



## Research Article

### STUDENTS' KNOWLEDGE AND ATTITUDE TOWARD SAFETY OF INFLUENZA VACCINE INJECTION DURING PREGNANCY AND FOR CHILDREN

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#### ABSTRACT

**Introduction:** The annual seasonal influenza vaccine has been recommended for all individuals older than six months of age and is of particular importance to pregnant women and small children. The knowledge and attitude of pharmacy students need to be addressed to increase public awareness. **Materials and Methods:** In this study, a sample of Pharm. D students was selected to run the analysis (n = 55). The responses recorded were either “yes” or “no” to the key questions “influenza vaccine injection is safe”, representing knowledge and “tend to recommend influenza vaccine injection or feel comfortable doing so”, representing attitude. **Result and Discussion:** Although no statistical difference was found between knowledge and attitude, a high percentage of students were unaware that the influenza vaccine injection is safe for children and pregnant women. **Conclusion:** Increasing awareness of influenza vaccine injection safety and health education level is a requirement.

**KEY WORDS:** Influenza, vaccine, safety, pregnancy, paediatrics, knowledge, attitude, Pharm. D.

#### INTRODUCTION

Eight years have passed since the recommendation for the annual influenza vaccine<sup>1</sup>. In the 2018-19 season, the Centers for Disease Control and Prevention (CDC) has continued to highlight the importance of vaccination, especially for all children older than six months and women who are pregnant (or planning to be) during the influenza season. These two populations are considered to be at high risk for severe influenza complications<sup>2</sup>. In our daily communication with the public, we still notice a lack of full knowledge and understanding of adverse drug events, and fear of teratogenicity (birth defect). On the other hand, sometimes knowing these facts (knowledge) does not guarantee an attitude (what they tend to do). One study showed that around 40% of pharmacy students believed that immunisation in general is not mandatory and should be a personal choice<sup>3</sup>. A cross-sectional study in postpartum women revealed that 80% thought that the vaccine was teratogenic<sup>4</sup> in another survey revealed severe deficiency of knowledge amongst health workers caring for women and neonates<sup>5</sup>. A Saudi study found low uptake of influenza vaccine during pregnancy<sup>6</sup>. Examining Pharm. D students' awareness of influenza vaccine safety before targeting the public may be of special priority. There is no published study focusing on this question.

The aim of this study is to investigate whether Pharm. D students have knowledge of the safe use of the influenza vaccine injection in children over six months of age and in pregnant women, and to examine their attitude, assuming it is safe, in terms of whether they would feel comfortable recommending the vaccine.

#### MATERIALS AND METHODS

This study was conducted at the college of pharmacy of Princess Nourah bint Abdul Rahman University PNU, a female-only

university located in Riyadh, Saudi Arabia. The total number of students enrolled in the college of pharmacy is 703. The sample of students was randomly selected from the pharmacy college building due to easy access and the time frame available. Although this selection method may introduce bias, it is assumed to be accurate due to the homogeneity of the population (same college at the same time). Fifty-five female Pharm. D students were asked about their knowledge of the safety of the influenza vaccine injection in pregnancy and in children, and then their attitude, assuming it is safe, if they are going to recommend vaccination. Data were collected during the period 24 to 25 September 2018. Students' responses were recorded as “yes” or “no”. The data were analysed using SPSS version 24 (SPSS Inc., Chicago, IL, USA) for descriptive and analytical statistics. Cronbach's alpha of 0.743 was confirmed for the validity of the test items.

