Vaccine 34 (2016) 5907–5911

Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

Knowledge, attitudes, and practices of healthcare providers in the country of Georgia regarding influenza vaccinations for pregnant women

Mariam Dvalishvili [a], Darejan Mesxishvili MD [b], Maia Butsashvili PhD MD [b,c], George Kamkamidze PhD MD [b,c], Deborah McFarland PhD MPH [d], Robert A. Bednarczyk PhD [d,e,f,*]

[a] Emory University, Atlanta, GA, USA
[b] School of Public Health, Tbilisi State Medical University, Tbilisi, Georgia
[c] Health Research Union, Tbilisi, Georgia
[d] Hubert Department of Global Health, Rollins School of Public Health, Emory University, Atlanta, GA, USA
[e] Department of Epidemiology, Rollins School of Public Health, Emory University, Atlanta, GA, USA
[f] Emory Vaccine Center, Emory University, Atlanta, GA, USA

ARTICLE INFO

Article history:
Received 3 August 2016
Received in revised form 8 October 2016
Accepted 12 October 2016
Available online 20 October 2016

Keywords:
Influenza
Vaccination
Pregnancy
Recommendations
Health knowledge and beliefs

ABSTRACT

Objective: To document knowledge, attitudes, and practices of Georgian obstetrician-gynecologists concerning influenza infection and vaccination during pregnancy.
Methods: We conducted a cross-sectional study of obstetrician-gynecologists in 8 cities in the country of Georgian, from June to July, 2015, using an anonymous, self-administered, written survey. Collected data included demographics; knowledge, attitudes, and practices related to influenza vaccination during pregnancy; perceptions of influenza infection in pregnancy; perceived barriers to influenza vaccination during pregnancy; and willingness to receive education about influenza infection and vaccination during pregnancy.
Results: A total of 278 obstetrician-gynecologists completed surveys. Most physicians perceived influenza to be a serious infectious disease (88%) and that pregnant women are more susceptible to it than the general population. Only 43% of physicians reported recommending influenza vaccination during pregnancy; 18% reported vaccinating any pregnant patients during the last influenza season. Most (75%) physicians reported a perception that there is insufficient evidence supporting influenza vaccination during pregnancy. Most (93%) were receptive to receiving additional education on maternal vaccination.
Conclusions: Georgian physicians are hesitant to vaccinate pregnant women, but are receptive to education about maternal vaccination. Future educational outreach to Georgian physicians could reduce concerns about maternal vaccination, potentially increasing influenza vaccination among pregnant Georgian women.

1. Introduction

Globally, approximately 3–5 million cases of serious illness from influenza virus occur every year and 250,000–500,000 of these result in death [1]. Pregnant women are among the groups most vulnerable to serious influenza infections and influenza-related complications [1]. Influenza infection during pregnancy can affect fetal growth and development and may even lead to severe complications such as stillbirth, neonatal death and preterm birth [2]. Moreover, the rate of influenza-related hospitalization for infants <6 months of age is higher than that of other high-risk groups, and influenza-associated mortality is most frequent in this age group [3].

Vaccination against influenza is currently the most effective measure to prevent influenza infection. Studies have shown that vaccination benefits both the mother and the child, as the fetus acquires anti-influenza antibody from the mother transplacentally [4,5]. There is evidence that influenza vaccination during pregnancy is effective in protecting infants <6 months of age from influenza infections and severe outcomes of infection [2]. This is

* Corresponding author at: CNR 7019 Hubert Department of Global Health, Rollins School of Public Health, Emory University, 1518 Clifton Rd NE, Atlanta, GA 30322, USA.
E-mail addresses: mdvalis@emory.edu (M. Dvalishvili), daremesxi@yahoo.com (D. Mesxishvili), maiabutsashvili@gmail.com (M. Butsashvili), georgekamkamidze@gmail.com (G. Kamkamidze), dmcfarl@emory.edu (D. McFarland), rbednar@emory.edu (R.A. Bednarczyk).

http://dx.doi.org/10.1016/j.vaccine.2016.10.033
0264-410X/

important as there is currently no approved influenza vaccine for use in this age group [3].

Despite WHO recommendations and studies showing an association of influenza with increased morbidity, hospitalization rate and mortality, and those describing the benefits of influenza vaccination, influenza vaccine distribution in Georgia remains one of the lowest in the WHO EURO region [1,6]. In the Comprehensive Multi-Year Plan of National Immunization Program of Georgia, 2012–2016, influenza vaccine was still not among the immunizations listed for routine recommended use, and furthermore was not mentioned as one of the vaccines which were to be introduced in the future. As of January 2012, Georgia was not among the countries that recommend influenza vaccination for pregnant women [4]. However, the Georgian National Center for Disease Control and Public Health (NCDC) website does provide information about the vaccine, its recommendations, and states the increased risk of influenza in pregnant women [7]. Furthermore, in the Georgian Influenza Pandemic Preparedness National Plan, last updated in 2015, the importance of annually vaccinating for influenza is highlighted and the vaccine is described as recommended for women who will be pregnant during the influenza season [8]. This plan also states that the development of a national surveillance system to track seasonal influenza trends would be useful in predicting an estimate of additional needs which may be required in the event of a pandemic. Indeed, it is essential to understand the availability of resources to effectively plan a response during such a crisis, however, there is no clear evidence of effective routine monitoring and surveillance of severe influenza cases, especially among pregnant women [9,10].

