

Introduction

1.1. Background

Seasonal Influenza (SI) is caused by airborne influenza viruses that affect the respiratory system mainly between fall and early Spring. The virus has a wide range of clinical manifestations from mild to severe complications, especially among high-risk groups (infants, the elderly, patients with chronic diseases, pregnant women, as well as people with immune diseases). In pregnant women, Influenza infections are more severe when compared with influenza infections amongst non-pregnant women (Hu et al., 2017).

Influenza infection affects pregnant women's respiratory, immune, and cardiovascular systems, leading to a high risk for cardiopulmonary hospitalization. Studies have shown that cardiopulmonary hospitalization rates due to influenza is around 3, 6, and 10 per 10,000 women among pregnant women in their first, second, and third trimesters, respectively, as compared with approximately 2 per 10,000 women-months among nonpregnant women during influenza season (Neuzil et al., 1998).

The effect of influenza infection is not limited to the pregnant mother, but it also poses a threat to the fetus, although transmission of the virus to the fetus through the placenta is rare (Rasmussen et al., 2012). Exposure to influenza infections during the first trimester of pregnancy increases the risk of any congenital abnormality two times more than that rates for pregnant unexposed to influenza (Luteijn et al., 2014).

Influenza vaccine is routinely recommended in the north hemisphere in October each year and can be given anytime between September and November. It can protect pregnant women and their newborns from influenza-related morbidity and mortality. The protection extends to infants under six months by transmitting antibodies from mother to fetus through the placenta (Descamps et al., 2020).

The uptake and acceptance of the influenza vaccine among pregnant women in the Middle East remain unknown. Few studies have been published about pregnant women's awareness and uptake of the influenza vaccine. They have shown that the rate of pregnant women receiving influenza vaccine during their current pregnancy ranges between 4.6% and 19.8% (AlMusailhi et al., 2019; Dhaouadi et al., 2022; Mayet et al., 2017).

Previous studies revealed poor awareness and knowledge about influenza infections burden and influenza vaccines among pregnant women in the Middle East.

Very few participants from the Middle East believed that the influenza vaccine is safe during pregnancy, while a large proportion of participants believed that it could be dangerous for pregnant women, fetuses, and newborns. It was also reported that participants believed that the vaccine causes birth defects, and ,therefore, pregnant women should avoid all types of vaccinations. (AlMusailhi et al., 2019; Dhaouadi et al., 2022).

However, no published studies from Jordan on the uptake, knowledge, attitudes and perceptions towards seasonal influenza vaccine during pregnancy

1.2. Primary Goal to reduce the burden of influenza infections during pregnancy in Jordan by improving influenza vaccine uptake during pregnancy

1.3. . Objectives

1.3.1. Primary Objective

- To measure the uptake rate of influenza vaccine during pregnancy at representative sites in Jordan

1.3.2. Secondary objectives

- To assess knowledge about influenza and influenza vaccines uptake during pregnancy.
- To identify predictors of influenza vaccine uptake and barriers to uptake during pregnancy.
- To assess attitudes and perceptions of pregnant women toward influenza vaccine uptake.

1.4. Significance of the Study

This study will assess the uptake rate, knowledge, attitudes, beliefs, and barriers related to influenza vaccines among pregnant women in Jordan. The results will help policy makers to design and implement an effective program and strategic plan for improving the uptake rate of influenza vaccine during pregnancy with an overall goal of reducing morbidity and mortality due influenza infections during pregnancy.