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**ORIGINAL ARTICLE**

# Knowledge, Attitude and Perception of Pregnant Women towards Hepatitis E

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## ABSTRACT

**Background:** Hepatitis E is one of the most common diseases during pregnancy which can cause increased mortality and devastating complications.

**Objective**: To assess the knowledge, attitudes and perceptions of Pregnant Women towards Hepatitis E

**Materials and Methods**: This cross sectional study was conducted in Maqsood Medical Complex General Hospital for a duration of six months. The sampling technique was non probability convenient sampling. The inclusion criteria were pregnant women in first trimester aged between18 and 45 years. Patients with molar pregnancy and those having history of gastrointestinal disorders were excluded from the study. A total of 100 patients were taken

**Results:** Among women 80% heard about Hepatitis E, 81% known a person ever infected with viral infection, 60% don't know that this infection was caused by virus, only 46% reported that they knew that It was transmitted through contaminated food and water, 56% reported that they knew it was transmitted by blood transfusion, 54% reported that they knew it can be transmitted sexually, 45% knew that it can be transmitted from mother to fetus, 61% reported that they knew that Hepatitis E is more dangerous in pregnancy, only 26% reported that they knew it can cause hepatic failure and only 38% reported that they knew there is vaccination of Hepatitis E. Questions regarding attitude of women towards Hepatitis-E showed that only 45% reported that they were at risk of getting Hepatitis-E infection

**Conclusion:** From the above results one can conclude that there was good awareness of hepatitis E among pregnant women, yet there is a need for more health education and vaccination drive to reduce its mortality.

**Keywords:** Hepatitis E, Pregnancy

## INTRODUCTION

Hepatitis by definition is the inflammation of the liver that can present in different forms and manifestation and cause hazardous complications. The complications include acute liver failure, acute on chronic liver failure, liver cirrhosis, chronic hepatitis and hepatocellular carcinoma.The symptoms are diverse as well ranging from reduced appetite,nausea,vomiting ,anorexia,jaundice to hematemesis,malena and latered state of consciousness in cases of decompensated liver cirrhosis and hepatic encephalopathy . [2]

Among the different hepatitis viruses, hepatitis A and E are known to cause acute hepatitis while chronic one is caused by hepatitis B and C. The mode of transmission for acute hepatitis is mainly through contaminated food and water. [1]The hepatitis B and C occur due to unscreened blood, unsterilized synringes, sexual intercourse,tattoing,tooth extraction and ear piercing. The acute hepatitis in the setting of chronic liver disease can be extremely dangerous and life threatening by causing coagulopathy and encephalopathy. While there has been rapid advancement in treatment of hepatitis B and C by introduction of interferon free regimens with achievement of rapid viral response in 4 weeks time leading to sustained response in next few months, the treatment of acute hepatitis E is still evolving.[3]

The mortality of hepatitis E has been greatest during pregnancy with most of women dying during third trimester. This can attributed to poor literacy rate, irregular antenatal visits and lack of necessary precautions .Though the treatment of hepatitis is mainly conservative, timely screening of such women is of enormous importance . At the same time literature is still deficient about finding out the knowledge, perceptions and attitudes of pregnant women towards hepatitis E . [4]Around 12 million people suffer from Hepatitis B or C in Pakistan and around 150,000 new cases are added to this number every year. Hepatitis E alone is responsible for 3.3 million symptomatic cases each year globally.[5] Prevention ismuch better than treatment which is still under research. Education of population is inevitable for reducing this menace. To assess the knowledge, attitudes and perceptions of Pregnant Women towards Hepatitis E

## MATERIALS &METHODS

This cross sectional study was done on 100 patients at tertiary care hospital of Kabir College Peshawar. The study duration was 6 months after the approval of proposal by ERB letter. The sampling technique was probability convenient sampling. The inclusion criteria were pregnant women in all the trimesters aged between18 and 45 years. Patients with molar pregnancy and those having history of gastrointestinal disorders were excluded from the study. The rationale of the study was clearly explained to the participants and well informed consent was taken. Patients did have routine antenatal investigations like Ultrasound.

