

Review Article

Seasonal influenza vaccination: from hesitancy to social norm

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ABSTRACT

Seasonal influenza is of the most globally burdening vaccine-preventable diseases, infecting 3-5 billion people annually and according to the World Health Organisation (WHO) resulting in 250,000 to 500,000 deaths worldwide. Vaccination against influenza and all respiratory infections carries greater emphasis in the light of the COVID-19 pandemic. With added pressure on healthcare systems due to the coronavirus, Qatar is one country that is keen to emphasise the importance of influenza vaccination to prevent potential co-infection causing severe disease especially in high-risk groups. Currently seasonal influenza vaccines protect against 3 or 4 strains with revised data from the WHO twice yearly due to the changing natures of strains helping to maximise efficacy of the vaccines. It is recommended for specific high-risk groups to be prioritised for vaccination, including pregnant women, the elderly, children above 6 months of age, patients with chronic conditions as well as front line healthcare workers with risk of exposure. However, uptake of the vaccine remains low and contributes significantly to the burden of the disease. Barriers to vaccine uptake can be physical, such as unhealthy lifestyles, psychological, such as perception of disease as low-risk, contextual, such as lack of access to vaccinations, or sociodemographic, such as living alone. Vaccine coverage can be increased by knowledge of these barriers and how to address them. The physical barriers highlight the need to support behavioural change in lifestyle in order to increase vaccine uptake. Psychological barriers, usually due to misconceptions, can be addressed with education through public health campaigns and interactions between health professionals and patients. This education is not just a need for patients but also healthcare workers. It is up to healthcare providers and contractors to find ways of addressing contextual and sociodemographic barriers by increasing access to vaccination whether through transport, or home-care etc. A key barrier of those mentioned to vaccination is a lack of knowledge which needs to be addressed though positive discussions about the health benefits of immunisation as well as the traditional idea of disease-risk prevention. Addressing the above barriers will help to increase vaccine uptake, and produce health-conscious societies where vaccination becomes a social norm.

Keywords: Seasonal influenza, Vaccination, Social norm

INTRODUCTION

One of the key successful components of preventative medicine in primary healthcare is the global story of immunisation.¹ From smallpox inoculation by the ancient Chinese to the currently emerging vaccine against the highly unprecedented COVID-19 pandemic, vaccination is now able to prevent over 20 life-threatening illnesses and 2-3 million deaths each year.¹⁻³ Of the most globally

burdening diseases requiring vaccination is seasonal influenza infecting 3-5 million people annually and resulting in 250,000 to 500,000 deaths each year.⁴ It was in 1933 when British scientists isolated Influenza as a virus due to widespread disease which was first thought to be caused by the bacterium *haemophilus influenzae*.^{5,6} The next ten years would witness the creation of the first influenza vaccine, followed by a vaccine against strains A and B using embryonic chicken eggs, and ever since the

vaccine has been in a state of continuous reformulation in order to match the changing trends in strains.^{5,7,8}

In current times one of the countries in the Middle East leading the battle against seasonal influenza is Qatar.⁹ With its current 2020 ‘fight the flu’ campaign emphasised as being more important than ever in the light of the COVID-19 pandemic, its government organisations of the Ministry of Public Health, Hamad Medical Corporation and primary healthcare corporation have come together to ensure that the seasonal influenza vaccine is available to the whole population for free.^{9,10} Seasonal influenza vaccine will not protect against COVID-19 but its uptake has become all the more important in the latter’s pandemic in order to minimise pressure on healthcare systems which are already stretched.¹¹ The vaccine is also beneficial in preventing co-infection with influenza and COVID-19 which may cause more severe disease particularly in high-risk groups.

This paper will review what the seasonal influenza vaccine protects against and who it is most recommended for. It will further explore the barriers for uptake and how they can be overcome in an attempt to maximise uptake.

The seasonal influenza vaccine; what does it protect against?

Current seasonal influenza vaccines can be trivalent, protecting against two A strains and one B strain, or quadrivalent protecting against 2 strains of each type A and B.⁸ This season (2020-2021), the quadrivalent vaccine has been made available in Qatar.¹² As alluded to above, the strains of influenza can change from season to season and region to region, therefore twice a year the World Health Organisation (WHO) provides revised data on the most prevalent strains through its global influenza surveillance network.¹³ This helps to maximise the efficacy of the vaccine in each season and area.¹⁴

The high-risk groups; who are the target group?

