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Validation of the Child Perceptions Questionnaire 8-10 in Bosnia and Herzegovina

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ORIGINAL PAPER

ABSTRACT

Background: Paediatric oral disorders are numerous and it can be assumed that those have negative effect on the life quality in children. From 2002 to 2006 were developed the life quality measures for children aged 8-10 and 11-14 years, Child Perceptions Questionnaires, CPQs. Those are the components of the Child Oral Health Quality of Life Questionnaire (COHQOL). **Aim:** The aim of this study was to translate the CPQ for children 8 to 10 years into the one of the languages in Bosnia and Herzegovina, to cross-culturally adapt the instrument, and to evaluate its comprehensibility among Bosnian language speaking children. **Methods:** Instrument was translated from English into the Bosnian language according to the recommended translation procedure. After the cultural adaptation, questionnaire was tested among 8-10 years old children (N=18). **Results:** During the cultural adaptation of the instrument, changes were made on three questions. One question had to be changed due to understanding difficulties. **Conclusion:** CPQ₈₋₁₀ was translated and culturally adapted. Testing among children showed that the Bosnia-Herzegovina version of the CPQ₈₋₁₀ is comprehensive and it can be used for measuring oral health-related quality of life in children this age.

Key words: CPQ₈₋₁₀, translation, validation.

1. INTRODUCTION

Oral health-related quality of life (OHRQoL) is an important aspect of dental health. It describes the patient's self-perception of his or her current oral health status and its impact on his or her quality of life (1). Questionnaires for assessing oral health-related quality of life were mostly developed in English speaking regions and therefore can not be used in all countries. It is the reason why the translation and verification of those instruments are very important for precise and correct measurement of the life quality.

Questionnaires for adult population and for children 11 to 14 years have already been translated in Bosnia and Herzegovina (2, 3). In 2007, was developed the Early Childhood Oral Health Impact Scale (ECOHIS), with 13 items, for assessing oral health quality of life in children 3-5 years of age (4). The ECOHIS has been developed in the United States and it is a caregiver-rated questionnaire.

Measuring the OHRQoL in children, using the self-reported questionnaires, is associated with several difficulties. The children's abilities to speak, read, think in abstract terms

and their age-related ability to understand the concepts used in the questionnaire should be taken into account during the development of the OHRQoL instruments (5).

The Child Perceptions Questionnaires (CPQs) have been developed from 2002 to 2006 in Canada for measuring the OHRQoL among children aged 6 to 14 years (6, 7, 8). The CPQs are self-reported questionnaires. Many researches have demonstrated that children's reports of their health-related quality of life are valid and reliable (6).

The CPQ₈₋₁₀ is a part of the Child Oral Health Quality of Life Questionnaire (COHQOL), which consists of a Parental-Caregiver Perceptions Questionnaire, a Family Impact Scale, and three age-specific questionnaires (CPQs) for children 6-7-, 8-10-, and 11-14-year-olds, because these groups are homogeneous in terms of roles and cognitive abilities. Three versions of CPQ are: CPQ₆₋₇, CPQ₈₋₁₀ and CPQ₁₁₋₁₄. The Bosnia-Herzegovina version of the CPQ₁₁₋₁₄ has been published (3). To this date, CPQ₆₋₇ has not yet been developed.

The CPQs include four domain subscales of oral symp-

toms, functional limitations, emotional well-being and social well-being.

2. GOAL

The aim of this study was to translate the English version of the CPQ₈₋₁₀ (Appendix 1) into one of the languages of Bosnia and Herzegovina, to culturally adapt the questionnaire according to the Bosnia and Herzegovina setting, and to evaluate its comprehensibility in a qualitative study.

3. METHODS

Original instrument

The original English version of the CPQ₈₋₁₀ contains a total of 25 items: 5 questions on oral symptoms, 5 questions on functional limitations, 5 questions on emotional well-being and 10 questions on social well-being. Questionnaire has the introduction and two general questions about the age and the sex of the child. The main part of the questionnaire has 25 questions, numbered in standard order (from 1 to 25, see Appendix 1).

The response format for all main 25 questions is a Likert-like scale. Response options and scores are: "never", scoring 0, "once or twice", scoring 1, "sometimes", scoring 2, "often", scoring 3 and "every day or almost every day", scoring 4.

An overall CPQ₈₋₁₀ score should be computed by addition of all item scores, and scores for each of the four domains also. The total score can vary from 0 to 100. The questions should, according to the authors of the original questionnaire, refer to the period of the past 4 weeks.

