






Language barriers and the use of professional interpreters: a national multisite cross-sectional survey in pediatric oncology care

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ABSTRACT

Background: Healthcare personnel are responsible for providing patient-centered care regardless of their patients' language skills, but language barriers is identified as the main hindrances providing effective, equitable and safe care to patients with limited proficiency in a country's majority language. This study is a national multisite cross-sectional survey aiming to investigate communication over language barriers in pediatric oncology care.

Material and Methods: A survey using the Communication over Language Barriers questionnaire (CoLB-q) distributed to medical doctors, registered nurses and nursing assistants at six pediatric oncology centers in Sweden (response rate 90%) using descriptive statistical analyses.

Results: Professional interpreters on site were the most common solution when using an interpreter, although relatives or even children were used. The use of professional interpreters on site differed among the professions and in different clinical situations, such as medical encounter, education or procedure preparation. All professions reported that the use of professional interpreters greatly increased care relationships, patient safety and patient involvement in care.

Conclusions: Healthcare personnel seem to believe that professional interpreters are crucial when caring for patients and family members who do not speak the majority language, but there is an obvious discrepancy between this belief and their use of professional interpreters.

ARTICLE HISTORY

Received 26 September 2018
Accepted 5 March 2019


Introduction

The increased global migration creates cultural and linguistic challenges in pediatric healthcare. Of Sweden's more than two million children under the age of eighteen, 23% have a foreign background according to Statistics Sweden [1], and migration and the mixed population are reflected in all healthcare settings nationwide. Healthcare personnel are responsible for providing patient-centered care regardless of their patients' language skills or other personal characteristics. Previous research has identified language barriers as the main hindrances to providing effective, equitable and safe care to patients with limited proficiency in a country's majority language [2–6]. Providing patient-centered care is even more crucial in pediatric care not only because of the rights of children to tailored information and to respect for their views and wishes according to their maturity [7,8] but also because of the parents'/guardians' rights and obligations to be informed and to participate in procedures and care decisions in Swedish healthcare [9]. In Sweden, healthcare personnel are required by law to provide individually tailored information and are regulated by the Patient Act [2014:821

[8]. The rights to a professional interpreter in encounters with public services is imparted in the Swedish Administrative Act [2017:900] [10] and all healthcare personnel can book a professional interpreter via interpreting agencies that have been subject to public procurement and is financed by the Swedish welfare system. Healthcare personnel are also obliged to follow the general evidence-based guidelines, regarding communication with or without a professional interpreter in the Swedish Handbook for Healthcare [11]. However, interpreter-mediated consultations have not been included in medical and nursing training in Sweden.

When patients/families have limited proficiency in a country's majority language, language barriers are a critical obstacle to patient-centered care because they hinder effective communication between healthcare personnel and patients/families. The use of professional interpreters reduces costs, improves healthcare and increases medical safety [4,5]. Several studies show that treatment time increases and patient-safe communication decreases when professional interpreters are not used [12–14]. In pediatric oncology as well, qualitative studies have described the effects of an insufficient use of professional interpreters, especially among

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 Supplemental data for this article can be accessed [here](#).

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nursing staff [15,16]. Language barriers have a negative impact on the healthcare relationship [15]. It impairs the parents' role in caring for their child, and decreases their possibilities of understanding important information essential for the quality of care [16]. Furthermore, sometimes the child achieves proficiency in the countries' majority language before the parents which influence power-relations in the family [17].

Pediatric oncology care is a complex communication and information context where effective, patient-safe communication between healthcare personnel and patients/families is vital. This is related both to the complex medical and nursing information that parents need to understand to be able to participate in the child's care but also to the emotional stress that comes from the child having a life-threatening illness. Parents' understanding of the child's care and treatment is essential since they are the primary care-givers between hospital stays. We assumed that healthcare personnel in pediatric oncology care in Sweden did not use professional interpreters to an extent where secure, effective and safe communication with patients/families with low Swedish proficiency could be guaranteed. To date, no cross-sectional surveys about language barriers and the use of professional interpreters have been carried out within pediatric oncology care. There is a need for more detailed information in this context on how communication over language barriers is performed and enabled. This knowledge could be used to improve safe communication with patients/families with low proficiency in a countries' majority language.

