Varicella (Chickenpox) Vaccination

"Should the varicella vaccination be included in the National Immunisation schedule?"

By Kimberly Arboleda

Varicella or Chicken Pox is one of the most infectious diseases known and is caused by **varicella zoster virus (VZV).** It is expected 90% of children will experience the infection by adolescence (Heywood, Wang, Macartney, & McIntyre, 2014). The hallmark of Varicella is a **red rash which develops into itchy blisters** that can occur all over the body. Generally, it presents as a mild disease in the majority of children however complications can occur which may cause hospitalisation or potential fatalities. The National Immunisation schedule recommends the Varicella vaccine but *does not* fund it for the public. As a future registered nurse I think it is important to be educated on the both the major existing diseases as well as the funded and non-funded vaccinations that are available.

Review Question:
"Should the varicella vaccination be included in the National Immunisation schedule?"

Literature Review

Based on the majority of research content I found arguably the most important factor in determining whether this vaccine fits into the National Immunisation schedule is how effective it is at preventing and targeting the disease. Heywood, Wang, Macartney, & McIntyre's (2014) article emphasized a decline in hospitalization rates for all age groups after immunisation. The greatest reduction was found in children aged 1-4 years old, with 72.5% (95%) lower rates during the funded immunization programme. Similarly, in an accompanying study done in 2014 the incidence rates of reported varicella decreased by 90-95% between the 1995-2009 (Baxter et al., 2014). Before the vaccine could be used on patients it must have demonstrated that it is safe and meets the licensure criteria(Reid, 2012,). Clinical studies conducted therefore have also shown the vaccine is safe and well tolerated.

Discussion

Based on my research conducted that found high vaccine effectiveness in the countries the vaccination has been established I support the idea that the varicella vaccination should be included in New Zealand's national immunisation schedule. However how the actual vaccine would fit into the immunisation schedule still needs to be further researched with potential problems being identified and solved. In New Zealand we are expected to have approximately 50,000 chickenpox infections with several hundreds of those being hospitalised and one to two cases resulting in residual long-term disability or death. (Ministry of Health, 2014) Supporting research has indicated that the varicella vaccination "has the ability to dramatically decrease varicella burden, both directly and possibly through herd immunity." (Baxter et al., 2013, p. 24)

Varilix is the sole varicella vaccine legal for use in both the community and hospital settings in New Zealand until June 2017

Cost: **$50-$100 per injection**

Recommendations

- To make the vaccination funded would ultimately increase numbers of children receiving the vaccination and therefore reduce varicella related complications and hospitalizations.
- For the vaccine to be included in the national immunisation schedule there has to be an indication of reasonable cost benefit.
- The vaccine should be funded as a two-dose scheme. Evidence found through research supports higher effectiveness of the vaccine after a second dose.

Conclusion

Although the vaccine has proven to be safe (Ministry of Health, 2014) further research is required to get the viewpoints of the consumers who it will primarily affect. In long term I believe the Varicella vaccination is "likely to be cost effective, significantly reduce secondary complications and severe disease, and prevent deaths." (Walls & Wilson, 2010, p. 24)

References

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Rationale for choosing a poster

Varicella (commonly known as Chicken Pox) is one of the most infectious childhood diseases known with an expected 90% of children experiencing infection by adolescence (Heywood, Wang, Macartney, & McIntyre, 2014) Unfortunately it is still generally being considered a relatively mild disease and part of childhood so although there is an immunisation available against the disease the National Immunisation schedule has excluded the Varicella vaccine as being funded.

From my literature review I developed the question 'Should the varicella vaccination be included in the National Immunisation schedule?' and proposed my argument through the research of recent and past studies on success of the vaccine, journals and opinion based articles. Because of its high infection rate but misconception that chickenpox is generally a mild disease I have chosen to present my found information as a poster. I feel this would be more beneficial in providing information not only about the vaccine but also in potentially changing the perception around whether the varicella vaccine should be included in the National immunisation schedule.

The presentation of my information as a poster allows me to visually present my literature review to a broad audience and then discuss as well as expand on aspects of my review informally. The importance of having this information visually appealing means I will be able to reach my potential target audience (parents, caregivers etc.) more effectively. "Posters are a hybrid form—more detailed than a speech but less than a paper" (Miller, 2007, p.313) the combination of having the main points covered on the poster visually available for the audience to see means they are able to quickly understand my literature review and I am then able to expand on ideas/ personal opinions through conversation.

I have developed my poster by taking into consideration important points found from (Miller, 2007). It is recommended that the poster only focus on the main key points. I have positioned my information moving downwards in a straightforward story line allowing the reader to draw my conclusion quickly and I have also used reader friendly wording to make it easier to understand (Miller, 2007).

As a future registered nurse I think it is important to be educated on the both the major existing diseases as well as the funded and non-funded vaccinations that are available. Having this information on whether the varicella vaccination should be included in the National immunisation schedule available to view to the public will help me improve my health education for future nursing practice.

PECOT Model

After doing an initial research of literature available on Varicella and its vaccination I have used the P.E.C.O.T model (Schneider, Whitehead, LoBionodo-Wood, & Haber, 2013) to assist with my literature search and refine my search question to:
"Should the varicella vaccination be included in the National Immunisation schedule?"

PECOT category	Information relating to question	Explanation
Population	Healthy children under the age of twelve	The New Zealand immunisation schedule is directed for children up until the age of 12. This population is also the most at risk for Varicella.
Exposure (intervention)	Countries which have included the varicella vaccine in their immunisation schedule and immunisation against the vaccine	I am hoping to research the effectiveness of the vaccine and evaluate how effective the vaccine has been in other countries who have utilised it
Comparison / Control	Countries which have NOT included the vaccine in their immunisation schedule (with emphasis on New Zealand) and non-immunized children against varicella	I'm interested in finding out if varicella should and could be introduced to the New Zealand schedule so will use the current system as a control as it is not part of it now.
Outcome	Varicella Vaccination part of the National Immunisation Schedule	Whether the vaccine fits the criteria and should be included in the New Zealand National Immunisation Schedule
Time	Studies with durations of longer than two years	To research the possibility of the vaccine being added to the National Immunisation Schedule it was important to look at recent data and evaluate the long term consequences it would have

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