

THE TRANSLATION AND ADAPTATION OF THE PARENT PROXY KID-KIDDOKINDLR^R QUESTIONNAIRE ON QUALITY OF LIFE (QoS) FOR PRIMARY SCHOOL-AGED CHILDREN WITH HEARING IMPAIRMENT

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ABSTRACT

The objectives of this paper are to translate and adapt the parent proxy Kid-KiddoKINDLR^R questionnaire on Quality of Life (QoL) for children with hearing impairment into Malay language and to describe the translation techniques used, as well as the equivalence issues, with regards to morphology and semantics, encountered during the process. A combined technique of forward-backward translation was used following the translation protocol provided by KINDL developer. The techniques involved in the translation process were the forward translations by three translators, reconciliation between the translations. Next, this questionnaire was backward translated, and harmonised. As the types of equivalence were determined, several related issues were identified; vocabulary equivalence, idiomatic equivalence and grammatical-syntactical equivalence. However, it can be reported that there were no issues in experiential and conceptual equivalence during the process. The translation of this questionnaire is essential in order to shed light on the children's QoL in the Malay speaking community.

Keywords: adaptation, cross-culture, hearing impairment, quality of life, translation studies, Malay, medical document, pediatrics

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INTRODUCTION

Hearing is a fundamental function that is needed by every child and according to Nunes Ramires, Alves Branco-Barreiro & Piza Peluso (2016), the children's development is affected when they have hearing loss. For instance, children with severe or profound hearing loss have difficulties in receiving spoken language input as they do not get enough auditory stimulation. Thus, they will have problems in communication and social interactions, which may lead to isolation and low self-esteem Looi, Zheng, and Loo (2016). In a larger perspective, hearing loss may impair the quality of these children's lives. Streufert (2010) mentioned that hearing assessments did not show the impacts of hearing loss on people as the results in an audiogram will give only the quantitative measurement that reflects the level of hearing impairment.

In the meantime, Quality of Life (QoL) is defined by the World Health Organization (1997) as the people's own perspectives about their life in the concept of culture and values based on their aims in life. QoL comprises social status, physical and psychosocial of individuals and other aspects that can give impact to people's life Looi et al. (2016). In the healthcare sector, particularly audiology, QoL of the clients is continually assessed as to determine the best intervention and management. For pediatrics, there are many QoL assessment tools available just for this purpose.

These questionnaires are translated into different languages in order to serve a specific speaking community. According to Epstein, Santo, and Guillemin (2015), translation is a process of transferring the document from one language to another and adaptation was the process in preserving the equivalence by focussing on the discrepancies between both cultures. The direct translation method of an instrument, most of the time, is not capable of achieving the content equivalence between two languages Cha, Kim and Erlen (2007) and Sechrest, Fay, and Hafeez Zaidi, (1972). Moreover, Herdman, Fox-Rushby and Badia (1997) states that though the guidelines for translation of QoL instrument were established, there were only a few documentations on how the content equivalence of the translated questionnaire was achieved.

To date, there are many QoL measurement tools which can be used to assess the QoL among various age groups (Roland, Fischer, Tran, Rachakonda, Kallogjeri, & Lieu, 2016). However, there are fewer studies on the comparison of the QoL between children with hearing impairment and normal hearing children (Huber, 2005 and Streufert, 2010). Streufert (2010) also mentioned that the QoL measuring tools for adults are not suitable for children as the level of comprehension between adult and children is different. Thus, there is a need for studies with regards to these aspects using somewhat suitable measuring tools in order to identify the effect of hearing loss on the children's lifestyle.