Translation of the CPQ₈₋₁₀ questionnaire

The English CPQ₈₋₁₀ version (Appendix 1) was translated into the one of the languages in Bosnia and Herzegovina using the forward-backward technique for translating questionnaires (9). Translation from English into Bosnian was performed by four native-speaking Bosnian investigators. First translator was a dentist, previously participated in the translation of the Oral Health Impact Profile and the CPQ₁₁₋₁₄ (2,3). Second translator was the pediatrician who works with children on daily basis, and who participated in the development of the CPQ₁₁₋₁₄ (3). Third translation was made by a certified translator. All three translations were debated and after the debate we had the first version of the Child Perceptions Questionnaire 8-10. The Bosnia-Herzegovina version of the CPQ₈₋₁₀ was back-translated into the English language by another licensed translator. This translated version was compared to the original questionnaire.

Cultural adaptation of the CPQ₈₋₁₀

Procedure for cross-cultural adaptation was conducted according to the internationally accepted methods (10). Bosnia and Herzegovina version was reviewed once again by the dentist and the pediatrician. The criteria of clarity, through the use of simple, easily understood expressions, and avoiding the use of technical terms, were also evaluated, beside the criteria of crossing cultural differences between Canada and Bosnia-Herzegovina.

Field study for assessing the comprehensibility of the questionnaire

After the preliminary version of BH-CPQ₈₋₁₀ was made, we assessed its comprehensibility in a qualitative study.

To be included in the study, children had to be 8-10 years

old and native Bosnian-speakers. The field study was carried out in The Canton Health Centre "Dom zdravlja Stari Grad", Sarajevo, Department of Dentistry and in The Department of Pediatrics-School Section. All children were interviewed while waiting for the appointment at the pediatrician or the dentist, regardless they had some acute dental/general health problem or not. The BH-CPQ₈₋₁₀ was applied in a form of an interview. The questionnaire referred to the past four weeks. We focused on the comprehensibility of the words used in every item and on the sentence construction. Subjects were randomly selected (N=18).

The introduction, two general and 25 main questions were read to the children from the printed questionnaire. Interviewer wrote the answers.

Time required for the completion of the questionnaire was not measured individually for each child, because the aim of the study was to test the language characteristics and comprehensibility of the questionnaire only. Answers were not statistically analyzed, because this was a qualitative study on the comprehensibility of the questionnaire.

Study was in accordance with the ethical standards and Declaration of Helsinki. For every child a written consent from the caregiver was obtained before a child's verbal assent.

4. RESULTS

Comparison between the original and the back-translated version demonstrated that two versions are more or less equivalent, which called for only minor adjustments of the Bosnia-Herzegovina version.

During the cross-cultural adaptation, we made changes on three questions.

In original question no. 7: „Have you had a hard time biting or chewing food like apples, corn on the cob or steak, because of your teeth or mouth?“ we changed the word „steak“, which could be translated in Bosnian language as „odrezak“, into „meso/meat“, which is more suitable for the nutritional habits of children in Bosnia and Herzegovina, and more comprehensive to them.

In question no. 12, we changed the Bosnian word „frustriran“, to the more simple word „nezadovoljan“.

In question no. 23: „How often did you stay away from activities like sports and clubs because of your teeth or mouth?“ we changed the equivalent, but not so familiar Bosnian word „klub“ into „vanškolska aktivnost/extracurricular activity“.

After the cross-cultural adaptation, instrument was tested among 18 children to assess the comprehensibility. Questionnaire was applied on 11/18 or 61% girls, and 7/18 or 39% boys. Second and third child of those 18 subjects had difficulties to understand the question no. 12: „Koliko često u zadnje četiri sedmice si bio/bila nezadovoljan/na zbog svojih zuba ili usta?“ This question was replaced with: „Koliko često u zadnje četiri sedmice si bio/bila nezadovoljan/na svojim zubima ili ustima?“ and later applied to the children that followed. After we made this change, further explanations at any question were not necessary.

We had no invalid questionnaires. All 18 children answered to every item of the questionnaire.

This stage resulted with the final version of BH-CPQ₈₋₁₀

(Appendix 2).

5. DISCUSSION

Measures which address the oral health-related quality of life (OHRQoL) are being used with increasingly frequency in epidemiological surveys in dentistry. Many OHRQoL measures have been developed until today (11, 12, 13). However before 2002, they were all designed to assess OHRQoL in adult populations.

The absence of pediatric OHRQoL measures, before ECOHIS and CPQs were developed is due to the specific psychological development process in children (14). Many abilities in children are age-dependent and those differences in the cognitive, emotional, functional, and behavioral characteristics must be accommodated within a child health status questionnaire (14, 15).

Early attempts at measuring the health-related QoL in children used questionnaires for parents. While parents are useful as informants, their reports for children older than 6 are now considered as complementary to and not substitutes for child reports. Analysis of the data presented elsewhere shows that the questionnaires for children older than 6 had good reliability (6, 7).

