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Review Article

Awareness about Influenza Vaccination among the General Population of Saudi Arabia: Review Article

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Abstract

Background: Influenza virus cause acute respiratory infection called seasonal influenza. Influenza is a serious public health issue which causes severe illness and death among populations at high risk.

Aim: The review aims to determine awareness about influenza vaccination among public.

Conclusion: Seasonal influenza is presenting in one of three basic antigen types A, B or C. The virus is transmitted by droplets produced when the patient coughs or sneezes. The most important and common complication of influenza is pneumonia. The virus can affect other body systems like the musculoskeletal, cardiac, and neurological systems. The most effective way to prevent transmission of illness is through annual influenza vaccination. We need to focus on the education and awareness of the population about the vaccine, because lack of information can decrease the uptake of the vaccine.

Keywords: *Influenza Vaccination; General Population*

Introduction

Influenza virus cause acute respiratory infection called seasonal influenza which circulates in all parts of the world. It exhibits in one of three basic types of antigen A, B or C. The virus may cause moderate to severe illness, with dangerous complications such as secon-

dary bacterial pneumonia, myocarditis or aggravation of established chronic pulmonary or cardiopulmonary diseases [1]. The virus is transmitted by droplets produced when the patient coughs or sneezes. Close contact frequently gets infected. Influenza affects the upper respiratory organs and other organs such as the heart, brain, and muscles are involved [2]. Annual influenza epidemics attack 5 - 15% of the population, causing approximately 3 - 5 million cases of severe illnesses worldwide and between 250,000 and 500,000 deaths annually [3]. Seasonal influenza was responsible for 34,400 - 57,300 deaths during the 2018 - 2019 [4]. Serious disease and death are highest among people 65 years of age and children < 2 years of age [5]. Influenza is an important cause of morbidity and mortality, especially for vulnerable groups, such as pregnant women, the elderly and children, and people living with chronic disorders [6].

Prevalence

Flu occurs in distinct outbreaks of varying extension and intensity every year. Factors such as the changing nature of the virus ' antigenic properties, virus transmissibility and population susceptibility are responsible for influenza's epidemiological pattern [2]. It is widely believed that influenza incidence is higher in children than in adults [7].

Causes

Influenza viruses belong to the family of viruses termed "Orthomyxoviridae", an RNA type virus with diverse antigenic characteristics. Influenza viruses are divided into 3 main types: A, B and C. Most of the flu outbreaks and epidemics are caused by types A and B [8,9]. Respiratory secretion of influenza-stricken patients is often present with large amounts of virus load. A further potential source of disease transmission is interaction with polluted surfaces [10].

Symptoms

The symptoms include high fever, body ache, headache, severe malaise, dry cough, sore throat, and runny nose. Clinical presentations should distinguish influenza from common cold [2]. Incubation period is on average 2 days but may range in length from 1 to 4 days. Transmission may occur 1 day before the onset of symptoms [11]. Transmission may occur by asymptomatic individuals or people with subclinical disease who may not be aware of their exposure to the disease [12,13]. 33% of with influenza patients are asymptomatic [14].

Diagnosis

Most cases of influenza are diagnosed based on their clinical manifestations [2]. The diagnosis of influenza was based on clinical criteria. Chest radiography should be performed to exclude pneumonia in high-risk patients with pulmonary symptoms or elderly [15].

Complication

The most important and common complication of influenza is pneumonia, not least in high-risk individuals. Pneumonia can occur as a spectrum of acute grippe syndrome [2]. The virus can affect other body systems, including the musculoskeletal, respiratory, and neurological systems [16]. Mild myositis with sore leg or back muscles can be seen mainly in children, though it may occur in adults and may be followed by signs of painful walking or standing. Guillain – Barré syndrome, encephalitis, acute liver failure or Reye syndrome may occur as a complication after influenza A infection [2].

Prevention

Vaccination

Potent and safe vaccines are available to combat the seasonal burden associated with influenza infections. Vaccines administration is centered on evidence-based recommendations that ensure the effective and safe use of influenza vaccines [17]. The WHO stresses that vaccination is important for people at higher risk of serious complications of the influenza [18,19].

