Reviewer's report

Title: The burden of varicella from a parent's perspective and its societal impact in The Netherlands: an Internet survey

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Reviewer: Miriam Wiese-Posselt

Reviewer's report:

Thank you for allowing me to review this nicely done study.
I think it is very interesting to report the disease burden of varicella from the parents' perspective since – as you describe in your manuscript – the majority of varicella ill children are not presented to a physician in the Netherlands.

The manuscript seems to be a little bit jumbled. While reading it I thought that several points you described must have been reported somewhere else (see below). Moreover I have concern regarding your definition of complications of varicella and the described methodology.

- Major Compulsory Revisions

1.) Abstract:
Please rewrite the abstract and follow the layout (background, methods (n=2564 is part of the results), results (definition of complication is part of the methods), conclusion); describe your methods and results more detailed and shorten the background. Report how many questionnaires were distributed, how many returned completed, how many parents with children < 5 years of age participated in the study and how many reported an episode of varicella (this information should be described in the results part in the manuscript, as well).

2.) Introduction:
“The Netherland is a country with a strong gate-keeping role of the GP. Hence we will miss a considerable burden of varicella in the population, because the parents will not seek medical help.” I do not understand why parents do not seek medical help? The gate-keeping role of the GP is not a logical explanation for this phenomenon. Perhaps you can discuss (or explain) this point in your discussion part.

3.) Methods:
A) ad questionnaire and study population:
a) I’m not sure if I understood the process right: did you pay for the services of SSI? How questionnaires were distributed? - To the whole panel of SSI or only to families (with children <5 or <6 years of age)? To how many persons/families a questionnaire was sent out electronically? Please give in the methods part information on the number of persons in the whole panel or persons who received a questionnaire. Can you give information on the number of families in
the panel, on the number of children <5 or <6 years of age, about the geographical distribution in the Netherlands, about socio-economical distribution and distribution of ethnicity (if important). Based on this information, do you think your panel represents the Dutch population? Was reported to you (via questionnaire) how many children did have an episode of varicella and how many not suffered from varicella so far (this is not clear reported)?

b) The numbers and mean age of the children with recent history of varicella which you reported in the methods part should be described in the results section.

c) I'm not happy how you define varicella complications. Why do you always talk about “mild” complications? What about “severe” complications: did you not ask for all complications (“severe” ones inclusively)? Or were no “severe” complications reported by the parents? Well-known complications of varicella are skin infections (with different characteristics), soft tissue infections or systemic bacterial infections, several neurological disorders (cerebellitis (ataxia), febrile or cerebral convolution, meningoencephalitis, syncope, cerebral vasculitis resulting in strokes), haematological disorders, gastrointestinal or respiratory tract infections and others. Thus, are all these disorders covered in your labelled “mild” complications: “skin infections”, “fits/convulsions”, “unconsciousness” (what do you mean?), and “balance and movement disorders”. Which disorders/complications were reported by the parents, precisely? Please, give here more detailed information on your data and explain why do you only report on “mild” complications.

4.) Discussion:

a) first passage: “On average there were about 4 hours ....” Where did you report these numbers (4 hours and 1.6 hours) in the result section? I do not understand this numbers. Thus, you refer the lost time of 14.3 hours you reported for parents (17%) who stayed at home with their sick children to all participating parents? Please describe this finding detailed in the results section.

b) the following passage on page 10: Response rate is part of the result section and the following description of the survey should be reported in the method section. All information on participating parents should be reported in the method and result section, respectively. Did you yourselves asked on age, socioeconomic status etc. or was it already done by SSI? Is the education level of the respondents statistically significant higher than in the general Dutch population?

- Minor Essential Revisions

1.) Introduction:

Without knowing the denominator the absolute numbers you report on varicella epidemiology in the Netherlands these data are not very useful for the reader. Please give the annual total number of varicella, the number and rate of those cases who were presented to a GP or admitted to a hospital and the mortality rate in addition.
2.) Methods:

A) ad questionnaire and study population:

a) In the first sentence you wrote: “….children younger than 6 years”; in the abstract you report that parents were asked about varicella episodes in their children younger than 5 years – please correct the specifications regarding the age of your study population.

b) Please report the amount of the financial incentive for completing a questionnaire.

B) ad indirect resource use (productivity losses): “If so, parents with a paid job were asked to estimate how many extra hours they would have needed to be as productive as when their child was not ill…….” To measure the subjective perceived pressure due to the illness of its own child belongs to the field of qualitative research which is very complex and you should think about to publish these results more detailed somewhere else.

3.) Results:

A) ad study population and symptoms:

a) First rows: How many questionnaires had been distributed? How was your response rate? Do you have any information on persons who refused the participation?

b) 4th row: “In 34.6% of cases…..”; please report the number, as well.

c) After this sentence: Please report here, how many children sought medical care since you refer to children visiting a medical doctor more below in this passage.

B) ad health care use:

a) “Only 37.9%…..”; please give here the number, as well. I’m wondering if it would not be fine to round your %-data down or up (38% instead of 37.9%) – in the whole text!

b) 7th row: Thus, not the occurrence of a complication result to a consultation with a physician?? However, you report that 38% of all children sought medical help and 61% of children with complications consulted a physician. Regardless, typical symptoms of varicella were the main reasons to visit a medical doctor?

c) last passage: This seems to be a little bit confusing because you report that children with complications more often visited a physician and parents whose child need medical care more often bought OTC. However, you report that in OTC use there was no difference in children with and without complications. Please check this result.

C) ad productivity loss:

a) first sentence: Thus, 43% of varicella sick children visited day care/school! This is amazing because varicella is a typical communicable disease. Is there no regulation that varicella ill children must stay at home until the vesicle are healed, in the Netherlands?
b)

4.) Discussion:

a) You report a duration of an episode of varicella of 8.4 days and children were absent from day care/school only 4.1 days. Does this fact match with experience of neighbouring countries?

b) page 12: You report that 47% of the children visited a physician in the Netherlands whereas in other European countries 80%+ seek medical care. In Germany, varicella infected children must present an attestation of their physician that they are not contagious anymore before re-entry in day care/school. This might be a reason for consultation. How is the regulation for this in the Netherlands?

c) page 13: Was the postal survey in 1998 focussed on varicella disease?

5.) Tables:

General: Please give always an explanatory heading to the tables (who, what, where, when).

Table 1: Do you have any explanation why children with a history of varicella in the last 12 months were in average younger than the total study population? Was the difference in mean age statistically significant?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.