A Nepali translation of Brief Infant Sleep Questionnaire (BISQ) for assessment of sleep in infants and toddlers: A preliminary report

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ABSTRACT

Background: Sleep problems are common in children and various questionnaires have been devised to screen these problems. Brief Infant Sleep Questionnaire (BISQ) is one of the sleep screening tools which is simple, reliable and valid tool and is being used for screening of sleep problems in infants and toddlers in various countries.

Objectives: The objective of this study was to translate English version of Brief Infant Sleep Questionnaire to Nepali language using a standard technique so that Nepali version could be used to screen sleep problems in Nepalese infants and toddlers.

Methods: This article describes the process of translation of original BISQ questionnaire into Nepali language in a standard method. Four bilingual paediatricians translated English BISQ to Nepali language which was then tested among few parents for understanding, clarity and uniformity of expected response. A draft version was finalized after consensus of translators, two expert paediatricians and original author. This version was then translated back into English by two independent medical professionals and compared with original BISQ for content and meaning. The final version of Nepali translation was approved after consensus agreement.

Results: The translated Nepali BISQ was then tested among 15 parents who had a child below three years of age. These parents did not find difficulty in understanding and responses were uniform and as expected from the original questionnaire.

Conclusion: The Nepali version of BISQ could be applicable as a screening tool to assess sleep in infants and toddlers in clinical setup as well as research studies.

Key words: BISQ, Infant Sleep Questionnaire, Nepali sleep questionnaire, Sleep questionnaires.
A Nepali translation of Brief Infant Sleep Questionnaire (BISQ) for assessment of sleep in infants and ... screening tool for sleep disorders in children under the age of three years. The items are related to the sleep pattern in infants and toddlers within the past two weeks. It is easy to administer and can be completed within five to ten minutes. It is a simple sleep questionnaire and has been translated into many languages.

The BISQ was translated to Nepali in accordance with standard guidelines. The objective of translation was that this questionnaire could be used to screen sleep related problems in Nepalese infants and toddlers visiting the outpatient and immunization clinics and to enable comparison with normative data collected in other countries around the world.

METHODS

The permission for translation of the original English version of BISQ sleep questionnaire to Nepali and use of this questionnaire for clinical purpose was obtained from the original author.

The first phase involved forward translation from English to Nepali which was done by four paediatricians independently. The native language of the paediatricians involved in the forward translation is Nepali and all of them are well versed in English. The best response for each question was chosen among the responses of the translators and compiled into a complete set of a questionnaire. This first draft of Nepali version was then critically analyzed by two expert senior paediatricians independently. There were a few comments and suggestions for the change of words in the initial draft by the experts. This initial draft was finally revised by consensus of experts and involved paediatricians incorporating the suggestions. This revised questionnaire was tested among different small subsets of parents of children aged less than three years for clarity of language and understanding. All the questions were clear among the respondents except for a question pertaining to the position of the toddler during sleep. With a few modifications and discussion with the experts, the first Nepali version of BISQ was prepared which was then translated back into English.

The back translation from Nepali to English was done to identify if the original English version and translation from Nepali version had similar meaning and understanding. This was carried out by two experts independently; one was a physician whose primary language is English and well versed in Nepali and the other expert was a professional medical translator who is an expert in questionnaire translation. Both of these back translators were previously not exposed to the original English version of the questionnaire. They independently performed the back translation into English from the revised first draft Nepali version. The back translated English version was compared with the original English version of BISQ and was again discussed with the experts for the homogeneity, clarity of the content and meaning. There were few differences in vocabulary; however the core content and meaning were found to be similar. Final consensus was reached among the expert pediatricians and the translating pediatricians regarding the Nepali version of BISQ which was then communicated to and approved by the original author. (Appendix)

RESULT (POST QUESTIONNAIRE TESTING)

The Nepali translation of the questionnaire was piloted with 15 parents whose children were less than three years of age. This included medical doctors, non-medical hospital staffs, parents attending the immunization clinic and parents of play school children, who completed questionnaire independently. The respondents had no difficulties in understanding the questionnaire, their answers were appropriate and none of the parents returned questionnaire for any clarification.

DISCUSSION

Our pilot study in a small number of parents found that the Nepali version of the BISQ sleep questionnaire was clear, easy to use, took a short time to complete and was applicable in different settings like outpatient clinics, well baby visit, play school and inpatients ward. Ambiguities of questions were not reported and responses to the questions were as expected as in the English version.

The validity and reliability of the original BISQ has already been established in previous studies using sleep diary, actigraphy and patient survey through internet. The BISQ questionnaire is clinically applicable and has been used in research. The strength of original BISQ questionnaire is that it is a ‘multidimensional’ sleep screening tool in infants. A child requires attention for a question pertaining to the position of the toddler during sleep. With a few modifications and discussion with the experts, the first Nepali version of BISQ was prepared which was then translated back into English.

