Author's response to reviews

Title: Translation and validation of the Vertigo Symptom Scale into German: screening of symptoms prior to vestibular rehabilitation

Authors:

Thomas Gloor-Juzi (thomas.gloor@usz.ch)
Annette Kurre (annette.kurre@usz.ch)
Dominik Straumann (dominik.straumann@usz.ch)
Eling D de Bruin (debruin@move.biol.ethz.ch)

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Author's response to reviews: see over
Dear members of the editorial board of BMC Ear, Nose and Throat,

Dear reviewers,

Please find attached our revised paper “Translation and validation of the Vertigo Symptom Scale (VSS) into German: screening of symptoms prior to vestibular rehabilitation”. As suggested by one of the reviewers the title was now changed in: Translation and validation of the Vertigo Symptom Scale into German: a cultural adaption to a wider German-speaking population.

We very much appreciate your feedback and suggestions, which helped us to clarify and improve our publication. As requested, we give a point by point answer to all topics raised (below in this document (in red color)).

Respectfully yours,

Thomas Gloor-Juzzi, PT, MPTSc
Annette Kurre, PT, MPTSc
Prof. Dr. Dominik Straumann, MD
Dr. Eling D. de Bruin, PT, PhD
Referee 1 / 11 March 2012:
Reviewer: Susan Hillier
Reviewer's report:
Major and minor compulsory revisions
1. It would be interesting for the reader to know the 6 steps in translating measures - you mention the last only, being the most important to this process. However I don’t think English-speaking readers know what a robust process it is - it would be good to enlighten them.

Thank you for your suggestion which we considered in the method section on p. 5. We decided to refer (for especially interested readers) to the original guidelines we thoroughly applied (Beaton and Wild) and added the description of the 6 steps in the method section on page 5.

2. I would delete the section about the correlation between the AA and the HADs possibly showing that there is a primary anxiety rather than secondary relative to the vestibulopathy. This is an association that shows the person has anxiety - neither test shows aetiology and it is really unhelpful to sow this seed clinically until all is proven otherwise.

This request is helping us to clarify an important topic, which may be misunderstood in our publication. Thank you. We agree that there is a lack of evidence about the aetiology of the interface between vestibulopathy and anxiety and it could not be the aim of this study to enlighten it. However, with the analysis of the correlation between the VSS’ subscales (VSS-AA, VSS-VER) and the HADS-A, we intended to endorse the construct validity of the subscale structure of the VSS (see structure below). Therefore we cannot delete this section and we clarified this topic on pp 15-16 (external validity section).

Structure (construct) of the VSS subscales:
Both VSS subscale scores are a “frequency score” of two groups of symptoms which may appear in patients with dizziness.
1) The group of VSS-VER symptoms: the “expression” of a vestibular disorder (or vertigo)
2) VSS-AA – symptoms: a group of generic symptoms, which Yardley (Yardley, 1992) associated to “somatisation of anxiety” and “arousal of autonomous nervous system”. As far as they are present, the VSS-AA symptoms might therefore be a reaction to vertigo or an expression of any other comorbidity. Because of the fair correlation with HADS-A, these symptoms may be a hint to a possible anxiety comorbidity.

3. In the discussion section there is a lot of repetition of the results - can you please rework this section to be discussion only i.e. if you have to restate results do so in lay language not statistics.
We thank the reviewer for this helpful comment. The section was revised to be discussion only.

4. Generally clearly written but some tricky translations and awkward sentences what do you mean by "primary endpoint" on page 12 - this has a clinical trial meaning not appropriate for this paper; likewise what is "complete missings" on p 7 etc. Can I suggest an English speaking editor goes over the paper again for the awkward sentences that appear at times (e.g. in the first paragraph or page 9).

The revised version has been proof-read by an English speaking person.

5. There are a lot of tables and figures - these may need to be revised unless the editors can organise e-publication of so many? Some interesting but not indispensable data in table 1 was deleted. Table 1 and 2 were merged in Table 1. Figure 5 was deleted.