A study sample of 18 children may seem too small. One similar publication presented the validation of Portuguese version of the OHIP-49 (16). The study sample for evaluation of the language used in the instrument consisted of 10 persons selected randomly from the main sample. After this pilot-study, some items were adjusted to clarify questions, which resulting in the final version of the Portuguese OHIP-49.

6. CONCLUSION

The CPQ₈₋₁₀ was translated from English into Bosnian language and culturally adapted. Comprehensibility of the measurement was tested in a qualitative study. Testing in a sample of children reveal that Bosnia and Herzegovina version of the CPQ₈₋₁₀ seem to be a valid instrument for measuring oral health-related quality of life in children. Questionnaire can be useful in many aspects, in evaluation of dental therapy, in epidemiological surveys and in oral health promotion. The main purpose of this study, to make CPQ₈₋₁₀ ready for use in Bosnia and Herzegovina, has been accomplished. Longitudinal studies are necessary to determine its construct validity, responsiveness, and internal consistency.

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Appendix 1

Child Perceptions Questionnaire 8-10
CPQ₈₋₁₀

CHILD ORAL HEALTH QUESTIONNAIRE

Subject Number:

Hello,

Thanks for helping us with our study!

We are doing this study to understand better things that may happen to children because of their teeth and mouth.

Please Remember:

- Don't write your name on the questionnaire.
- This is not a test and there are no right or wrong answers.
- Answer as honestly as you can.
- Don't talk to anyone about the questions when you are answering them.
- No one you know will see your answers.
- Read each question carefully and think about the things that have happened to you in the past 4 weeks.
- Before you answer, ask yourself: "Does this happen to me because of my teeth or mouth?"
- Put an in the box beside the answer that is best for you.

DAY MONTH YEAR ____/____/____

FIRST A FEW QUESTIONS ABOUT YOU

Today's date:

Are you a boy or a girl?

Boy ☐Girl ☐

How old are you? _____

NOW A FEW QUESTIONS ABOUT YOUR TEETH
AND MOUTH

How often have you had:

1. Pain in your teeth or mouth in the past 4 weeks?

Never ☐Once or twice ☐Sometimes ☐Often ☐Everyday or almost every day ☐

2. Sore spots in your mouth in the past 4 weeks?

3. Pain in your teeth when you drink cold drinks or eat foods in the past 4 weeks?

4. Food stuck in your teeth in the past 4 weeks?

5. Bad breath in the past 4 weeks?

In the past 4 weeks, how often have you:

10

6. Needed longer time than others to eat your meal because of your teeth or mouth?
7. Had a hard time biting or chewing food like apples, corn on the cob or steak because of your teeth or mouth?"
8. Had trouble eating foods you would like to eat because of your teeth or mouth?
9. Had trouble saying some words because of your teeth or mouth?
10. Had a problem sleeping at night because of your teeth or mouth?

SOME QUESTIONS ABOUT YOUR FEELINGS

In the past 4 weeks, how often have you:

11. Been upset because of your teeth or mouth?
12. Felt frustrated because of your teeth or mouth?
13. Been shy because of your teeth or mouth?
14. Been concerned what other people think about your teeth or mouth?
15. Worried that you are not as good-looking as others because of your teeth or mouth?

QUESTIONS ABOUT YOUR SCHOOL

In the past 4 weeks, how often have you:

16. Missed school because of your teeth or mouth?
17. Had a hard time doing your homework because of your teeth or mouth?
18. Had a hard time paying attention in school because of your teeth or mouth?
19. Not wanted to speak or read out loud in class because of your teeth or mouth?

QUESTIONS ABOUT YOU BEING WITH OTHER
PEOPLE

In the past 4 weeks, how often have you:

20. Tried not to smile or laugh when with other children because of your teeth or mouth?
21. Not wanted to talk to other children because of your teeth or mouth?
22. Not wanted to be with other children because of your teeth or mouth?
23. Stayed away from activities like sports and clubs because of your teeth or mouth?
24. Other children teased you or called you names because of your teeth or mouth?
25. Other children asked you questions about your teeth or mouth?

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The English-version of the CPQ₈₋₁₀ questionnaire was obtained from an Open Access article distributed under the terms of the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited or translated.

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Appendix 2

BH-CPQ₈₋₁₀

BOSANSKOHERCEGOVAČKI DJEČJI UPITNIK O ORALNOM ZDRAVLJU

Zdravo!

Hvala ti što nam pomažeš u našem istraživanju!

Željeli bismo ovim upitnikom bolje razumjeti situacije koje se djeci mogu desiti zbog zuba i usta.