Furthermore, there is an urgent need for such a document to be available in Malay, where it is a language spoken by almost 77 million speakers (native and non-native). To the best of our knowledge there are no other questionnaires focussing on the QoL of pediatric with hearing impairment available in this language. There is one QoL questionnaire which is translated into Malay focussing on children with thalassemia (Ismail, Campbell, Ibrahim, & Jones, 2006)

The parent-proxy version of Kid-KiddoKINDL^R questionnaire (Ravens-Sieberer and Bullinger, 1998) was originally developed in Germany and is available in several languages such as Chinese for assessing health-related QoL for children aged between 7 to 17 years old. There are actually many versions of KINDLR questionnaire sets based on children's age

group. For self-report, the questionnaire is divided into 3 versions which are Kiddy-KINDLR (4-6 years old), Kid-KINDLR (7-13 years old) and Kiddo-KINDLR (14-17 years old). At the same time, the parent-proxy version of KINDLR questionnaires are categorised as Kiddy-KINDLR (3-6 years old) and Kid-KiddoKINDLR (7-17 years old).

This particular questionnaire was selected because there is a need to study parents' perspectives on their children's QoL due to hearing impairment. Moreover, parents' rating is important in helping clinicians evaluate children with hearing impairment as well as children who are using hearing devices. Using the KINDLR questionnaire to examine the QoL of children with cochlear implants, Huber (2005) finds that these children have a lower QoL as compared to the normal hearing children.

The parent-proxy version of Kid-KiddoKINDLR questionnaire contained 24 Likert-scaled items that comprised six aspects of children's QoL (physical well-being, emotional well-being, self-esteem, family, friends, and school). The aims of this paper are to translate and adapt the parent-proxy English version of Kid-KiddoKINDLR^R questionnaire into Malay and report the issues during the process in order to achieve equivalence between both languages.

METHODOLOGY

Translation procedure

After the permission was granted by the KINDLR developer team to translate and adapt this document, the researchers applied the techniques suggested by Cha et al. (2007) which involved the forward translations, reconciliation between forwarding translations, backward translation, and international harmonisation.

According to Epstein et al. (2015), the harmonisation process involves reviewing all of the translations, making the decision to choose the best-translated words/sentences and achieving agreement on any discrepancies semantically. After completing the backward translation, these products are compared to the original version of the questionnaire for any errors or miscomprehension of any of the items. As proposed by Epstein et al., (2015) the equivalence is checked by looking at any errors or discrepancies between backward translation and the original version of the questionnaire. The suggested committee involved in the harmonisation are the research team, all translators, health professionals, methodologists and independent people (Bombardier, Guillemin, and Ferraz, 1998).

Translators and harmonisation panel

There were three translators involved in the translation process. For forward translation, two bilingual translators were selected. Both translators were native speakers of Malay and reported good competency in English. Meanwhile, the backward translator was a linguist fluent in both Malay and English.

The panel for harmonisation consisted of five bilinguals; four of them were the speakers of Malay. Out of these four members, three were academics with an audiology background and one was a postgraduate student with qualification in translating surveys. The final member in the team was a speaker of German and English; she was a representative from the KINDLR developer team who was responsible to review and identify the differences noted in the Malay version of Kid-KiddoKINDLR^R and the original version. Any discrepancies identified were highlighted and brought to the panel to be deliberated. This process was

carried out in order to ensure that the semantics for both documents were of the same equivalence.

Analysis

All analyses were done qualitatively and the outcomes for each translation process are presented next.

RESULTS

Forward translations

The forward translation was conducted by translating the original English version into Malay. Differences in the words chosen by both translators in order to achieve similar meaning with the original items were noted. In total there were 13 differences in word choice between the two translators, as listed in Table 1.

Table 1. Choices of word

Item no.	Original English words	Forward Translation 1	Forward Translation 2
3.	“often”	“selalu”	“kerap”
5.	“Well-being”	“Kesejahteraan”	“Kesihatan”
6.	“ill”	“tidak sihat”	“sakit”
8.	“tired and worn-out”	“letih dan penat”	“penat dan lesu”
13.	“alone”	“sendirian”	“sunyi”
14.	“unsure”	“tidak pasti”	“tidak yakin”
22.	“fine”	“baik”	“selesa”
23.	“quarrelled”	“bergaduh”	“bertengkar”
24.	“bossing”	“mengarah-arahkan”	“mengongkong”
31.	“coped”	“mengendalikan”	“bertahan”
32.	“enjoyed”	“menikmati”	“seronok”
33.	“worried”	“bimbang”	“risau”
34.	“bad”	“buruk”	“teruk”