In our, reliability tested and validated Communication over Language Barriers questionnaire (CoLB-q) [18], we have defined a professional interpreter as a 'person who interprets on site or through telephone/video technology, booked through an interpreting agency'. We have used 'an individual who translates' to describe ad hoc interpreters.

In this multisite cross-sectional survey, we aimed to investigate communication over language barriers in pediatric oncology care. More specifically, how language barriers are overcome in different types of communication situations (e.g., medical and/or nursing encounters), how do different healthcare professions (medical doctors (MDs), registered nurses (RNs), nursing assistants (NAs)) relate to such language barriers, to what extent are professional interpreters or other communicational tools used, and to what extent are other individuals used to translate?

Material and methods

Study design

The study design was a national multisite cross-sectional survey with respondents from the six pediatric oncology centers in Sweden. The survey used the CoLB-q, [supplementary Figure 1](#). CoLB-q is a valid and reliable self-administered questionnaire containing 10 demographic background questions, 14 closed questions with related items and three open-ended questions. The answers to the closed questions were on a four-step Likert-type scale ([Supplementary Table 1](#)) [18,19].

Selection and data collection

The questionnaires ($n=312$) were administrated by the research group to healthcare personnel, that is, MDs, RNs and NAs, at six pediatric oncology centers in Sweden. The personnel were invited to answer the questionnaire during their center's clinical meetings or training sessions. Data collection was carried out between February and September 2016. The response rate was 90% ($n=281/312$). In order to limit the non-response, the questionnaire was distributed during clinical meetings or training sessions where all personnel at the center were expected to attend. Responding to the questionnaire was voluntary, and 31 of the professionals (10%) chose not to participate. Of the 281 respondents, we included 267 in our analysis as they matched our inclusion criteria (i.e., MD, RN or NA with direct patient care in their assignment).

The questionnaire included questions about the respondents' gender, healthcare education, profession and active years in pediatric healthcare.

Data analysis

Descriptive statistical analyses were carried out with a focus on frequency distributions. In some cases, cross-tabulations were used, including nonparametric chi-square tests. The data in this study cover the whole population of MDs, RNs and NAs in direct patient care working at pediatric oncology centers in Sweden. Therefore, due to the risk of inflation of type I error (i.e., false positives), we have not made systematic calculations of p values. When p values were calculated in the cross-tabulation, statistical significance was set for a p value of $<.05$. All statistical analyses were performed using IBM® SPSS® Statistics Version 24 (Armonk, NY).

Ethical considerations

The Regional Ethical Review Board in Stockholm (2015/1783-31/5) has given an advisory statement that there were no ethical issues with the study. All procedures were in accordance with the ethical standards of the ethical review board based on the 1964 Declaration of Helsinki and its later amendments, or comparable ethical standards [19]. Written information, including information about the aim of the study and confidentiality, was provided to the respondents before they answered the CoLB-q, and the completion and return of the survey implied that the respondents consented to participate in the study.

Results

Communication over language barriers without or with a professional interpreter among MDs, RNs and NAs in pediatric oncology care is presented below.

[Table 1](#) shows the demographic profile of the respondents. Of the respondents, 221 (79.2%) were female and 46 (20.8%) were male and both men and women were represented in all three professions. In the MD group, the two

genders were equally represented. The professions were MDs ($n=54$), RNs ($n=151$) and NAs ($n=62$). 94.4% ($n=54$) of the MDs reported that they have a specialist qualification in pediatric and/or pediatric oncology. Fifty-seven percent ($n=151$) of the RNs participating reported that they had a specialization, which could be a degree at MA level in pediatric care or advanced courses in pediatric oncology care. 24.6% ($n=62$) of the participating NAs reported that they also had followed specializing courses in pediatric care or pediatric oncology care. As can be seen in Table 1, 75.9% of the MDs, 45.3% of the RNs and 45.2% of the NAs had more than 10 years' experience of working in pediatric care (Table 1). Since this study focuses on language barriers and professional interpreters, questions related to training in the use of professional interpreters and fluency in other languages than Swedish are also of relevance, as summarized in Table 1. Languages studied in elementary school, such as English, French, German and Spanish, were the most common additional languages the respondents were fluent in. Other languages included Croatian, Danish, Dari, Dutch, Finnish, Greek, Hungarian, Hindi, Icelandic, Norwegian, Polish, Portuguese, Romanian and Russian.