**Data Analysis:** Data entry and analysis was carried out by SPSS version 23. Variables were recorded in categorical from so frequency and percentage was used to present these variables. Chi Square test was used to see association of Knowledgeandperception of study participants with age and trimester. p-value <0.05 was considered statistically significant

## RESULTS

Table-1: Demographic Profile of Study Participants(n=100)

| | Frequency | Percent |
|---|---|---|
| Age | | |
| <20 Years | 20 | 20% |
| 20-40 Yeats | 65 | 65% |
| 40-60 Years | 15 | 15% |
| Education | | |
| Illiterate | 39 | 39% |
| Elementary | 5 | 5% |
| Inter | 15 | 15% |
| High School | 6 | 6% |
| University | 8 | 8% |
| Graduate | 27 | 27% |
| Trimester | | |
| 1st | 24 | 24% |
| 2nd | 40 | 40% |
| 3rd | 26 | 26% |

In this study total 100 women were interviewed regarding knowledge, attitude and their perception towards Hepatitis E during

pregnancy. Table-1 describes the demographic characteristics of the women.

Table-2: Knowledge, Attitude and Perception of Study Participants towards Hepatitis E

| Knowledge (n=100) | Yes | No | DK |
|---|---|---|---|
| Have you heard about Hepatitis E | 80% | 20% | - |
| Ever known a person infected with hepatitis e | 81% | 19% | - |
| Caused by a virus | 35% | 5% | 60% |
| Transmitted through contaminated food and water | 46% | 17% | 37% |
| Can be Transmitted Through Blood Transfusion | 56% | 21% | 23% |
| Sexually transmitted | 54% | 22% | 24% |
| Transmitted from mother to fetus | 45% | 23% | 32% |
| More dangerous in pregnancy | 61% | 16% | 23% |
| Cause fulminant Hepatic Failure | 26% | 55% | 19% |
| There is vaccination of Hepatitis E | 30% | 38% | 32% |
| Perception (n=100) | Yes | No | DK |
| Have you ever screened for Hepatitis-E infection | 33% | 67% | - |
| Have you ever taken Hepatitis-E vaccination | 28% | 72% | - |
| Have you ever done Hepatitis-E vaccination antibody test | 2% | 98% | - |
| Do you take clean food & water to prevent Hepatitis-E infection | 64% | 36% | - |
| Do you reuse needles (if any) | 31% | 69% | - |
| Do you recap needles after use? | 71% | 29% | - |
| Do you consider it important to be vaccinated for Hepatitis-E in pregnant females? | 65% | 35% | - |
| Have you acquired needle stick injury in the past? | 29% | 71% | - |
| Have you splashed blood\body fluids on your body? | 16% | 84% | - |

Among women 80% heard about Hepatitis E, 81% known a person ever infected with viral infection, 60% don't know that this infection was caused by virus, only 46% reported that they knew that It was transmitted through contaminated food and water, 56% reported that they knew it was transmitted by blood transfusion, 54% reported that they knew it can be transmitted sexually, 45% knew that it can be transmitted from mother to fetus, 61% reported that they knew that Hepatitis E is more dangerous in pregnancy, only 26% reported that they knew it can cause hepatic failure and only 38% reported that they knew there is vaccination of Hepatitis E.**(Table-2)**Only 33% women reported that they even screened for hepatitis-E infection, 28% reported that they had taken vaccination for hepatitis-E, only2% women reported that they had done antibody test for hepatitis-E, 64% women reported that they use clean food and water to prevent hepatitis E infection, 31% women reported that they reuse needle, 65% women reported that they being vaccinated is important for them, 29% reported that they acquired needle stick injury and 16% reported that they blood/body fluids splashed on their body.**(Table-2)**

Table-3: Attitude of women toward Hepatitis E during pregnancy

| Attitude (n=100) | SA | A | US | DA | SDA |
|---|---|---|---|---|---|
| You are at risk of getting Hepatitis-E infection | 45% | 30% | 10% | 14% | 1% |
| Eating unhygienic food will not necessarily increase my risk of getting Hepatitis-E infection | 31% | 28% | 30% | 11% | 0% |
| occasional contact with blood will not necessarily increase my risk of getting Hepatitis-E infection | 8% | 7% | 42% | 39% | 4% |
| Hepatitis-E vaccination is unnecessary because acquiring Hepatitis-E infection is not as serious | 5% | 20% | 29% | 43% | 3% |
| Hepatitis-E infection in not potentially serious because it is treatable | 39% | 33% | 13% | 7% | 8% |
| Are you willing to be screened for Hepatitis-E vaccination during an antenatal care visit | 21% | 5% | 32% | 29% | 3% |
| Are you willing to get Hepatitis E vaccination | 5% | 25% | 40% | 21% | 9% |
| Blood/body fluid splashes on faces doesn't require any reporting | 4% | 7% | 11% | 61% | 17% |