Reconciliation of forward translations

The reconciliation meeting was conducted involving two translators and one language expert who discussed all the possible differences between the forward translations and resolved the differences by determining by consensus the best words to use for each item. For example, “quarrelled” may be translated as “bergaduh” or “bertengkar” in the Malay language. Thus, all panels agreed to use “bertengkar” for the reconciled version of forward translation as it gave the closest meaning to “quarrelled”. The reconciliation in the choice of words was done while ensuring that the semantic equivalence of the words with those in the original version of Kiddo-KiddoKINDL^R questionnaire was maintained

Backward translation

Next, the reconciled version of the forward translation was backward translated into English by one independent expert. The backward translation was the version that was then used as reference by the KINDL developer team for discussion and comparison with the original version of Kid-KiddoKINDL^R questionnaire during the international harmonisation process

International harmonisation

The summary of the harmonisation process

The harmonisation discussion started when the backward translation was forwarded by email to the KINDL developer team. In their reply, 25 translated items were identified as problematic and to be further revised. The problematic items were reviewed by the research team. However, due to the unclarity of the instructions for the revision work, only items with red and orange codes were revised by the research team. This revised version of the backward translation of Kid-KiddoKINDLR^R questionnaire was forwarded to the KINDL developer team. Unfortunately, again due to human error, the new backward translation was not attached along. This had led to the second harmonisation process in which the KINDL developer team had colour- coded all 34 items (including the instructions and headings in the questionnaire) Specifically, one item was coded in red (indicating a total change in wording), four orange (indicating obvious changes in wording that might affect the meaning), 21 light green (indicating some changes in wording but not in meaning) and 8 dark green (indicating no changes in wording or meaning) as presented in Table 2. Each of the items were reviewed by the research team. In order to produce a new backward translation version of Kid-KiddoKINDLR^R questionnaire, all equivalence issues were addressed and resolved, as detailed below.

Table 2. Total items based on colour coding

Colour Code	Number of items
Red	1
Orange	4
Light green	21
Dark green	8

Issues in the Translation Work

Equivalence issues of translation process

In order to achieve the final version of Malay Kid-KiddoKINDLR^R, there were several issues in equivalence identified. The examples of list of items related with equivalence issues are presented in Table 3. The full list of these items can be found in Appendix A

Table 3. Examples of the list of items related with equivalence issues

Item No	Original English version	Final Malay version	Vocabulary Equivalence	Idiomatic Equivalence	Grammatical-Syntactic Equivalence
6	my child felt ill	... <i>anak saya berasa tidak sihat</i>	√		
8	my child was tired and worn-out	... <i>anak saya penat dan tidak berdaya</i>	√		
9	my child felt strong and full of energy	... <i>anak saya berasa kuat dan bertenaga</i>	√		
11	... my child had fun and laughed a lot	... <i>anak saya berseronok dan banyak ketawa</i>	√		
12	... my child didn't feel much like doing anything	... <i>anak saya tidak berasa seperti mahu melakukan apa-apa</i>	√		√
13	my child felt alone	... <i>anak saya berasa sendirian</i>	√		
14	my child felt scared or unsure of him-/ herself	... <i>anak saya berasa takut dan tidak pasti dengan diri sendiri</i>	√		

During the translation process, there were several items in the Kid-KiddoKINDL^R questionnaire which had no exact words in the Malay language which fit the meaning of the sentences. The vocabulary equivalence issue between the Malay translated version of the questionnaire with the original version occurred during the translation process. For example, the word “fine” might be translated as “*selesa*” (comfortable), “*tenang*” (calm) and “*baik-baik sahaja*” (just well) in the Malay language. After the international harmonisation, all panels agreed to choose “*baik-baik sahaja*” (just well) which gave the closest meaning to the original item and was considered acceptable in the Malay culture.

Idiomatic equivalence issue

There was only one idiom in the English original version of Kid-KiddoKINDL questionnaire. According to Cha et al. (2007), any idiom in the original language should not be translated literally as it will produce unrealistic meaning. the idiom of “felt on top of the world” found in the English version of the questionnaire was translated as “*berasa sangat gembira*” (feel very happy) which was close in meaning with “felt very happy” and suitable with the Malay cultural understanding.