Communication over language barriers without a professional interpreter

In situations where communication were performed without a professional interpreter, all respondents ($n=267$), to varying degrees, used family members or relatives to translate, and it was also quite common for all professions to use children (for example the patient or a sibling) as translators (Table 2). All professions also reported that other members of the healthcare personnel acted as translators on a regular basis.

Communication over language barriers using a professional interpreter and other communication tools

As can be seen in supplementary Table 2, when using an interpreter, the most common way to communicate over language barriers was professional interpreters on site and this was reported by all professions. Telephone professional interpreters were to some extent also used regularly, but not as much as on-site professional interpreters. Written material in the language in question was used to a very low degree among all professions and this was also true for using web-

based translation tools or apps. Those who used alternative communication tools, though, were RNs and NAs. The figures in supplementary Table 2 also indicate that MDs were the ones using professional interpreters most frequently ($p>.001$).

Supplementary Table 3 shows the frequencies of professional interpreter used in different clinical tasks for the three different professions. Of the MDs, 47.2% often used professional interpreters to take arrival status or medical history and 47.2% seldom or sometimes used professional interpreters for this. For RNs, 15.6% often used professional interpreters to take arrival status or nursing history, 62.3% did this seldom or sometimes and 22.4% never did it.

When it comes to informing about routines and procedures, supplementary Table 3 shows that NAs did this with a professional interpreter to a higher degree (39.3% when informing about routines, 33.3% when informing about procedures) than they used professional interpreters for other tasks. This applies for RNs too (30.6% and 29.9%, respectively).

Supplementary Table 3 shows that in 13.8% of the cases, a professional interpreter was often present when RNs educate patients and family. Among the MDs, 25.9% reported

Table 2. Responses by healthcare personnel on different items in the question on communication over language barriers without a professional interpreter.

Response alternatives	Respondents, $n=267$		
	MDs, $n=54$ n (%)	RNs, $n=151$ n (%)	NAs, $n=62$ n (%)
An adult family member or close relative translates, $n=261$			
Never	0 (0)	0 (0)	2 (3.3)
Seldom	12 (22.2)	17 (11.6)	7 (11.7)
Sometimes	30 (55.6)	80 (54.4)	31 (51.7)
Often	12 (22.2)	50 (34.0)	20 (33.3)
A child translates (e.g., the patient or a sibling), $n=260$			
Never	7 (13.0) ^a	13 (8.8)	3 (5.1)
Seldom	30 (55.6) ^a	48 (32.7)	18 (30.5)
Sometimes	17 (31.5) ^a	70 (47.6)	28 (47.5)
Often	0 (0) ^a	16 (10.9)	10 (16.9)
A colleague translates, $n=259$			
Never	5 (9.3)	27 (18.4)	14 (24.1)
Seldom	26 (48.1)	55 (37.4)	16 (27.6)
Sometimes	22 (40.7)	61 (41.5)	27 (46.6)
Often	1 (1.9)	4 (2.7)	1 (1.7)
You speak the language in question (other than Swedish), $n=256$			
Never	6 (11.1) ^a	68 (46.9)	33 (57.9)
Seldom	22 (40.7) ^a	30 (20.7)	9 (15.8)
Sometimes	20 (37.0) ^a	38 (26.2)	11 (19.3)
Often	6 (11.1) ^a	9 (6.2)	4 (7.0)

^aDue to rounding error, some of the percentages do not add up to 100%.

Table 1. Demographic background of the respondents.

Demographic variables, $n=267$	MDs $n=54$ (20.2) n (%)	RNs $n=151$ (56.6) n (%)	NAs $n=62$ (23.2) n (%)
Specialist training, $n=265$	51 (94.4)	85 (57.0)	15 (24.6)
Training in using interpreters, $n=263$	18 (33.3)	17 (11.5)	4 (6.7)
Fluent in other languages, $n=264$	51 (94.4)	104 (70.3)	31 (50.8)
Working years in pediatric care			
<1 year	1 (1.9)	18 (12.0)	9 (14.5)
1-2 years	0 (0)	25 (16.7)	8 (12.9)
3-4 years	1 (1.9)	15 (10.0)	6 (9.7)
5-10 years	11 (20.4)	24 (16.0)	11 (17.7)
>10 years	41 (75.9)	68 (45.3)	28 (45.2)

that they often had supportive conversations with professional interpreters compared to RNs, who often used a professional interpreter for supportive conversation in 7.5% of the cases. All professions rarely used professional interpreters for small talk.