6. The first line in the introduction needs a reference. The first sentence in the introduction has the same reference as the second sentence. This reference was added.

Quality of written English: Needs some language corrections before being published

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.
Referee 2 / 13 March 2012:
Reviewer: Helen Cohen
Reviewer's report:
This careful study is on an important topic that is relevant to the readers of this journal. The authors’ understanding of different cultural nuances in different German-speaking populations is admirable and important. They were careful to follow the rules for translating scales to make the scale valid in their language, which is an important strength of the study. They were also careful to use the correct statistical analyses.

1. Minor essential revision: Surprisingly, they omitted some significant information about the 6 steps involved in the translation and cross-cultural translation of the scale. The reader of this journal may not be familiar with those steps. Therefore, to improve the Methods in the manuscript they should describe the steps that they took so that the reader will understand exactly what they did.

   Thank you for your suggestion which we considered in the method section on p. 5. We decided to refer (for especially interested readers) to the original guidelines we thoroughly applied (Beaton and Wild) and added the description of the 6 steps in the method section on page 5.

2. Minor essential revision In 2008 Yardley and her colleagues (Morris et al) published two papers about a new scale that they intended to supersede the VSS. Indeed, it is a better scale. The authors did not mention this scale but they should discuss the reasons they chose to translate the old scale rather than the new one. Even if they were not aware of the new scale at the time they collected data they should mention the newer scale in their Discussion. Otherwise, this manuscript, based on a relatively old scale, risks appearing to be out-of-date.

   The Vestibular Rehabilitation Benefit Questionnaire (VRBQ) (Morris 2008, 2009) was developed for outcome and follow-up measurement and integrated more aspects of problems associated with vestibular disorders (e.g. health related quality of life), than only symptoms. The VSS is an assessment tool which is able to differentiate between vertigo symptoms and possible anxiety symptoms. Therefore they cannot be compared. Furthermore it is not clear whether the VRBQ is able to screen for anxiety similar well as the VSS did, therefore the results of both scales should be compared with a gold standard measurement for anxiety. This leads beyond the scope of the present study. However, we addressed this topic in the discussion on page 16 bottom and top of p17. References were added: number 41 and 42

Level of interest: An article whose findings are important to those with closely related research interests
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.
Referee 3 / 20 March 2012:
Reviewer: Eva Ekvall Hansson
Reviewer's report:
General comments
Studies about translation and validation of measurements and scales are important in order to help the researcher community. The present study is thorough but there is a problem with another existing translation into German. I do not think that the authors have addressed this problem enough in the paper. This is my main concern.

Please find my specific comments below:
Title
Since there is already a German version existing, I think the title should be clearer about the differences between the present study and the study by Tschan. For example: “Translation and validation of the Vertigo Symptom Scale into German: a cultural adaption to a wider German-speaking population”. Also, screening of symptoms is not the aim of the study and should therefore not be included in the title. Major compulsory revision
We are aware of the fact that there is already a German version of the VSS. There are, however, important differences between our version and the existing translation. Two aspects are particularly important: [1] where we followed Guidelines for the translation process (Beaton DE, Bombardier C, Guillemine F, Ferraz MB: Guidelines for the process of cross-cultural adaptation of self-report measures. Spine (Phila Pa 1976) 2000, 25(24):3186-3191, see figure below) that emphasize the importance of the translation process, the existing German version did not. It only used one person for the translation and one person for the back translation process which might have seriously biased the VSS translation, [2] we considered several translators from different German speaking geographic areas to account for cultural and language differences. We agree with the reviewer that this point should be made more clear in the title which we, thus, adapted as suggested.
Abstract
The aim in abstract should be the same as in the paper.
The aim was adapted (p. 2, bottom of Background section)

The conclusion in the abstract does not address the aim – the use of VSS as screening tool is not the aim of the study. Major compulsory revision
The conclusions were rewritten (p.3)

The DHI does not measure handicap in general but self-perceived handicap because of dizziness.
We completed the handicap definition in the method.