One of the factors commonly associated with low influenza vaccine coverage in pregnant women is the physician's and the mother's beliefs about how vaccination during pregnancy effects the fetus [4]. In other vaccine studies, a physician recommendation has been shown to be one of the best predictors of maternal influenza vaccination uptake [11,12]. Little is known about Georgian o bstetrician-gynecologists' perceptions of influenza infection and vaccination during pregnancy or the extent to which they recommend influenza vaccine for their pregnant patients. We conducted this cross-sectional study to document the knowledge, attitudes, and practices of Georgian obstetrician-gynecologists about influenza vaccinations during pregnancy to determine the major barriers to protecting pregnant women and their babies from influenza.

2. Materials and methods

We recruited obstetrician-gynecologists through convenience sampling methods in multiple private and public maternity clinics and hospitals in 8 Georgian cities: Tbilisi, Rustavi, Batumi, Caspi, Kutaisi, Tskaltubo, Gori, and Kobuleti, between June 28, 2015, and July 30, 2015. The sampling was designed to detect a proportion of 50% positive knowledge and attitudes among providers, with a 95% confidence interval ranging between ±7.5% and ±5%. Within these parameters, 182–384 surveys would be required, respectively. Given prior sampling of providers in Georgia yielding nearly 300 surveys, we aimed to collect between 200 and 300 surveys.

We approached physicians overseeing pregnant patients, informed them of the study, and sought verbal informed consent. Physicians who consented to participate were given a copy of the informed consent document for their reference We did not collect signed informed consent, as this would be the only way to link individual surveys to providers. Surveys were provided to physicians who consented to participate, and study team members returned approximately two days later to collect completed surveys.

Data were collected using a self-administered, paper-based anonymous survey. The survey instrument was developed based largely on previous work by Bednarczyk et al. [13] as a part of their research into Georgian physicians' knowledge, attitudes and practices related to cervical cancer prevention. We designed the survey for maximal convenience to the participants, and to optimize data quality, by primarily including questions with multiple choice or Likert scale response options, with few open-ended questions. Our survey contained questions on: participant demographics; knowledge, attitudes, and practices about influenza and influenza vaccination for pregnant women; and willingness to receive additional information about relevant topics. Knowledge was assessed through questions asking about percent of the general population and pregnant women vaccinated for past and most recent influenza seasons, why the general population and pregnant women are refusing to get influenza vaccines, from where influenza vaccine recommendations received, and vaccine country origin. Attitudes were assessed using questions asking about perception of influenza vaccine safety and seriousness of influenza disease during pregnancy. Practices were assessed using questions about providing recommendations for influenza vaccinations, trimester of vaccination, and reasons for not giving influenza vaccines to pregnant women.

The survey was deemed exempt by the Emory University Institutional Review Board, Atlanta, Georgia, and approved by the Institutional Review Board of the Health Research Union, Tbilisi, Georgia.

Data from completed surveys were entered into Microsoft Excel version 15.21.1 (Microsoft, Redmond, WA, USA) and 10% of the surveys were picked at random to verify for accuracy. The Excel file was imported into RStudio (Version 0.98.1087, R Foundation for Statistical Computing, Vienna, Austria) and descriptive statistics, including frequency and percentages, were computed. All statistical analyses were performed using R and OpenEpi with an α value of 0.05. Surveys completed by non-physicians were excluded. Influenza vaccine knowledge, attitudes and practices were compared across demographic variables using prevalence ratios with 95% confidence intervals.

3. Results

A total of 280 (68%) surveys were completed out of the 411 that were distributed. We excluded 2 surveys from analysis because they were completed by nurses. The majority of the surveys (174/278 [63%]) were completed in Tbilisi. The physicians were mainly female (228/278 [82%]) with 27% (76/278) aged 51 years of older and 24% (66/278) aged 39 years or younger (Table 1).

Of the respondents, 43% (120/278) said that they recommend influenza vaccination for their pregnant patients during pregnancy, but only 18% (50/278) reported actually vaccinating their pregnant patients during the last influenza season. The most commonly selected source for new vaccine recommendations was the Georgian government (104/278 [37%]). While 48% of physicians who selected the government as a source of new recommendations reported recommending influenza vaccine during pregnancy, 59% of physicians who indicated getting recommendations from scientific journals recommended getting an influenza vaccine during pregnancy (Table 2).

The most common reason reported for not giving a pregnant patient an influenza vaccination was concerns about side effects on the mother and the potential for it to harm the fetus/baby. Additionally, some physicians also indicated that they did not feel they had enough information/knowledge about the topic to risk vaccinating a pregnant patient and that they were concerned about