Grammatical-syntactical equivalence issue

The common grammatical-syntactical equivalence issue was involved in the word arrangement, use of comma and verb tense and distinction (Cha et al., 2007). In this study,

there were several issues in the use of comma and word arrangement between original items with the translated items. For instance, "... my child got on well with us as parents" was translated to "... *anak saya rapat dengan kami, ibu bapanya.*" (my child is close with us, his/her parents) in the Malay language. The comma was used in the Malay translated sentence for the word "as" because the comma was suitable and gave a similar meaning to the original item.

In addition, as stated by Sechrest et al. (1972), the common problems of grammatical-syntactical equivalence occurred in the translation of long sentences and the rules of grammar and syntax for every language are different. This issue can be seen in the first item of a questionnaire which consists of the instructions for answering the questionnaire. For instance, "... your child's well-being and health-related QoL" was translated into "... *kesejahteraan dan kualiti kehidupan berkaitan kesihatan anak anda*" (wellbeing and QoL related to the health of your child) as the arrangement of words were discussed by all language experts in order to avoid the semantic gap between the original version and the Malay translated item.

Other findings related to equivalence in the translation process

There were no issues in experiential equivalence during the translation process. As described above, experiential equivalence referred to the equal interpretation between translated version and the original version of the questionnaire (Sechrest et al., 1972). Experiential equivalence was attained in the current work as all translators and all language experts had similar cultural knowledge of both the culture from which the questionnaire originated (i.e., the English culture) and the targeted culture (i.e., the Malay culture).

The conceptual equivalence was also maintained during the translation process as all panels involved were informed by the researcher about the main concept of this research conducted. The conceptual equivalence is obtained when the translated instrument has similar concept between the original and targeted cultures. Thus, the concept used in the translated version was similar to the concept of an original Kid-KiddoKINDLR^R questionnaire which was to measure the QoL on school-aged children based on parent's perspectives.

With all equivalence issues resolved and each type of equivalence was therefore achieved, a new backward translation of KID-KiddoKINDLR^R was produced and approved by the developer team.

DISCUSSION

The Translation Process

The combined techniques of cross-cultural translation consisting of forward translations, reconciliation of forward translations, backward translation, the international harmonisation of problematic items as suggested by Cha et al. (2007) were practiced in this study. The techniques were beneficial considering the small number of translators involved and short translation period as compared to classic backward translation models by Brislin (1970) that need more translators for translation procedure. By conducting the combined techniques of translation work, there was also reduction in cost because only three bilingual translators were needed during the translation process. Moreover, in the discussion of the translated items in each international harmonisation no more than four people were involved. Thus, the

combined translation techniques effectively produced a good final Malay version of Kid-KiddoKINDL^R questionnaire.

As stated by Eremenco et al. (2005), the aim of forward translation was not just to translate directly, but to find the similar meaning with the original items. This study involved two forward translations produced by two bilingual translators who were Malay native speakers as recommended by Bombardier et al. (1998). The analysis of this forward translation process revealed that there were different choices of words made by both translators in order to achieve semantic equivalence. It might be due to the fact that the original word had more than one translated words which were synonyms or the exact translated words were not suitable for the intended original items.

From this study, the reconciliation between two forward translations was important in order to resolve any discrepancies between both forward translations, as suggested by Cha et al., (2007). Moreover, the different choices of words from each forward translation were solved in the reconciliation meeting as both translators agreed on the best words which matched with the intended meaning of the original items. Thus, the reconciled version of forward translation was produced by the agreement of both forward translators with the same cultural knowledge.

The backward translation technique was contributed in this study as it was the important baseline during the international harmonisation between the research team and KINDL developer team. This was because the bilingual language expert from KINDL developer team only specializes in German and English language. Thus, during the international harmonisation, the KINDL language expert only reviewed the backward translation, the original version of Kid-KiddoKINDL^R questionnaire and the justification provided by the research team. In addition, backward translation also helped the both teams to identify any discrepancies of all items which might lead to semantic inequivalence (Epstein et al., 2015).

