

Public Health Issue Paper Liver Disease in Pregnancy: Two Lives in Danger

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Received date: May 18, 2017; Accepted date: Sep 21, 2017; Published date: September 28, 2017

Citation: Batool S. Public Health Issue Paper Liver Disease in Pregnancy: Two Lives in Danger. J Clin Med Ther. Vol. 2 No 3: 23.

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Abstract

Liver diseases in pregnancy include a diverse range of problems with its great clinical impact on maternal and child health. Some of the liver problems are unique to the gestational state, whereas some of them reflect a preexisting condition and which exacerbate by the pregnancy. Knowledge of the spectrum of determinants which contribute to liver disease in pregnancy is very important because, some of these entities require specific or urgent management to save the mothers and child life. In addition, some changes to the liver during pregnancy are pathologic, so familiarity of community with the interpretation of those changes and its causation factors is necessary to direct a proper and timely workup at a preventive level.

Keywords: Liver disease; Public health issue; Determinants; Risk factors

Introduction

There are number of health issues which could be included in an overview of public health issue due to their complexity and changes in the environment. This paper presents one of the most important public health issues facing the communities. Liver disease in pregnancy is a growing threat and a significant number of women are at risk of getting the liver disease in pregnancy. So, there is a great need to find the interconnection between the environmental changes and human health problems and to come with effective solutions. In order to address this issue, search engine PUBMED, Science Direct and Google Scholar were accessed to explore the prevalence of liver disease during pregnancy in Pakistan, but no data was found on this topic. Hence, the goal of this paper is to encompass the discussion of biological, psychological, socio-cultural, socio-economical, lifestyle, behavioural and organizational determinants which contribute to liver disease in pregnancy generally, relate those factors to our context and propose some possible solutions to overcome those factors and determinants (Figure 1).

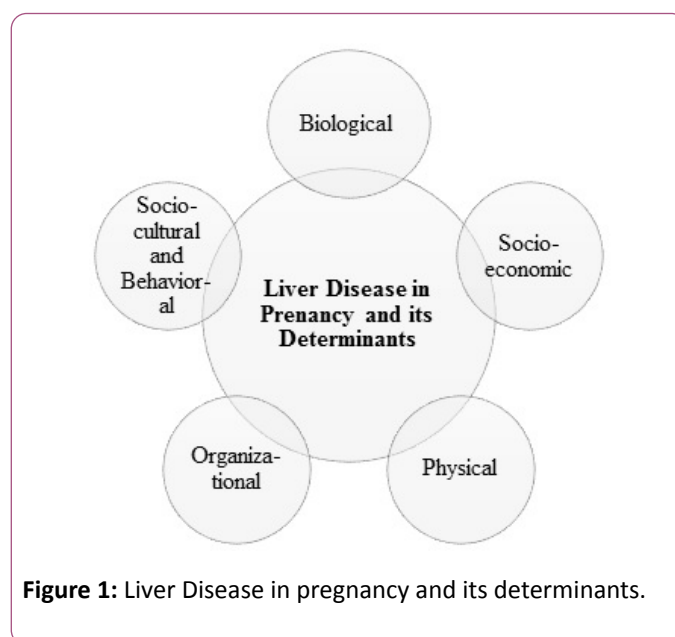


Figure 1: Liver Disease in pregnancy and its determinants.

Biological Determinants

There are several biological determinants which lead to liver disease in pregnancy which is as under:

Viral hepatitis

The most common cause of liver disease in pregnancy is acute viral hepatitis, with an incidence of about 1 to 2 per 1000 [1]. Hepatitis E virus is endemic in Asia and Africa which transmit through the feces and contaminated food and is related to the high rates of maternal mortality and morbidity respectively as 30% and 50% and results in the vertical transmission to the new-born [2]. Approximately 2% of women acquire Herpes Simplex Hepatitis during pregnancy with the devastating condition. Since it increased the risk of fulminant liver failure during pregnancy and with the adverse consequence of maternal and fetal death [1]. Hepatitis B and C viruses cause scarring of the liver and are fatal for both mother and child. Moreover, liver disease in pregnancy is also prevalent due to Infection with cytomegalovirus with the risk of transmission to the fetus [3,4].

Autoimmune hepatitis

In addition, autoimmune hepatitis is also one of the biological factors which contribute to liver disease in pregnancy. It occurs when the body's own immune system, start to target the own liver cells and end up with the chronic inflammation and serious damage to the liver cells [5]. If these activities start in the liver of a pregnant mother then they become the candidate of liver disease. Why does the body turn against itself? This phenomenon is still unclear, but the literature suggests that it could be due to the abnormal interaction of genes controlling immune system [6].

Primary sclerosing cholangitis and primary biliary cirrhosis

These are other autoimmune diseases which lead to inflammation of liver cells and can contribute to liver disease in pregnancy [7]. These conditions can overlies with autoimmune hepatitis and can progress to liver failure.

Wilson disease

Wilson disease is another genetic and inherited disorder of the copper transportation in the body which results in the fulminant liver failure of the pregnant mother. In the last trimester, both mother and child are at high risk of death due to this inherited disorder [8].