The WHO recommends prioritising vaccination for specific high-risk groups including pregnant women, the elderly, children above 6 months of age, patients with chronic conditions as well as front line healthcare workers with high risk of exposure.¹⁵

Pregnant women

A systematic review found that influenza infection during pregnancy resulted in more hospital admissions than influenza in non-pregnant patients.¹⁶ The anatomical and physiological changes in pregnancy are a cause for increased risk of respiratory illnesses like influenza as well as increased risk of respiratory failure.¹⁷ The immune system also undergoes changes during pregnancy and an immunosuppressive state can occur.¹⁸ Seasonal influenza has also been found to affect fetuses with significant associations finding it to cause perinatal mortality

including miscarriages, stillbirths, early neonatal diseases and deaths.^{19,20}

The elderly

The immune system gets weaker with age making the elderly people among the high-risk population.¹⁰

Children

Rates of seasonal influenza infection are considered highest in children due to lack of prior immunity and exposure to the virus.²¹ Vaccination for those below 6 months of age is covered by maternal immunisation during pregnancy.²¹

Vaccine uptake; what are the barriers?

Despite the global burden of seasonal influenza and the availability of safe vaccination on an annual basis, uptake of the vaccine remains low around the world and contributes significantly to the burden of the disease.²² As already mentioned, this burden will only add more pressure to healthcare systems in light of the COVID-19 pandemic, making the increase of vaccine uptake of paramount importance. The WHO defined the concept of vaccine hesitancy which “refers to a delay in acceptance or refusal of vaccination services despite availability of vaccination services”.²³ Such hesitancy can be due to barriers which are physical, psychological, contextual or socio-demographical in nature.^{24,25}

Studies have found unhealthy lifestyles such as alcohol consumption and smoking to be among the key physical barriers to influenza vaccine uptake.^{26,27} Other physical barriers include, lower body mass index, decreased physical activity and not having a pre-existing medical condition.²⁷⁻²⁹

Psychological barriers include perceiving the disease to be of low risk, and the perception that one is less susceptible to the disease.^{30,31} Also, a higher perceived risk of the vaccine causing adverse events, has been reported as a psychological barrier to vaccine uptake.³² Vaccine hesitancy was also found in those who lacked the belief that immunisation carries a social benefit – i.e. protecting others through herd immunity. This was particularly found in studies among healthcare professionals, and pregnant women with regards to their unborn child.^{33,34} A lack of perceived social pressure coming from significant others in peoples’ lives to get vaccinated has been shown to correlate with decreased vaccine uptake.³⁵ A negative attitude to the vaccine, and the belief that it is not effective has been found to be a major barrier to uptake.³⁶ It is also reported that those who have not had previous experience of influenza infection are less likely to get vaccinated, as well as some who have suffered with it due to the belief that they have become immune to the strain the vaccine protects against.^{28,33} This was particularly among healthcare professionals, and also in this context, studies

have noted lesser professional experience to be a barrier for vaccine uptake.³⁷ A lack of general knowledge about influenza and the vaccine has been reported as a significant barrier among all high-risk groups.²⁸ This includes a lack of specific education for healthcare professionals, as well as belief in misconceptions such as the vaccine causing flu or causing miscarriage or birth defects among pregnant women.³⁷⁻³⁹

Contextual barriers to vaccine uptake include inconvenience factors such as means of transportation to clinics and expenses.³¹ Also, those who access healthcare less frequently are also less likely to get vaccinated.³⁸ As well as this, not having a regular source of care, such as a primary care physician, has been reported as a barrier for vaccine uptake.⁴⁰ It has been reported that patients who have not received a direct recommendation are less likely to get vaccinated whether that be from a medical professional or a relative.^{32,41} Patients living in more socioeconomically deprived areas are less likely to get vaccinated.²⁷

Sociodemographic factors for vaccine hesitancy include living alone and being unmarried.^{42, 40}

Overcoming the barriers

Knowledge of the abovementioned barriers to vaccine uptake present an opportunity for healthcare systems and professionals to tailor immunisation programmes in order to increase coverage.