#### ETHICS APPROVAL

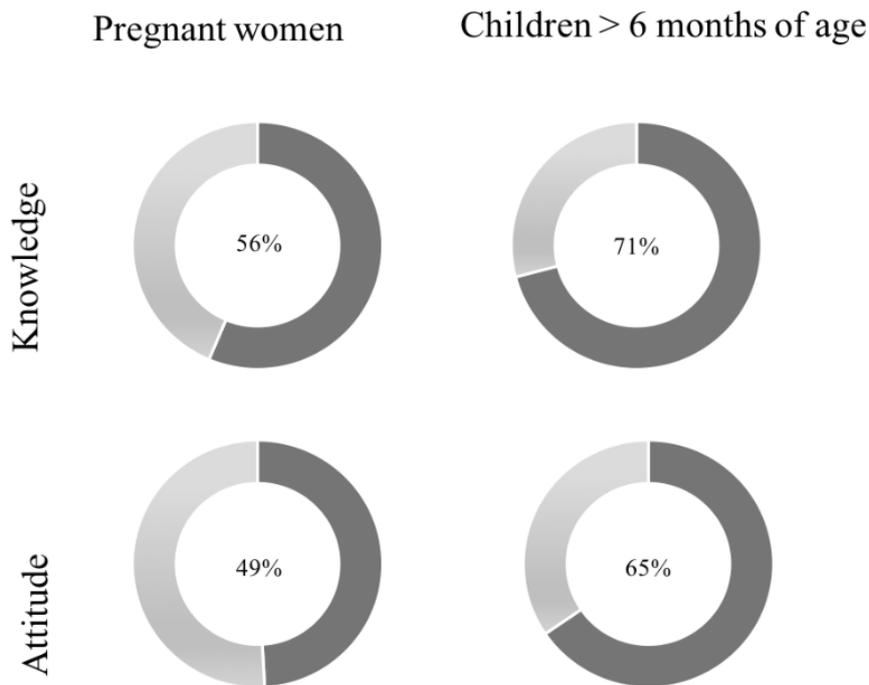
For this study all procedures were in accordance with the ethical standards of the Scientific Research Ethics Committee for Saudi Universities and with the 1964 Helsinki declaration and its later amendment.

#### RESULT AND DISCUSSION

Students' responses from the sample (n = 55) are summarised in figure 1 for clear illustration. For the knowledge questions, 56% (31/55) of the sample agreed that it is safe for the influenza vaccine injection to be given to pregnant women, and 71% (39/55) to children > 6 months of age.

For the attitude questions, 49% (27/55) felt comfortable recommending the vaccine injection for pregnant women and 65% (36/55) for children > 6 months of age.

	Pregnant women		Children > 6 months of age	
	Knowledge (%)	Attitude (%)	Knowledge (%)	Attitude (%)
Yes	56	49	71	65
No	44	51	29	35



**Figure 1: Summary results of Pharm. D students' knowledge\* and attitude\*\* as percentage % for both pregnant women and children > 6 months of age**

\* Knowledge "influenza vaccine injection is safe"

\*\* Attitude "tend to recommend influenza vaccine injection or feel comfortable to do"

There was no statistical significance between the knowledge and attitude responses for each category (pregnant women or children > 6 months of age). The high percentage of students who did not know about the safety of the influenza vaccine injection should be considered to improve awareness. It is worrying if pharmacy students, our future healthcare providers, are not well informed about the safety and risks of such a vaccine. The author suggests promoting awareness through campaigns, college bulletins, university newsletters, and above of all to expand disease control taught topic in assigned courses within the curriculum.

The limited sample size and the method of selection should be taken into account when considering the generalisability of the findings.

## CONCLUSION

To address the magnitude of students' lack of knowledge and to change attitudes, awareness efforts toward safe influenza vaccine injection uptake should start at the university level. Public awareness of the safety of the influenza vaccine injection in children and during pregnancy is lacking in the Saudi community. Addressing this issue starts from academic institutions. This is the first investigation in any Saudi college of pharmacy and should

help to improve education in assigned courses on infectious diseases and public health.

## REFERENCES

1. Fiore AE, Uyeki TM, Broder K, Finelli L, Euler GL, Singleton JA, et al. Prevention and control of influenza with vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2010: Department of Health and Human Services, Centers for Disease Control and Prevention; 2010. [cited 2018 Nov 14]. Available from: <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5908a1.htm>
2. Grohskopf LA, Sokolow LZ, Broder KR, Walter EB, Fry AM, Jernigan DB. Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices-United States, 2018-19 Influenza Season. *Morbidity and Mortality Weekly Report Recommendations and Reports.* 2018;67(3):1-20.
3. Kubli K, McBane S, Hirsch JD, Lorentz S. Student pharmacists' perceptions of immunizations. *Currents in Pharmacy Teaching and Learning.* 2017;9(3):479-85.
4. Yudin MH, Salaripour M, Sgro MD. Pregnant women's knowledge of influenza and the use and safety of the

- influenza vaccine during pregnancy. *Journal of Obstetrics and Gynaecology Canada*. 2009;31(2):120-5.
5. Esposito S, Tremolati E, Bellasio M, Chiarelli G, Marchisio P, Tiso B, et al. Attitudes and knowledge regarding influenza vaccination among hospital health workers caring for women and children. *Vaccine*. 2007;25(29):5283-9.
6. Mayet AY, Al-Shaikh GK, Al-Mandeel HM, Alsaleh NA, Hamad AF. Knowledge, attitudes, beliefs, and barriers associated with the uptake of influenza vaccine among pregnant women. *Saudi Pharmaceutical Journal*. 2017;25(1):76-82.

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