Molim te da zapamtiš:

- Ne trebaš pisati svoje ime na upitnik.
- Ovo nije kontrolni rad, niti test, i nema pogrešnih odgovora.
- Odgovori najiskrenije što možeš.
- Ne razgovaraj ni sa kim u vezi pitanja kada na njih odgovaraš.
- Niko koga poznaješ neće vidjeti tvoje odgovore.
- Pročitaj pažljivo svako pitanje i tom prilikom imaj na umu stvari koje su ti se desile u zadnje četiri sedmice.
- Prije no što odgovoriš, zapitaj se: "Da li se ovo meni desilo zbog mojih zuba ili usta?"
- Stavi znak u kvadratić nakon odgovora koji ti najbolje odgovara.

Današnji datum : ____/____/____ (dan/mjesec/godina)

PRVO, NEKOLIKO PITANJA O TEBI :

Da li si dječak ili djevojčica?

Dječak ☐Djevojčica ☐

Koliko imaš godina ? _____

A SADA NEKOLIKO PITANJA U VEZI TVOJIH ZUBA I USTA :

1. Koliko često si imao / la zubobolju ili bol u ustima u zadnje četiri sedmice?

Nikad ☐Jednom ili dvaput ☐Ponekad ☐

13

Često ☐

Svaki dan ili skoro svaki dan ☐

2. Koliko često si imao / la bolne tačke u ustima u zadnje četiri sedmice ?

Nikad ☐

Jednom ili dvaput ☐

Ponekad ☐

Često ☐

Svaki dan ili skoro svaki dan ☐

3. Koliko često u zadnje četiri sedmice si osjećao/la bol u zubima kada piješ hladne napitke ili nešto jedeš ?

4. Koliko često ti se zadržavala hrana na zubima u zadnje četiri sedmice ?

5. Koliko često u zadnje četiri sedmice ti je miris iz usta bio neugodan, a da je to bilo zbog zuba ili usta ?

6. Koliko često u zadnje četiri sedmice ti je trebalo više vremena nego drugima da pojedješ svoj obrok zbog zuba ili usta ?

7. Koliko često u zadnje četiri sedmice ti je bilo teško zagristi ili sažvakati jabuku, kuhani kukuruz na klipu ili meso zbog zuba ili usta ?

8. Koliko često u zadnje četiri sedmice ti je bilo teško jesti hranu koju si željela/lio jesti zbog zuba ili usta ?

9. Koliko često u zadnje četiri sedmice si imao / la problema izgovoriti neke riječi zbog zuba ili usta ?

10. Koliko često u zadnje četiri sedmice si imao / la imala/o problema spavati noću zbog zuba ili usta ?

NEKOLIKO PITANJA U VEZI TVOJIH OSJEĆAJA :

11. Koliko često u zadnje četiri sedmice si bio/la uznemiren/a zbog zuba ili usta ?

12. Koliko često u zadnje četiri sedmice si bio/la nezadovoljan/na svojim zubima ili ustima ?

13. Koliko često u zadnje četiri sedmice si se postidio/la ili bio/la stidljiv/a zbog zuba ili usta ?

14. Koliko često u zadnje četiri sedmice te je brinulo šta drugi ljudi misle o tebi zbog zuba ili usta ?

15. Koliko često u zadnje četiri sedmice te je brinulo jer ne izgledaš lijepo kao drugi zbog zuba ili usta ?

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PITANJA U VEZI ŠKOLE :

16. Koliko često u zadnje četiri sedmice si izostao/la iz škole zbog zuba i usta?
17. Koliko često u zadnje četiri sedmice ti je bilo teško uraditi zadaću zbog zuba i usta?
18. Koliko često u zadnje četiri sedmice ti je bilo teško paziti na času zbog zuba i usta?
19. Koliko često u zadnje četiri sedmice nisi htio/htjela govoriti ili čitati naglas u razredu zbog zuba i usta?

PITANJA U VEZI DRUŽENJA :

20. Koliko često u zadnje četiri sedmice si pokušavao/la da se ne nasmiješ kada si bio/bila sa drugom djecom zbog zuba i usta?
21. Koliko često u zadnje četiri sedmice nisi htio/la da razgovaraš sa drugom djecom zbog zuba i usta?
22. Koliko često u zadnje četiri sedmice nisi htio/la provoditi vrijeme sa drugom djecom zbog zuba i usta?
23. Koliko često u zadnje četiri sedmice nisi htio/la učestvovati u nekim sportskim ili drugim vanškolskim aktivnostima zbog zuba i usta?
24. Koliko često u zadnje četiri sedmice su te druga djeca zadirkivala ili su te zvala ružnim nadimcima zbog zuba i usta?
25. Koliko često u zadnje četiri sedmice su te druga djeca zapitkivala o tvojim zubima i ustima?

The English version of the CPQ₈₋₁₀ is available elsewhere (7).

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