The association with physical barriers such as smoking, alcohol consumption and reduced physical exercise highlights the importance of supporting behavioural change in lifestyle to increase vaccine uptake as part of an overall endeavour for better health and quality of life outcomes.⁴³ Lifestyle and behavioural changes, which include improvements in diet and exercise, smoking-reduction, and treatment uptake has been shown to contribute to mortality declines for other conditions such as cancers, stroke and myocardial infarction.⁴⁴ Therefore, an influenza vaccine campaign would do well to incorporate behavioural-change interventions as such interventions can lead to better self-care and preventative health measures.

As already alluded to, when deciding whether to get vaccinated, patients may make a risk versus benefit analysis based on the psychological factors mentioned above according to their level of knowledge.⁴⁵ However, these analyses by patients can often be flawed especially where it leads to a low opinion of vaccination against the clear benefit proven by countless of clinical studies. Therefore, initiatives to increase sound understanding among patients is another way of increasing vaccine uptake. One of these initiatives may be an effective public health campaign the principles of which can be found discussed by French et al detailed in Table 1.

Table 1: What makes a successful public health campaign?⁴⁶

Sl no.	What makes a successful public health campaign
1	An evidence base that provides a convincing case for taking action – for policy-makers, healthcare providers and for the general public
2	Political commitment, provision of resources and support for actions
3	An environment and infrastructure that supports the target audience to make the desired health behaviour changes
4	Acceptance and support of the message delivered by healthcare community
5	Delivery of a simple, effective message to a sufficient proportion of the audience to ensure the campaign’s messages and themes are broadly known and carry sufficient weight in the overall media landscape.
6	Process analysis with rigorous monitoring, evaluation, to allow midcourse corrections and programme improvement.

Good education on influenza vaccination seems to meet most if not all of the above criteria. Information on the risks and serious consequences of influenza infection and transmission may be a cause for patients to seek vaccination. However, a balance needs to be struck, as risk-based campaigns are not always effective and can be sometimes counterproductive.⁴⁷ This common approach may sometimes help to reinforce an environment where vaccination is associated with risk or risk-avoidance. More positive messages such as the social benefit of vaccination through herd immunity and community protection can help to improve uptake.⁴⁸ Presenting vaccination as a health benefit rather than risk-avoidance may improve intention to vaccinate, although risk discussion still has a part to play and needs to be addressed. Positive promotion can also include information about efficacy of the vaccine.^{49,50}

Also, it’s important to recognize the value of consultation and direct discussion between health professionals and patients.⁵¹ Information and education can be delivered through leaflets, newsletters and various media, but facilitating time to explain this information to patients can help to increase vaccine uptake.⁵¹ This should be done with care and attention away from busy clinics. Patients have also reported that they are more likely to get vaccinated if recommended to them by a medical professional.⁵¹ Therefore, professionally interpersonal relationships with patients have an important part to play.

It is also worth noting from the mentioned findings that education is not just important for patients but just as much so for healthcare workers. The fact that health professionals have been found to believe some of the same

misconceptions as patients, highlights an unmet educational need which can only be tackled with appropriate training.³⁷ A good example of this is the annual infection prevention and control week organized by Qatar's primary healthcare corporation which incorporates lectures on influenza vaccination tailored for healthcare workers and patients.¹²

Contextual and sociodemographic barriers to vaccine uptake can be tackled by healthcare providers and contractors at all levels. This is mainly to increase access whether it be by making transport means more accessible, outreach clinics, home-care etc.

DISCUSSION

It is quite clear from the research conducted that a key barrier to influenza vaccine uptake is a lack of knowledge of the benefits and efficacy of the vaccine as well as the risks associated with not taking it. This lack of knowledge which is accompanied by misconceptions seems to permeate all high-risk groups including healthcare professionals. Such a need can only be tackled with education, training and interactive engagement of one receiving the vaccine, whether that be patient or healthcare worker. Healthcare providers need to engage with society at all levels, be it in the consultation room or through media and public health campaigns or even in the patient's very own home.

Discussions about the influenza vaccine need to incorporate its positive health benefits so that it is seen as a way of enhancing one's health status and not just as a way of preventing spread of infectious disease, although the latter still carries significant value

CONCLUSION

Breaking down barriers to vaccine uptake using the principles mentioned will not only increase vaccination rates but also produce knowledgeable individuals in society thereby creating a health-conscious culture among families, communities and professionals. The spreading of such knowledge is the beginning to arriving at the ideal scenario where influenza vaccination becomes a societal and social norm, where people feel safe and confident with vaccination as well as being enthusiastic about being immunized.

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