For this study, the roles of all translators and language experts in the international harmonisation were important in order to achieve a clear Malay version of the Kid-KiddoKINDL^R questionnaire. This was supported by Cha et al., (2007); Epstein et al., (2015); and Gorecki, Brown, Briggs, Coleman, Dealey, McGinnis et al. (2015) as the involvement of expert panels were helped in accessing all translations, gave the best decision and resolved any discrepancies between the translated versions of the instrument with the original version. We obtained a clear final Malay version of the Kid-KiddoKINDL^R questionnaire due to the contribution of ideas and opinions of all translators and also the language experts during the translation work. Furthermore, the participation of bilingual and multinational language expert panels was recommended in order to analyze the translation works based on their cultures or nation Epstein et al. (2015).

Equivalence Issues in Translation Procedure

As proposed by Sechrest et al. (1972), there were five equivalence aspects in the translation procedure. The equivalence aspects were analysed in this study and further discussed below.

Idiomatic equivalence

As mentioned before, there was only one idiom in the English original version of Kid-KiddoKINDL^R questionnaire. According to Cha et al. (2007), any idiom in the original language should not be translated literally as it will produce unrealistic meaning. Thus, they

suggested the translators to familiarize with the idiom and translate by using the decentering technique. According to Cha et al., (2007), decentering technique did not involve of word-to-word translation but more focus on the meaning of original item. Thus, it was important for the researcher to find the qualified bilingual translator as they were required to understand the intended meaning of all items before proceeding with the translation work.

Grammatical-syntactical equivalence

The common grammatical-syntactical equivalence issue involved is in the word arrangement, such as; the use of comma, the verbs and the tenses (Cha et al., 2007). In this study, there were several issues in the use of comma and word arrangement between original and the translated text. For instance, the use of a comma in the Malay translated sentence for the word "as" ensured the item to have a similar meaning as in the original text.

In addition, as stated by Sechrest et al. (1972), the common problems of grammatical-syntactical equivalence occurred in the translation of long sentences and the rules of grammar and syntax for every language are different. This issue can be seen in the first item of a questionnaire which consists of the instructions for answering the questionnaire. In this study, the arrangement of words were discussed by all language experts in order to avoid the semantic gap between the original version and the Malay translated item. Moreover, as cited by Abidin et al. (2016), English and Malay languages have similar rules in the Subject-verb-object (SVO) agreement (Awal, Bakar, Hamid & Jalaluddin, 2006; Young, 2001).

Experiential equivalence

According to Sechrest et al. (1972), the successful translated instrument was achieved from the mutual feedback from the targeted culture with the original culture. Due to different cultural knowledge, the items might be interpreted differently (Cha et al., 2007). In the current work, there was no issue in experiential equivalence during the translation work because all translators and language experts involved in the procedure were in the similar cultural understanding. For example, the original word of "enjoyed" in item 32 ("...my child enjoyed the school lessons") was translated as "seronok" because the exact translated word "menikmati" was not acceptable in cultural context of the translated item which was "...anak saya menikmati pelajaran sekolah". In addition, Cha et al. (2007) also mentioned that the involvement of all panels in reviewing all translation outcomes was important in order to identify any discrepancies created by the translators.

Conceptual equivalence

There was no issue in the conceptual equivalence during the translation procedure. According to Herdman et al. (1997), the conceptual equivalence is achieved when the translated instrument contains consistent concepts with the original instrument. During the translation procedure, all panels involved understood the big concept of the Kid-KiddoKINDLR^R questionnaire which was to assess the QoL for children with hearing impairment based on parental report. Thus, all bilingual panels discussed the items by reviewing the translated items from the perspectives of parents'.

However, the conceptual equivalence can be further improved by conducting a pre-testing in order to identify any gaps of concept in both cultures, as recommended by Cha et al. (2017).