The abstract contains several abbreviations, which preferably is avoided in abstract. Minor essential revision
Except for ROC-Curve we explained all the used abbreviations in the abstract

Introduction
I think it would be appropriate to give information about the study by Tschan in the introduction and to give an explanation why the present study is important (the cross-cultural adaptation). Major compulsory revision

At study onset (spring 2007), according to the guidelines of Beaton, we first checked for validated German versions of the VSS, as we did not find any, we asked for (and obtained) the permission by L. Yardley to undertake the translation/ cross-cultural adaptation. L. Yardley confirmed that to her knowledge there was no on-going translation and validation in German.
The method we have chosen was elaborated on the basis of this background. Therefore we believe this information about the study by Tschan in the introduction does not correspond to the “schedule” of our work and may therefore interface with the credibility of the method we used: if we had known about the work of Tschan at this stage of our study, it would have made sense (also in order to adequately use financial resources) to cooperate with her (implies different methodology for our study), in order to elaborate one valid version for a wider German speaking population.

In the introduction we emphasized our intention to use approved guidelines and specified that our aim was a translation for a wider-German speaking population of Switzerland (p. 4 line 7ff). There are many persons from Austria, Germany, Italy and even from Belgium working and living in Switzerland. As clinicians we almost daily experience differences in expressions and understanding of wordings and sayings that we take for accounted, however, are unclear for these fellow German speakers. Based on this anecdotal “evidence” we were aware of the need for an instrument that could be equally used by persons with various German language backgrounds: someone from the northern part of Germany, someone from Eupen-Malmedy in Belgium, a person from Bavaria or South-Tirol in Italy. Furthermore, besides the language adaptation of the scale, our study enlightens some additional aspects of the VSS (e.g. convergent validity with measurement of dizziness related handicap) which the group of Tschan did not investigate. From our point of view, giving some information about the study of Tschan in the introduction will emphasize the linguistic aspect of the study, which may not be the primary interest of a mainly English-speaking researchers group. With the publication of our study and our results, we intend much more to contribute to enhance the validity of the structure of the VSS in order to reach better comparability of research results. Therefore we
consider that the information about the work of Tschan in the results (table 2) and the
discussion is adequate.

We have implemented some additional information on these aspects in the introduction,
results and discussion sections. We added following sentence to the introduction that
substantiates our point: “A German version of the VSS from Tschan et al. (2008) that in the
meantime was published did not specifically comply with guidelines (e.g. use informed and
uninformed translators and back-translators) and neither considered the possibility of cross-
cultural differences, which might have biased their results.”

In the first paragraph, line 4 it should be: “80 percent of the patients in a survey” instead of
the survey.
“the” referred to the study of the first sentence. This was clarified in the manuscript.

In paragraph 2, line 2, it should be “by individually tailored” instead of the individually.
Minor essential revision
Was deleted in the manuscript

Aim
The first part of the aim is clear: to perform a translation and a cross-cultural adaption as well
as investigate validity and reliability of the new version.
The second part is vaguer: what do you mean by “associations” – what kind of associations is
it? Also, I think you should mention the specific scales you intend to use instead of “other
questionnaires”. The last sentence should be moved to method. Major compulsory revision
We omitted to mention that the second part was the determination of external validity
(particularly convergent validity); we investigated with estimation of correlations
(“associations”). We apologize for this omission and revised this second part. (P.4, 2 lines
before “Methods” section). As suggested the last sentence was removed, because it was
redundant and already described in the methods section.

Methods
The method-section is very accurate written and easy to follow. On page 7, second paragraph,
line 4 to 6: please add a reference.
This reference was added (same like sentence before!)

Also, on page 8, second paragraph, line 10; please add a reference about ICC. Major
compulsory revision.
The missing reference was added.