SA=Strongly Agree, A=Agree, US= , DA= Disagree, SDA= Stronglydisagree

Questions regarding attitude of women towards Hepatitis-E showed that only 45% reported that they were at risk of getting Hepatitis-E infection, 31% were strongly agree for that fact if they use unhygienic food they will have increased risk for hepatitis E infection, 39% of the women were disagree on the fact that occasional contact with blood will not necessarily increase their risk of getting Hepatitis-E infection, 43% of the women were disagree on the fact that vaccination is unnecessary because acquiring Hepatitis-E infection is not as serious, 39% of the women were strongly agree and 33% were agree on the fact that Hepatitis-E infection in not potentially serious because it is treatable, 29% of the women were strongly disagree and 3% were disagree on the fact regarding willingness for Hepatitis E screening and 21% of the women were strongly disagree and 9% were disagree on willingness to get Hepatitis E vaccination.

Table-4: Association of Age and Trimester with Knowledge and Perception of Study Participants

| Knowledge | Age | | | p-value | Trimester | | | p-value |
|---|---|---|---|---|---|---|---|---|
| | <20 | 20-40 | 40-60 | | 1st | 2nd | 3rd | |
| | 20 | 65 | 15 | | 24 | 40 | 36 | |
| Have you heard about Hepatitis E | 15 | 58 | 7 | <0.001 | 20 | 35 | 26 | 0.224 |
| Ever known a person infected with hepatitis e | 18 | 60 | 3 | <0.001 | 22 | 38 | 21 | <0.001 |
| Caused by a virus | 18 | 15 | 2 | <0.001 | 18 | 12 | 5 | <0.001 |
| Transmitted through contaminated food and water | 16 | 25 | 5 | 0.002 | 18 | 18 | 10 | 0.001 |
| Can be Transmitted Through Blood Transfusion | 18 | 35 | 3 | <0.001 | 22 | 23 | 11 | <0.001 |
| Sexually transmitted | 15 | 35 | 4 | 0.017 | 18 | 30 | 6 | <0.001 |
| Transmitted from mother to fetus | 12 | 28 | 5 | 0.254 | 17 | 18 | 10 | 0.004 |
| More dangerous in pregnancy | 17 | 42 | 2 | <0.001 | 20 | 30 | 11 | <0.001 |
| Cause fulminant Hepatic Failure | 10 | 9 | 7 | <0.001 | 13 | 12 | 1 | <0.001 |
| There is vaccination of Hepatitis E | 12 | 16 | 2 | 0.003 | 11 | 13 | 6 | 0.049 |
| Perception | | | | | | | | |
| Have you ever screened for Hepatitis-E infection | 10 | 23 | 0 | 0.001 | 9 | 8 | 6 | 0.144 |
| Have you ever taken Hepatitis-E vaccination | 8 | 17 | 3 | 0.365 | 6 | 20 | 2 | <0.001 |
| Have you ever done Hepatitis-E vaccination antibody test | 1 | 1 | 0 | 0.523 | 1 | 0 | 1 | 0.471 |
| Do you take clean food & water to prevent Hepatitis-E infection | 19 | 40 | 5 | <0.001 | 15 | 38 | 11 | <0.001 |
| Do you reuse needles (if any) | 15 | 12 | 4 | <0.001 | 15 | 11 | 5 | <0.001 |
| Do you recap needles after use? | 17 | 40 | 14 | 0.015 | 20 | 38 | 13 | <0.001 |
| Do you consider it important to be vaccinated for Hepatitis-E in pregnant females? | 18 | 41 | 6 | 0.007 | 20 | 39 | 6 | <0.001 |
| Have you acquired needle stick injury in the past? | 6 | 15 | 8 | 0.066 | 6 | 14 | 9 | 0.558 |
| Have you splashed blood\body fluids on your body? | 8 | 6 | 2 | 0.004 | 8 | 8 | 0 | 0.001 |

Table-4 describes the association of knowledge and perception with age and trimester of women. Only one question regarding knowledge and three question regarding perception showed no significant association with age of women in this study.The

remaining questions regarding knowledge and perception were significantly associated with age of women.Only one question (heard about Hepatitis-E) from knowledge and three questions (acquiring needle stick injury, antibody test for hepatitis E, screening of Hepatitis-E) from perception showed no significant association with trimester of women. All other questions in knowledge and perception domain showed statistically significant association with trimester of women.