CONCLUSION

The translation procedures are crucial in the cross-cultural adaptation of an instrument. Hence, the combined techniques of translation were useful in producing a clear version of Malay Kid-KiddoKINDL^R questionnaire, as recommended by Cha et al. (2007). The equivalence issues during translation procedure are suggested to be investigated in every cross-cultural research as it plays an important role in determining whether the instrument is culturally accepted by the other target cultural group (Cha et al., 2007; Sechrest et al., 1972). Furthermore, the harmonisation of all translation gives more advantage in checking the discrepancies between the translated questionnaire with the original version by considering all equivalences in translation procedure.

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APPENDIX A

List of items related with equivalence issues

Item No	Original English version	Final Malay version	Vocabulary Equivalence	Idiomatic Equivalence	Gramamtical -Syntactical Equivalence
1	<p>Dear Parent, We really appreciate your taking the time to complete this questionnaire about your child's well-being and health-related quality of life. Since it is a matter of your own assessment of your child's well-being, please complete the questionnaire yourself according to the instructions, i.e. without asking your child.</p> <ul style="list-style-type: none"> - Read each question carefully. - Think about how your child has been feeling during the past week. - Put a cross in the box corresponding to the answer in each line that fits your child best. 	<p><i>Ibu bapa yang dihormati, kami amat menghargai kesudian anda meluangkan masa untuk melengkapkan borang soal selidik ini mengenai kesejahteraan dan kualiti kehidupan berkaitan kesihatan anak anda. Oleh kerana ini adalah penilaian anda sendiri tentang kesejahteraan anak anda, sila lengkapkan soal selidik berikut berdasarkan arahan yang diberi, iaitu tanpa mengajukan pertanyaan kepada anak anda. - Baca setiap soalan dengan teliti. - Fikirkan tentang bagaimana keadaan anak anda sepanjang minggu lalu. - Pangkah jawapan yang paling sesuai menggambarkan anak anda dalam kotak yang berkenaan untuk setiap soalan.</i></p>	√		√
6	my child felt ill	<i>... anak saya berasa tidak sihat</i>	√		
8	my child was tired and worn-out	<i>... anak saya penat dan tidak berdaya</i>	√		
9	my child felt strong	<i>... anak saya berasa</i>	√		

	and full of energy	<i>kuat dan bertenaga</i>			
11	... my child had fun and laughed a lot	<i>... anak saya berseronok dan banyak ketawa</i>	√		
12	... my child didn't feel much like doing anything	<i>... anak saya tidak berasa seperti mahu melakukan apa-apa</i>	√		√
13	my child felt alone	<i>... anak saya berasa sendirian</i>	√		
14	my child felt scared or unsure of him-/herself	<i>... anak saya berasa takut dan tidak pasti dengan diri sendiri</i>	√		
17	my child felt on top of the world	<i>... anak saya berasa sangat gembira</i>	√	√	
18	... my child felt pleased with him-/herself	<i>... anak saya sangat berpuas hati terhadap diri sendiri</i>	√		√
19	my child had lots of good ideas	<i>... anak saya mempunyai banyak idea yang baik</i>	√		
21	my child got on well with us as parents	<i>... anak saya rapat dengan kami, ibu bapanya.</i>	√		√
22	my child felt fine at home	<i>... anak saya berasa baik-baik sahaja di rumah.</i>	√		
23	we quarrelled at home	<i>... kami bertengkar di rumah</i>	√		
24	my child felt that I was bossing him/her around	<i>... anak saya merasakan bahawa saya mengarah-arrah dirinya.</i>	√		√
26	my child did things together with friends	<i>... anak saya melakukan perkara bersama rakan-rakannya</i>	√		
27	my child was liked by other kids	<i>... anak saya disukai kanak-kanak yang lain</i>	√		

28	... my child got along well with his/her friends	... <i>anak saya bergaul baik dengan rakan-rakannya</i>	√		
29	my child felt different from other children	... <i>anak saya berasa berbeza daripada kanak-kanak lain.</i>	√		
31	my child easily coped with schoolwork	<i>anak saya mudah mengendalikan kerja sekolah</i>	√		
32	my child enjoyed the school lessons	... <i>anak saya seronok dengan pembelajaran sekolah</i>	√		
34	my child was afraid of bad marks or grades	... <i>anak saya berasa takut dengan markah atau gred yang teruk</i>	√		