The Shingles Vaccine (Zostavax)-

Is it effective? Is it affordable? Is it available?

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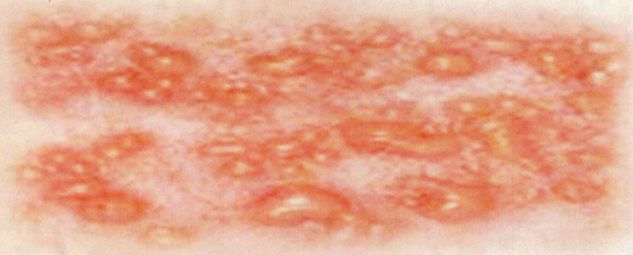

Introduction

Having experienced shingles and seeing the effects of the virus while on placement, I was interested to research more about how the shingles vaccination (Zostavax) in adults over 50 years minimises the occurrence of shingles (efficacy), why it is unavailable to those under 50 (availability) and cost effectiveness of the vaccine (affordability). Shingles, also known as Herpes Zoster, is caused by the varicella-zoster virus which also causes chickenpox (McIntyre, Stein & Harrison, 2014). After an episode of chickenpox the virus remains dormant in the body but can resurface later in life as shingles. Shingles presents as a painful rash with blisters usually on one side of the body, and the most common complication, Post- Herpetic Neuralgia (PHN) neuropathic pain, can last up to several years even after the shingles rash is gone.

Clinical Issue

Shingles is an issue often seen in the elderly and immunocompromised who we as nurses will be caring for. Shingles has the potential to pose huge physical costs to the affected individual and those around them, as well as significant financial expense. Doctor's' visits, medical care, and time off work, varying from weeks to months depending on the severity of the virus, are typically experienced by the individual affected (Rothberg, Virapongse & Smith, 2007).

Effectiveness

Zostavax was approved for those aged 60 and over in 2006 by the United States Food and Drug Administration. based on the results of a large clinical trial, the Shingles Prevention Study (Zussman & Young, 2008). Zostavax was trialled on 38,546 adults aged 60 years and over and results showed that the vaccine reduced shingles by 51 %, PHN by 67% and was most effective in the 60 to 69 age group (Burke, 2007). An outcome of the study was revealed that if a national immunisation programme were scheduled routinely, up to 250,000 cases of shingles may be prevented each year (Burke, 2007). It was made available in New Zealand in 2011, five years after the approval in America (Immunisation Advisory Centre, 2014). What remains unknown is how long the vaccine lasts, however it has been suggested to have a repeat booster every six years (Quan, Cohrs & Mahalingam, 2007).

Affordability

While effective, cost is the leading preventative factor from people obtaining Zostavax. In New Zealand it is not publically funded and costs up to $200 at most medical centers (Immunisation Advisory Centre, 2014). The Centers for Disease Control and Prevention (CDC) CDC's Advisory Committee on Immunization Practices (ACIP) does not recommend the vaccine before age 60, as it would not be cost effective for the lower numbers of people who would get shingles at that age (Advisory Committee on Immunization practices, 2008). According to their calculation, just 25 shingles cases and one case of shingle-related pain would be prevented for every 1,000 people receiving the vaccine at age 50 (Advisory Committee on Immunization Practices, 2008).

Availability

Zostavax is available in New Zealand for people 50 years and older (Immunisation Advisory Centre, 2014). There is insufficient evidence to prove that Zostavax is safe in people aged under 50, however a trial is currently taking place in the United States to determine Zostavax efficacy and safety in this age group (NIAID, 2016). Ongoing monitoring of this study in the next few years will determine whether Zostavax could be made available to people under 50 years.

Recommendations

In New Zealand, Zostavax has been made available to those aged 50 and older. There is not enough sufficient evidence of Zostavax safety or efficacy in the 50 and under age group, and because this group are less likely to develop shingles it would not be cost effective for them to get vaccinated. The Immunisation Advisory Centre recommends those 60 and over to get vaccinated. Further public awareness of shingles may motivate more people in this age group to get vaccinated, however to become more available the vaccine would need to be more affordable. My recommendation would be to subsidise Zostavax for those aged 60 and over, or to include it on the National Immunisation Schedule. This would likely encourage more people to get vaccinated and therefore prevent the disease and complications.

References

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Rationale

As my issue was based around raising awareness of shingles and the preventative vaccine, I believed that doing a poster would be more beneficial for other health care workers and for the general public.

In the early stages of my research, I had wanted to write a submission to the New Zealand Immunisation Advisory Centre, in the hope of conducting further studies of Zostavax in young adults and higher doses of the vaccine in the already established safe population (50 years and over). In finalising my research I found that with the minimal population, facilities and resources New Zealand did not have the means to do this and I discovered that studies around this are currently being undertaken in the United States.

By presenting information as a poster it could be used as a reminder for nurses to raise awareness of shingles and inform them about the Zostavax vaccination, and could be displayed in areas that the general public could read it.

Search question- PECOT evidence and findings

The question this literature review looks into is "Is Zostavax effective, affordable and accessible?"

The PECOT method was used to develop my clinical question and make it more specific. The PECOT stands for Population/patient, Exposure/intervention, Comparison, Outcome and Time (Schneider & Whitehead, 2013). The following table states my PECOT question.

PECOT

Is the Shingles vaccine (Zostavax) effective, affordable and available?

PECOT Category	Information relating to question	Explanation
Population	-Aged 50 and over (although, if possible studies which include 50 and younger).	- In most countries, including New Zealand, Zostavax is available to those over 50 years of age (Immunisation Advisory Centre. Zostavax, 2014). The incidence of shingles first begins to rise after 50 years of age, with the natural declination in immunity which comes with age (Gan, Tian & Tey, 2013). I am also looking for articles focussing on young people and the shingles vaccine. If there is research surrounding availability of the vaccine to those under 50, and to find an explanation why the vaccine is currently unavailable to those under 50 years.
Exposure	Inclusion Criteria: -Able to understand and give informed consent. -Immunocompetent participants. Exclusion Criteria: -Person taking any non-topical antiviral therapy with activity against herpes viruses. -	-Those with compromised immunity are more likely to develop shingles than a healthy population. -Antivirals prevent shingles virus.
Comparison/ Control	Compared people who were not vaccinated for shingles in comparison to those who weren't.	-Looking for articles which study the comparison of shingles rates in those vaccinated and those not.
Outcome	To determine the efficacy and affordability of Zostavax and decipher whether it's worthwhile to reduce the cost/ make it more available and put it on the National Immunisation Schedule (NIP) IN the aim to reduce the rate of shingles in New Zealand.	Based on the efficacy of the vaccine and the cost, looking to know whether I would advise others, or patients to get the Zostavax vaccine.

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