Analyses
Please declare what statistical package was used. Major compulsory revision
The statistical package was declared on page 7 (bottom).

Results
Also clear and accurate written except for cross-cultural adaptation, which is missing in the
results. Major compulsory revision
As adjusted in the methods section, a part of cross-cultural adaptation was performed on
behalf of the translation and back-translation process. Further information was added in the
“Results” section.

Tables and figures
There are six tables and five figures but only the tables and figure one is referred to in the results. Major compulsory revision

Probably the subheadings of results section were misleading. The tables and figures were already referred:

Result section: p. 9 till p.12. (p. 9. as you already mentioned table 1 is referred/ p10 subheading: Internal validity determination / Principal component analysis: table 2 is referred. p. 11, subheading: Reliability determination: Table 3 is referred. Subheading External validity determination / Discriminant validity: Table 3 is referred. p.12. Subheading convergent validity: Table 4 and 5 were referred.)

The discussion section starts from page 12.
We added a reference to figure 2 and 3 in the discriminant validity section p. 11.
For your information Table 1 and 2 were merged into Table 1 as mentioned above (reviewer 1).

Why are both mean and median values shown in table 1?
Because patients were consecutively included in the study, we were expecting that age would not be necessarily normally distributed and, consequently, the median seemed the more appropriate value to report. However, in order to keep our data comparable to most of the other studies and because both values were nearly similar we thought it informative to report the other measure (mean ± SD) as well. After testing (Kolmogorov-Smirnov Test) we found that “age” in our group was normally distributed and we choose to also report the mean with CI as a more current value. According to your request, we deleted the median values.

The total study population is given as n=202 but the total study population is 202 participants and 52 healthy controls = 254. The subheading in the table should be “participants” instead of total study population.
This mistake was corrected in the table. Thank you.

In table 3, it should be “Switzerland” instead of Zürich and “Germany” instead of Mainz since the other locations is given as Mexican hospital, UK hospital and UK primary care, not cities.
Minor essential revision
You are right. We adapted the table to be consistent.

Discussion
First paragraph should state main findings, not methods.
Was adapted p.12

The sentence “After suggestion of some patients…..” should be moved to results.
The sentence was moved to results.

On page 13, “Principal component analysis”: the first sentence should be moved to method.
The explanation is already in the method section. The sentence was deleted and the whole paragraph was adapted.
Page 14 paragraph “Discriminant validity”; here you give new results and refer to figure 2 and 3, please move to results.
Was done as requested, and the discussion was adapted.

On page 16, you refer to figure 4, which is not mentioned in the results.
Was added on p.12, 3 lines up from the bottom.
Page 17, first paragraph; new results are mentioned and figure 6 is referred to for the first time. Please move to results.
Was adapted as requested on p.17 line 7ff

Page 17; limitations of the study: Here you mention the cultural and language differences between German-speaking populations in other countries than Germany. This should be elucidated in the introduction. Major compulsory revision
We have implemented some additional information on these aspects in the introduction, results and discussion sections. We added following sentence to the introduction that substantiates our point: “A German version of the VSS from Tschan et al. (2008) that in the meantime was published did not specifically comply with guidelines (e.g. use informed and uninformed translators and back-translators) and neither considered the possibility of cross-cultural differences, which might have biased their results.”

Page 16, you use the abbreviation “VDI” without explaining it. Minor essential Revision
We mentioned the Vertigo, Dizziness and Imbalance questionnaire p. 16, but omitted the abbreviation. Sorry for that. (VDI) was added p. 16 line 7 from the bottom of the page.

Conclusion
The conclusion is too long. The sentence about further research should be moved to the last part of the discussion. The last paragraph in the conclusion is far too long. The conclusion should only answer the questions in the aim. Major compulsory revision
The conclusion was revised.

References
The requested references on page 7 and 8 were added (Reference number 22, 30 and 31)

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests