Kidneys Brain I don't know	1 2 3 4 99
204. one of the most important sign of hepatitis B infection is	Abdominal pain Diarrhea Eye gets yellow Cough Other (specify)_____	1 2 3 4 5
205. Route of transmission of Hepatitis B and C infection	Yes No	
205.1 Blood and blood products	1 2	[ ]
205.2 infected Needles	1 2	[ ]
205.3 sexual intercourse with infected person.	1 2	[ ]
205.4 Vertically from mother to child	1 2	[ ]
205.5 Faeco-oral		[ ]

205.6 Contaminated water	1 2	[ ]
205.7 sharing sharps	1 2	[ ]
205.8 sharing tooth brush	1 2	[ ]
205.9 coughing	1 2	[ ]
205.10 Other specify	1 2	
	( )	
206. Hepatitis B and C are ---------- infection	viral	1
	bacterial	2
	protozoal	3
	parasite	4
	other specify	5
207. Do you have history of hepatitis?	Yes	1
	No	2
208. Mode of transmission of hepatitis B and C	Yes No	
208.1 HBV and HCV is more easily spread from person to person than AIDS	1 2	[ ]
208.2 HBV and HCV carriers (although they look healthy) can easily infect others	1 2	[ ]
208.3 HBV and HCV can be spread by eating food prepared by an infected person	1 2	[ ]
208.4 HBV and HCV can be		

spread by holding hands with an infected person	1 2	[ ]
209 are hepatitis B and C life threatening?	Yes No I don't know	1 2 99
210. Do you think that vaccine can prevent hepatitis B INFECTION?	yes No I don't know	1 2 99
211. Do you think that vaccine can prevent hepatitis C INFECTION?	yes No I don't know	1 2 99
212. Hepatitis B can be cured	yes N o I don't know	1 2 99
213. Do you think that hepatitis C has treatment?	Yes No I don't know	1 2 99

Section C: Respondents Attitude Regarding Hepatitis B and C viral infection		
301 do you think that hepatitis B and C are serious public health problem?	Yes No I don't know	1 2 99
302. Do you think your job puts you at a high risk of acquiring Hepatitis B and C virus?	Yes No I don't know	1 2 99
303. Will you like to get yourself screened for hepatitis B and C?	Yes No I don't know	1 2 99
304. Would you like to get vaccinated for hepatitis B free of cost?	yes No I don't know	1 2 99
305. Will you like to get further inves-	Yes No	1 2

tigation (treatment if found positive for hepatitis B and C without any symp-tom?	I don't know	99
306. Do you know if healthy people need vaccination?	Yes No I don't know	1 2 99
Section D: Respondents Practice Regarding Hepatitis B viral infection		
401. Do you have exposure to sharp injury in your work area? (if yes go to question 402	Yes No I don't remember	1 2 99
402. Do you test after sharp in-jury?	Yes No	1 2
403. Have you done screening for hepatitis B and C? (if no go to question 404)	Yes No	1 2
404. If no what is the reason?	lack of awareness economical problem	1 2

	I don't know where the service is given afraid of result confident of being free other specify	3 4 5 6
405. Do you ask for screening of blood before transfusion?	Yes No	1 2
406. Do you ask for a new syringe before use?	yes No	1 2
407. Do you ask the barber/ hair dresser to use new blade or clean equipment before the procedure?	Yes No	1 2
408. do you use condom always during sexual contact out of spouse	Yes No	1 2
409. Have you ever participated in health education program related to hepatitis B and C?	Yes no	1 2

Amharic version of questionnaire

የአማርኛ□ቅጂ□መጠይቅ

መመሪያ

ጤና ይስጥልኝ ! ስሜ ________________________________ ይባላል፡ □ ሲ/ር ትሬዛ ፅጌን፡ በመወከል፡መጠይቅ፡□አቀርብሎታለው፡፡ የስራ□፡□ባልደረባዬ፡□የመከላከያ፡□ጤና□ሣይንስ፡□ኮሌጅ ፡የህብረተሠብ□ጤና□አጠባበቅ፡□ተማሪ፡□ስትሆን □ ጥናትዋን፡□የምትራውም፡□በአዲስ□አበባ□፡ውስጥ፡ በሚኖሩ፡□መከላከያ፡□ሠራዊት □ አባላት፡□ስለ፡□ሄፓታይተስ፡□ቢ□እና□ሲ፡□ያላቸውን፡□እውቀት ፤ዝንባሌ□እና□ተግባር በተመረጡ□፡□የመኖሪያ □ ካምፖች፡□ይዳሰሳል፡፡ □□□□□ ፡ዋና፡□አላማ፡ የሠራዊቱን □ እውቀት□፤□ዝንባሌ□እና□ተግባር □ ላይ፡□አስፈላጊ፡መረጃዎች፡□ሠብስቦ □ ያለውን፡ ክፍተት፡□ለመለየትና□፡መፍትሄውን□፡ለመጠቆም□ነው፡፡ይህን□፡አላማ፡□ለማሣካት፡የእርስዎ፡□ግልፅ እና እውነተኛ □ ተሣትፎ □በጣም□ያስፈልጋል፤ይበረታታል፡ □መጠይቁን፡አነብሎታለው፡ያልተረዱት፡ጥያቄ፡ካለ □እንድደግምሎት □ ይጠይቁኝ፡ □ መጠይቁ□ ከ 5-10 ደቂቃ፡ ይወስዳል፡፡ እንዲሁም □ የሚሰበሰበው □ መረጃ፡ሁሉ፡በሚስጥር □የሚያዝ፡መሆኑን፡እናረጋግጣለን □□የእርሶም፡ስም፡በመጠየቁ □ላይ፡አይመዘገብም □ ፡የሞሉትንም □ መረጃ፡ ከጥናቱ □ አድራጊ ፡ ውጪ፡ ማንም፡ ሊያገኘው □ አይችልም፡፡እንዲሁም □ እርስዎ፡የሠጡት፡ መረጃ፡ ለጥናቱ፡ ብቻ፡ የምንጠቀምበት፡ ይሆናል ፡፡በጥናቱ፡ ላይ ፡ያለመሣተፍ፡□ሙሉ□፡መብት፡□አሎት፡፡

ለውድ፡ የጥናቱ፡ ተሳታፊ ፡ሄፓታይተስ፡ ማለት፡ በተለምዶ፡ የወፍ፡ በሽታ፡ ተብሎ፡በማህበረሰባችን፡□የሚጠራ፡□ሲሆን □በመጠይቁ□፡የወፍ□በሽታ፡□ተብሎ፡□ይወሰድ፡ □

አመሰግናለሁ !

ክፍል□አንድ□፡ - የጥናቱ ተሳታፊዎች□የጥናት□መለያና□ሰነ□ህዝባዊ□መረጃ

ተ.ቁ	ጥያቄ	የመልስ□አማራጮች	ኮድ

101	እድሜዎት ሰንት ነው ;	________________	
102	ጾታ	ወንድ ሴት	1 2
103	የትኛው እምነት ተከታይ ኖት ;	ኦርቶዶክስ ሙሰሊም ፕሮቴስታንት ካቶሊክ ሠ. ሌላ/ይጥቀሱ_________________________	1 2 3 4 5
104	የጋብቻ ሁኔታዎ	ያላገባ /ች ያገባ /ች የተፋታ /ች የትዳርነ ጎደኛ በሞት የተለየ /ች	1 2 3 4
105	የትምህርት ደረጃዎት ምንድነው ;	ማንበብና መፃፍ የማይችሉ ማንበብና መፃፍ የሚችሉ 1-8 የጨረሱ 9-12 ዲፕሎማ ዲግሪና ከዛ በላይ	1 2 3 4 5 6
106	ማዕረግ	መደበኛ ወታደር ባለ ሌላ ማዕረግተኛ መስመራዊ መኮንን ከፍተኛ መኮንን ሌላ ካለ ይጥቀሱ ____________________	1 2 3 4 5

ክፍል ሁለት፡ - የተሣታፊዎች እውቀት ስለ ሄፓታይተስ ቢ እና ሲ ኢንፍክሽን

ተ.ቁ	ጥያቄ	የመልስ አማራጮች	ኮድ

201	ስለ ሄፓታይተስ ቢ እና ሲ ቫይረስ ሰምተው ያውቃሉ ; (መልሰዎ አይ ከሆነ ወደ ጥያቄ 203 ይሂዱ)	አዎ አይ	1 2
202	የመረጃዎ ምንጭ ምንድነው ;	ከመፅሀፍና ጆርነሎች መደበኛ ትምርትና ስልጠናዎች ከመገናኛ ብዙሀን ከቤተሰብና ከጎደኞች ኢነተርኔት ሌላ /ይጥቀሱ_______________	1 2 3 4 5 6
203	ሄፓታይተስ ቢ እና ሲ የሚያጠቃው የትኛው የሰውነታችን ክፍል ነው ?	ጉበት ልብ ኩላሊት አንጎል አላውቅም	1 2 3 4 99
204	የሄፓታይተስ ቢ የበሽታው ዋነኛ ምልክቱ የቱ ነው ?	የሆድ ህመም ተቅማጥ የአይን ቢጫ መሆን ሳል ሌላ /ይጥቀሱ________________	1 2 3 4 5

205	ሄፓታይተስ ቢ እና ሲ የሚተላለፍባቸው መንገዶች	አዎ አይ	
	205.1 በደም እና በደም ውጤቶች	1 2	[ ]
	205.2 በተበከሉ መርፌዎች	1 2	[ ]
	205.3 በግብረሥጋ ግንኙነት	1 2	[ ]
	205.4 ከእናት ወደ ልጅ	1 2	[ ]
	205.5 በዓይነ ምድር በተበከለ ወደ አፍ በማስገባት	1 2	[ ]
	205.6 በተበከለ ውሃ	1 2	[ ]
	205.7 ስለታማ ነገሮችን በጋራ በመጠቀም	1 2	[ ]
	205.8 የጥርስ ቡርሾችን በጋራ መጠቀም	1 2	[ ]
	205.9 በሳል	1 2	[ ]
	205.10ሌላ / ይጥቀሱ------------	1 2	[ ]
206	ሄፓታይተስ ቢ እና ሲ በ ---------------- ኢንፌክሽን ይመጣሉ	ቫይረስ	1
		ባክቴሪያ	2
		ፕሮቶዞዋል	3
		ፓራሳይት	4
		ሌላ / ይጥቀሱ------------------	5
207	ካሁን በፊት ሄፓታይተስ አለቦት	አዎ	1
		አይ	2
208	ሄፓታይተስ ቢ እና ሲ ስለ መተላለፍያ መንገዶች	አዎ አይ	
	208.1 ሄፓታይተስ ቢ እና ሲ ከኤድስ ይልቅ በቀላሉ ከሰው ወደ ሰው ይተላለፋሉ	1 2	[ ]

	208.2 ምንም እንኳን ጤነኛ ቢመስሉም ሄፓታይተስ ቢ እና ሲ በሽታ ተሸከሚዎች በቀላሉ ሌሎችን ሊበክሉ ይችላሉ	1 2	[ ]
	208.3 ሄፓታይተስ ቢ እና ሲ ኢንፈክትድ ለሆነው ሰው የተዘጋጀ ምግብ ሊተላለፍ ይችላል	1 2	[ ]
	208.4 ሄፓታይተስ ቢ እና ሲ ታማሚውን በመጨበጥ ሊተላለፍ ይችላል	1 2	[ ]
209	ሄፓታይተስ ቢ እና ሲ ለህይወት አስጊ ናቸው	አዎ አይ አላውቅም	1 2 99
210	ሄፓታይተስ ቢ ኢንፌክሽን በክትባት መከላከል እሚቻል ይመስሎታል?	አዎ አይ አላውቅም	1 2 99
211	ሄፓታይተስ ሲ ኢንፌክሽን በክትባት መከላከል እሚቻል ይመስሎታል?	አዎ አይ አላውቅም	1 2 99
212	ሄፓታይተስ ቢ ፍቱን መድኃኒት አለው	አዎ አይ አላውቅም	1 2 99
213	ሄፓታይተስ ሲ መድኃኒት ያለው ይመስሎታል ?	አዎ አይ አላውቅም	1 2 99