Physical Determinants

Unsafe water, inadequate sanitation, and contaminated food

Inadequate sanitation and unsafe drinking water lead to viral liver diseases with mild to severe liver illness. Hepatitis A exists in the environment and spread through faecal-oral route [1]. During pregnancy, the use of unsafe water and contaminated food can cause hepatitis A infection with the increased risk of complications such as preterm labour, and preterm infant [4]. According to WHO report, it was estimated that at global and regional level overall 31 food born agents contribute to the disease burden.

Socioeconomic Determinants

Education

Research studies indicate that those who receive the proper education even up to primary school had better thoughtfulness of health-related risks as compared to those who did not receive any formal education. Desperately, the literacy rate of Pakistan is as low as 43% [9]. A Large number of the Pakistani population is unfamiliar about the knowledge and awareness of the liver disease in pregnancy and its related

complications. Thus, the consequences of illiteracy are profound among pregnant mother suffering from liver problems and even potentially life-threatening.

Poverty

The number of causative factors of liver problems during pregnancy is discussed above may be due to the economic condition of Pakistani population. The estimated poverty rate of Pakistan is up to 17.2% and the majority of the population fall under the category of poor [9]. Considering the financial constraints of the general public, only a very limited group of the community can meet the expense of the good education and can use the private health care facilities. Moreover, those who cannot pay for these services especially pregnant mothers go to untrained medical professionals and those untrained professionals do not consider their liver status.

Organizational Determinants

Lack of health care facilities and limited work force

2015-2016 Economic Survey of Pakistan indicates that the government of Pakistan is spending 0.42 percent of GDP on health care services [10]. Hence, due to a very low allocation of funds, the public health sectors are lack in their quality services. The health professionals are limited in their numbers and also have a lack of motivation to work in fewer salary packages. A very few number of these health care professionals are licensed and most of them are uncertified and are also equipped with inadequate resources. So, lack of health facilities and limited workforce may be one of the contributing factors of liver disease in pregnancy and its un-diagnosis.

Lack of audits and monitoring system

The other contributing factor for un-diagnosed burden of liver diseases in pregnancy may be the lack of proper monitoring and audit systems in both public and private hospitals and their poor management hierarchy. The basic and primary health centers contained very limited resources and even trained staff. So, the majority of the liver problems during pregnancy remain unreported.

Blood transfusion and low technology

Likewise, the use of low quality blood collecting kits and transfusion during pregnancy without proper screening can be one of the contributing factors of liver disease in pregnancy. Lack of sensitivity and specificity of the diagnostic test may also mislead and can put maternal health at risk. Studies affirm that the rate of Hepatitis C virus in dialysis patients is very high in Pakistan due to negligence in use of sterile equipment and reuse of syringes [11].

Socio-cultural and Behavioral Determinants

Male dominance and unsafe practice

Pakistan is the male dominant society in which the women have no right to take decisions on their behalf. So, all the decisions regarding their sexual practices, pregnancies, and access to health services are taken by the male. According to the World Economic Forum's Global Gender Gap Pakistan is at the lowest rank and the worst place for the women in the world [12]. Moreover, Unsafe practices due to male dominance make women more prone towards viral infections and to get liver problems.

Use of alcohol and drugs

Use of alcohol and drugs in the high socio-economic group during pregnancy can cause liver disease because of the bad impact on the liver cells. Moreover, the women who use alcohol are more sexually active and do not use any protective measures during their sexual practices and are more prone to get viral infections. Literature support that women are more likely to experience liver damage than the male as a result of consuming the same amount of alcohol.

Recommendations

Once a pregnant woman contracts the liver disease, she has to face a number of challenges. That challenges are not only limited to her physically sufferings but also it affects her socially, sexually, economically and psychologically as well. Therefore, some sound recommendations are being proposed here to alleviate the burden of liver problems in pregnancy. Health care professionals should obtain and distribute proper knowledge among communities about the causes of liver diseases in pregnancy because early recognition of symptoms can be life-saving. Stakeholders should be involved and community mobilization should be started to overcome its burden on the community. At schools, levels must provide proper education about hygiene, safe food, and water in order to overcome the water borne diseases. Health education session should be arranged at the community level to educate the community about preventive measures of spreading the disease. Furthermore, a proper monitoring system should be there which should ensure the antenatal check-ups and proper utilization of resources. Social media should be involved in order to make access to the general population to acquire proper knowledge about the disease and its precautionary measures. In public health sectors, proper allocation of resources should be ensured in order to overcome on malpractices due to an availability of limited resources. There should be vigilance in recognizing the liver disorders in pregnancy and should be coordinated management among obstetrician, nurses, gastroenterologist and other health care professionals.

Conclusions

Liver disease in pregnancy can cause a serious condition with abnormal liver functions and can result in the failure of liver and death to the fetus and mother. Though there are no specific clinical predictors that can predict pathophysiological changes during the state of pregnancy, but the knowledge of community regarding the liver disorders at preconception and prenatal stage is very essential. So, the overall morbidity and mortality attributed to liver problems in pregnancy can be decreased through identifying its determinants and by its timely management.

Acknowledgment

I would like to express my sincere gratitude to Dr. Tazeen Saeed Ali, Associate Professor at Aga Khan University-School of Nursing and Midwifery Karachi for her continuous support, motivation, and guidance.

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