## DISCUSSIONS

Hepatitis E is an emerging threat for all patients and pregnant women are not an exception. It is a colossal global health concern that has led to acute hepatitis with devastating complications in the patients affected. [6]According to the World Health Organization (WHO) factsheet (2015), there have been 20 million HEV infections yearly leading to 3.3 million cases having symptoms and 60,000 deaths, an alarming figure due to viral hepatitis . [7]Over the last 10 years , the clinical and basic research on HEV pathogenesis has gone to such an extent that the European Association for the Study of the Liver (EASL) has very recently published guidelines for the management of hepatitis E.[8]

The knowledge, perception and attitudes of pregnant women hold a lot of significance. Among women 80% heard about Hepatitis E, 81% known a person ever infected with viral infection, 60% don't know that this infection was caused by virus, only 46% reported that they knew that It was transmitted through contaminated food and water, 56% reported that they knew it was transmitted by blood transfusion, 54% reported that they knew it can be transmitted sexually, 45% knew that it can be transmitted from mother to fetus, 61% reported that they knew that Hepatitis E is more dangerous in pregnancy, only 26% reported that they knew it can cause hepatic failure and only 38% reported that they knew there is vaccination of Hepatitis E. Exploring the attitude of women towards Hepatitis-E showed that only 45% reported that they were at risk of getting Hepatitis-E infection, 31% were strongly agree for that fact if they use unhygienic food they will have increased risk for hepatitis E infection, 39% of the women were disagree on the fact that occasional contact with blood will not necessarily increase their risk of getting Hepatitis-E infection, 43% of the women were disagree on the fact that vaccination is unnecessary because acquiring Hepatitis-E infection is not as serious.

Global data, including the one from Saudi Arabia, that examined public knowledge, attitudes, and practices (KAP) toward hepatitis E virus (HEV) are limited. This study examined KAP levels of the general population in Saudi Arabia toward HEV. A cross-sectional study was conducted among 768 participants. In these , 16.3% (N = 125) were males and 83.7% (N = 643) were females. Study subjects were 18 years and above. Most of the study participants were Saudi nationals (95.6%; N = 734), and from Western Saudi Arabia (76.4%; N = 587). Thirty-four percent (N = 261) of the participants had not heard of HEV, and 48% were aware that yellowish skin or eyes are the most important sign of hepatitis. The level of participants' knowledge about HEV was low (39.5%) and this study came to a conclusion that massive awareness campaigns are needed to arouse the curiosity of individuals.[9]

Another study was done in Hong Kong aiming to indentify the gaps in knowledge,perception and attitudes of the public towards viral hepatitis .This was a descriptive cross sectional web based study conducted on 500 individuals meeting the criteria .Only 55.8% had attended health screenings in the past 2 years, and 67.6% were unaware of their family's history of liver diseases. [10]Misperceptions surrounding the knowledge and transmission risks of viral hepatitis strongly hint at the presence of social stigmatisation within the community. Many of them misperceived viral hepatitis as familial and social behaviours (casual contact or dining with an infected person) as a transmission route. Furthermore, 62.4% were aware of hepatitis B vaccination, whereas 19.0% knew that hepatitis C cannot be prevented by vaccination.[10] About 70% of respondents who were aware of mother-to-child transmission were willing to seek medical consultation in the event of pregnancy.[10]

This study is first of its kind for assessment of knowledge, perception and attitudes of pregnant women , who are population at risk reporting increasing mortality. This study is a wakeup call for all of us about finding concrete evidence for hepatitis E vaccination on a large scale.[11]Since this was a cross sectional study it will be difficult to generalize these findings

**Strengths & Limitations:** The main strength of this cross-sectional study is that it was relatively quick and inexpensive to conduct. Since the sample size was small, more studies are needed to generalize these results

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