Among healthy adults, influenza vaccine can prevent 70 - 90% of influenza-specific illness. Among the elderly, the vaccine reduces severe diseases and complications by as much as 60% and deaths by 80% [20]. Influenza vaccine uptake rates regularly fail to reach the

recommended vaccination coverage target of 75% set by national and international programs within specific risk groups [21,22]. Certain factors were associated with noncompliance with vaccination, which include misconceptions regarding influenza vaccine efficacy, concerns about adverse effects, and fear of contracting illness [23]. Different factors as demographic characters, knowledge, attitude, other diseases, and healthcare system satisfaction have been associated with influenza vaccination uptake [24]. A good knowledge level and a positive attitude have always been positively correlated with getting vaccinated [24,25]. Past studies in Europe and the United States showed that low seasonal vaccination coverage levels (VCRs) were due to lack of or insufficient advice from general practitioners (GPs), poor public knowledge of influenza and influenza vaccinations, lack of appropriate monitoring systems, and fear of needles [26,27]. A study performed among college students in US universities showed very low uptake of influenza vaccination. It was noted that healthy students lacked the motivation to receive it. However, after a targeted awareness campaign about the benefits and risks of vaccination in healthy individuals and the need to understand access to and utilization of health care by college students, the number of students accepting the vaccine increased significantly, showing that awareness and counter-measures can improve vaccine uptake [28,29]. Certain considerations such as worries about catching H1N1, being seriously ill due to influenza and protecting certain members of the family were almost equally important [30]. Previous studies involved the knowledge and attitude of health care workers (HCW) toward influenza vaccine. One of the studies done in the Middle East showed that uptake of the vaccine by the HCW was below standard [31]. Another study done in KSA for pregnant women also showed poor knowledge [32] and other showed that physician had a poor influence on elderly and high-risk groups [33]. Rising vaccination rates could be accomplished by raising the population's health literacy about influenza and treatment options [34]. Many studies have been conducted in the Middle East to determine influenza vaccine awareness and vaccine acceptance among health care professionals, but not knowledge of influenza disease and its vaccine among the general adult population or children [35-37]. We need to focus on the education and awareness of the population about the vaccine, because lack of information can decrease the uptake of the vaccine.

Conclusion

Seasonal influenza is presenting in one of three basic antigen types A, B or C. The virus is transmitted by droplets produced when the patient coughs or sneezes. The most important and common complication of influenza is pneumonia. The virus can affect other body systems like the musculoskeletal, cardiac, and neurological systems. The most effective way to prevent transmission of illness is through annual influenza vaccination. We need to focus on the education and awareness of the population about the vaccine, because lack of information can decrease the uptake of the vaccine.

Bibliography

1. World Health Organization. “Topics: immunizations vaccines and biologicals” (2008).
2. Moghadami M. “A Narrative Review of Influenza: A Seasonal and Pandemic Disease”. *Iranian Journal of Medical Sciences* 42.1 (2017): 2-13.
3. WHO/CDC. “Influenza pandemic handbook for journalists” (2005).
4. Centers for Disease Control and Prevention. “Key Facts About Seasonal Influenza (Flu)”. *Centres for Disease Control and Prevention* (2019).
5. Barker WH and Mullooly JP. “Impact of epidemic type A influenza in a defined adult population”. *American Journal of Epidemiology* 112 (1980): 798-811.
6. World Health Organization (WHO). “Seasonal Influenza Fact Sheet” (2018).
7. Glezen WP and Couch RB. “Interpandemic influenza in the Houston area, 1974-76”. *The New England Journal of Medicine* 298 (1978): 587-592.

8. Mosnier A., *et al*. "Clinical Characteristics Are Similar across Type A and B Influenza Virus Infections". *PLoS One* 10 (2015): e0136186.

9. Poon LL., *et al*. "Quantifying influenza virus diversity and transmission in humans". *Nature Genetics* 48 (2016): 195-200.

10. Bhat N., *et al*. "Influenza-associated deaths among children in the United States 2003-2004". *The New England Journal of Medicine* 353 (2005): 2559-2567.

11. Gu Y., *et al*. "Pandemic (H1N1) 2009 transmission during presymptomatic phase, Japan". *Emerging Infectious Diseases* 17.9 (2011): 1737-1739.

12. Guharoy R., *et al*. "West Nile virus infection". *American Journal of Health-System Pharmacy* 61.12 (2004): 1235-1241.

13. Jefferson T., *et al*. "Vaccines for preventing influenza in healthy adults". *Cochrane Database of Systematic Reviews* (2010): CD001269.

14. Carrat F., *et al*. "Time Lines of Infection and Disease in Human Influenza: A Review of Volunteer Challenge Studies". *American Journal of Epidemiology* 167.7 (2008): 775-785.