ክፍል ሦስት፡ - ተሳታፊው ስለ ሄፓታይተስ ቢ እና ሲ ኢንፌክሽን ያለው አመለካከት የተመለከቱ ጥያቄዎች

ተ.ቁ	ጥያቄ	የመልስ አማራጮች	ኮድ
301	ሄፓታይተስ ቢ እና ሲ ከባድ	አዎ	1

	የማህበረሰብ ችግር ይመስሎታል ?	አይ አላውቅም	2 99
302	ሥራዎ ለሄፓታይተስ ቢ እና ሲ ተጋላጭ ያደርጎታል ?	አዎ አይ አላውቅም	1 2 99
303	ለሄፓታይተስ ቢ እና ሲ መመርመር ይፈልጋሉ ?	አዎ አይ አላውቅም	1 2 99
304	ለሄፓታይተስ ቢ ክትባት በነጻ ቢያገኙ ይከተባሉ ?	አዎ አይ አላውቅም	1 2 99
305	ምንም እንኳን የበሽታው ምልክት ባይኖርቦትም ለሄፓታይተስ ቢ እና ሲ ፖዘቲቭ ቢሆኑ ሌላ ምርመራ /ህክምናን ማግኘት ይፈልጋሉ ?	አዎ አይ አላውቅም	1 2 9
306	ጤነኛ ሰዎች ክትባት የሚያስፈልጋቸው ይመስሎተል ?	አዎ አይ አላውቅም	1 2 99

ክፍል አራት፡ -፡ - ተሳታፊው ስለ ሄፓታይተስ ቢ እና ሲ ኢንፌክሽን ያለው ተግባርን የተመለከቱ ጥያቄዎች

ተ.ቁ	ጥያቄ	የመልስ አማራጮች	
401	በሥራ ቦታ ላይ በተበከለ ስለታማ ነገር የመወጋት አደጋ አጋጥሞት ያውቃል አዎ ከሆነ ወደ ጥያቄ 402	አዎ አይ አላውቅም	1 2 99
402	በተበከለ ስለታማ ነገር የመወጋት አደጋ ከደረሰቦት በኋላ ተመርምረዋል ያውቃል	አዎ አይ አላውቅም	1 2 99

403	ለሄፓታይተስ ቢ እና ሲ ተመርመረው ያውቃሉ (መልሰዎ አይ ከሆነ ወደ ጥያቄ 404 ይሂዱ	አዎ አይ	1 2
404	መልሰዎ አይ ከሆነ ምክንያትዎ ምንድን ነው	ግንዛቤው የለኝም የአቅም ችግር አገልግሎቱ የት እነደሚሰጥ አለውቅም ውጤቱን ስለምፈራ ነጻ እንደሆንኩ እርግጠኛ ስለሆንኩ ሌላ / ይጥቀሱ	1 2 3 4 5 6
405	ደም ከመለገስዎ በፊት እንዲመረመር ይጠይቃሉ	አዎ አይ	1 2
406	ከመለገስዎ በፊት አዲስ መርፌመሆኑን ይጠይቃሉ	አዎ አይ	1 2
407	የጸጉር ቤት (የውበት ሳሎን) ሲሄዱ ባለሞያውን አዲስ ምላጭ ወይም ንጽህናውን የጠበቀ እቃ እንዲጠቀም ይጠይቃሉ	አዎ አይ	1 2
408	ከትዳር ውጪ ለሚደረጉ የግብረስጋ ግንኙነት ሁሌ ኮንዶም ይጠቀማሉ	አዎ አይ	1 2
409	ከለሄፓታይተስ ቢ እና ሲ ጋር በተያያዘ የጤና ትምህርት ላይ ተሳትፈው ያውቃሉ	አዎ አይ	1 2