The limitations of the questionnaire are reporter bias and inapplicability to children with developmental disorders like autism. The original BISQ has been even modified to incorporate history, physical examination, twin birth, prematurity, snoring habit, smoking habit, siblings, breastfeeding, bedtime rituals,
parents’ occupation, educational level and income range and this has been validated in an Indonesian study\textsuperscript{10}. It has been translated into many languages in diverse cultural settings\textsuperscript{5} but needs further research to identify possible effects of culture on BISQ sleep questionnaire\textsuperscript{2}. The most important characteristics of any translated questionnaire should be standardized method for the translation, ease of use, clarity, reproducibility and ultimate validation\textsuperscript{11}. There is lack of awareness and attention to sleep problems by child health care provider, not only in Nepal but throughout the world\textsuperscript{5}. There should be an increased awareness and advocacy towards the detrimental effects of paediatric sleep problems. The use of screening tool to enable early identification and treatment for childhood sleep problems should be encouraged. Although there are various screening tools in use, none of the questionnaires are in Nepali language. Translation of this screening questionnaire is an important step to overcome this situation.

This Nepali version of BISQ questionnaire could be incorporated into outpatient and well baby clinic as well as for further large scale research to detect sleep related problems in Nepalese children. This questionnaire can be modified and new questions could be incorporated based on the research finding in Nepalese children and most importantly it should be validated each time when modified.

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**APPENDIX: NEPALI VERSION OF BISQ**

प्रनावली

कृपया तपाईलाई सैबिन्द्रा उपयुक्त लागेको उत्तरमा चिह्न लगाउनु होस्।

- उत्तरदाताको नाम :  
- बच्चास्फालको नाम: ☐ बुवा ☐ आमा ☐ हनुमुवा / आमा ☐ अन्य................. (कृपया नाता खुनाउनुहोस्)
- बच्चाको नाम : जन्म भिति: .............. साल ............ महिना ...... गते
- लिख : ☐ पुरुष ☐ महिला
- जन्मक्रम : ☐ सैबिन्द्रा जेठो ☐ बीचको ☐ सैबिन्द्रा कान्छो
- बच्चाको सुल्ने ठाउँ:  
  ☐ अलग अलग कोटाहा रहेको सानो ओछ्राहान/कोकोमा  
  ☐ आमाबाहार कोटाहार रहेको सानो ओछ्राहान/कोकोमा  
  ☐ आमा / बुवास्फाल ओछ्राहानमा  
  ☐ अन्य ओछ्राहान सुल्ने कोटाहा रहेको सानो ओछ्राहान/कोकोमा  
  ☐ अन्य ......................... (कृपया खुनाउनुहोस्)
• तपाईंको बच्चा धैर्य जसो डर्ने कस्तो सुल्न मनपराउँछ्?
  □ छोटो परेर
  □ उल्टानो परेर
  □ कोल्टो परेर

• तपाईंको बच्चा बेलुका 7 बजे देखि बिहान 7 बजे भिन्न कति बेर निदाउँछ?
  ………………घण्टा……………………मिनेट

• तपाईंको बच्चा बिहान 7 बजे देखि बेलुका 7 बजे भिन्न कति बेर निदाउँछ?
  ………………घण्टा……………………मिनेट

• तपाईंको बच्चा रातभरमा लगभग कति पटक बिउफिन्नछ?
  ………………. पटक

• तपाईंको बच्चा रातभरमा धैर्य जसो जम्मा कति बेरका लागि बिउफिन्नछो हुन्?
  (राती 90 बजे देखि बिहान 6 बजे भिन्न)
  ………………घण्टा……………………मिनेट

• तपाईंको बच्चालाई बेलुका सुताउन प्राय कति बेर लाग्नु?
  ………………घण्टा……………………मिनेट

• तपाईंको बच्चालाई सुताउन के गर्दा सजिलो हुन्छ?
  □ बुधाउँ गर्दा
  □ भूलैधुमा/हल्लैधुमा
  □ बोकेर
  □ एकल ओछ्यानमा पल्टाउँदा
  □ आमा/बुझासौंग ओछ्यानमा पल्टाउँदा

• तपाईंको बच्चा रात्र प्राय: कति बेर निदाउँछ?
  ………………बजे………………मिनेट

• तपाईंलाई आफ्नो बच्चाको सुताउमा समस्या छ जस्तो लाग्ने?
  □ धैर्य टुलो समस्या (यदि समस्या छ भने कृपया उल्लेख गर्नु हो।……………………………)
  □ सानो समस्या (यदि समस्या छ भने कृपया उल्लेख गर्नु हो।……………………………)
  □ कृपै समस्या छैन।
REFERENCES