15. Hien H Nguyen. Influenza.

16. Kallen AJ., *et al*. "Staphylococcus aureus community-acquired pneumonia during the 2006 to 2007 influenza season". *Annals of Emergency Medicine* 53 (2009): 358-365.

17. Centre for Disease Control and Prevention (CDC). "Prevention strategies for influenza in healthcare settings". Guidelines and recommendations (2018).

18. Nichol KL., *et al*. "Burden of influenza-like illness and effectiveness of influenza vaccination among working adults aged 50-64 years". *Clinical Infectious Diseases* 48 (2009): 292-298.

19. Meerhoff TJ., *et al*. "Surveillance for severe acute respiratory infections (SARI) in hospitals in the WHO European region - an exploratory analysis of risk factors for a severe outcome in influenza-positive SARI cases". *BMC Infectious Diseases* 15 (2015): 1.

20. WHO. "Influenza (Seasonal)" (2009).

21. Jorgensen P., *et al*. "How close are countries of the WHO European Region to achieving the goal of vaccinating 75% of key risk groups against influenza? Results from national surveys on seasonal influenza vaccination programmes, 2008/2009 to 2014/2015". *Vaccine* 36 (2018): 442-452.

22. World Health Organization (WHO). "Global Influenza Programme. Seasonal Influenza Vaccine Use in Low and Middle Income Countries in the Tropics and Subtropics - A Systematic Review" (2015).

23. Piccirillo B and Gaeta T. "Survey on use of and attitudes toward influenza vaccination among emergency department staff in a New York metropolitan hospital". *Infection Control and Hospital Epidemiology* 27 (2006): 618-622.

24. Yeung MPS., *et al*. "Factors associated with the uptake of seasonal influenza vaccination in adults: a systematic review". *Journal of Public Health (Bangkok)* 38 (2016): 194.

25. El Khoury G and Salameh P. "Influenza vaccination: a cross-sectional survey of knowledge, attitude and practices among the Lebanese adult population". *International Journal of Environmental Research and Public Health* 12 (2015): 15486-15497.

26. Johnson DR., *et al*. "Barriers to adult immunization". *The American Journal of Medicine* 121 (2008): S28-35.

27. Blank PR., *et al*. "Vaccination coverage rates in eleven European countries during two consecutive influenza seasons". *Journal of Infection* 58 (2009): 446-458.

28. RA Bednarczyk *et al*. "Low uptake of influenza vaccine among university students: evaluating predictors beyond cost and safety concerns". *Vaccine* 33 (2015): 1659-1663.

29. Eman Y Abu-rish., *et al*. "Knowledge, awareness and practices towards seasonal influenza and its vaccine: implications for future vaccination campaigns in Jordan". *Family Practice* 33.6 (2016): 690-697.

30. Malosh R Ohmit SE Petrie JG., *et al*. "Factors associated with influenza vaccine receipt in community dwelling adults and their children". *Vaccine* 32 (2014): 1841-1847.

31. Abu-Gharbieh E., *et al*. "Influenza Vaccination: Healthcare Workers Attitude in Three Middle East Countries". *International Journal of Medical Sciences* 7.5 (2010): 319-325.

32. Mayet AY., *et al*. "Knowledge, attitudes, beliefs, and barriers associated with the uptake of influenza vaccine among pregnant women". *Saudi Pharmaceutical Journal* (2016).

33. Nichol KL and Zimmerman R. "Generalist and Subspecialist Physicians' Knowledge, Attitudes, and Practices Regarding Influenza and Pneumococcal Vaccinations for Elderly and Other High-Risk PatientsA Nationwide Survey". *Archives of Internal Medicine* 161.22 (2001): 2702-2708.

34. Thomas RE., *et al*. "Influenza vaccination for healthcare workers who work with the elderly". *Cochrane Database of Systematic Reviews* 2 (2010): CD005187.

35. Abu-Gharbieh E., *et al*. "Influenza vaccination: healthcare workers attitude in three Middle East countries". *International Journal of Medical Sciences* 7 (2010): 319-325.

36. Romani MH., *et al*. "Family physicians beliefs and attitudes regarding adult pneumococcal and influenza immunization in Lebanon". *Family Practice* 2 (2011): 632-637.

37. Alshammari TM., *et al*. "Health care professionals' awareness of, knowledge about and attitude to influenza vaccination". *Vaccine* 32 (2014): 5957-5961.

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