In [supplementary Table 4](#), we see that MDs (84.9%), RNs (88.4%) and NAs (85.5%) agreed that the use of professional interpreters increases the patients' and families' involvement in care to a high degree, as well as improves the care relationship to a high degree. MDs also agreed that the use of professional interpreters increases patient safety to a high degree (92.5%). The same goes for RNs and NAs (both 91.1%).

Discussion

The purpose of this study was to investigate how communication is facilitated and used to overcome language barriers in pediatric oncology care. The study covered all pediatric oncology centers in Sweden with MDs, RNs and NAs, constituting the large professional groups directly involved in caring for and treating children. The respondents had long experience of working in pediatric oncology care.

We have showed that in communication over language barriers it was not uncommon that other means of communication than professional interpreters were used, such as the patients themselves or the patients' parents, siblings, relatives or friends. Research shows that power relations in the family are affected when children or adolescents are used as ad hoc interpreters [17,20]. The present study did not investigate the kind of translation tasks where children were used. It was mainly RNs and NAs who communicated through a language-brokering child, while MDs to a larger extent used professional interpreters. This indicates that children were used to translate nursing information more than medical information.

Our results showed that the most common way to use professional interpreters was on site, though this use differed considerably among the three groups, with for example 64% of MDs, 37% of RNs and 44% of NAs reporting using on-site professional interpreters often. When comparing the groups, we could see that there were significant differences between MDs versus RNs and MDs versus NAs and their use of professional interpreters on site, but no significant differences between RNs versus NAs. When it comes to telephone interpreting, the differences were significant between all the groups.

The reason that MDs and RNs differ in their overall use of professional interpreters may be that professional interpreters are used for consultations judged important or difficult (i.e., medical consultations) and not for routine consultations. The finding that RNs used professional interpreters less may also be due to the effect of RNs and NAs taking the opportunity to use the professional interpreter when s/he is already on site rather than booking a separate consultation [15], while MDs are more inclined to call professional interpreters to the site when they need to. To put it another way: MDs use professional interpreters on site when

they need it, RNs and NAs use professional interpreters when they are available.

The use of other types of communication tools such as written materials, apps or communication via computer was also relatively low, especially for MDs. The results might suggest that the MDs communicate with patients in more formal contexts, when dealing with long, complex consultations, often deemed of high importance. The same results also might suggest that the RNs rely on communication tools and written material during more informal, bedside encounters, which are often incorrectly regarded as less important. Jackson and Mixer [21] found that using an iPad for basic bedside communication augments basic understanding and might be helpful in different clinical situations where professional interpreters are not available. Furthermore, our results showed that video interpreting was hardly used at all, and this is most likely due to the fact that the service is only accessible for sign language interpreting in Sweden. Yet, studies from other countries indicate that video interpreting is equal to in-person interpreting in terms of user satisfaction [22,23].

Our results about professional interpreter use in different clinical tasks showed that RNs had a strikingly low frequency of using professional interpreters when taking arrival status (15.4% often and 34.3% sometimes). This was surprising since this is part of the RNs' assigned clinical tasks. On the other hand, the figures were higher for RNs informing about routines (30.6% often and 45.6% sometimes) and procedures (29.9% often and 51% sometimes). A reason for the low frequency of using professional interpreters when taking arrival status may be that this activity does not take place in connection with the medical consultation with an MD. Presumably, the RN does not book a professional interpreter for that consultation, and therefore this figure was low. On the other hand, we assume that RNs take the opportunity to inform about routines and procedures when a professional interpreter is on site for a follow-up medical consultation, and therefore this figure was higher. Lundin et al. [24] and Williams et al. [25] found that healthcare personnel wished for the development of better routines for providing direct access to professional interpreters and for training both professional interpreters and users. If routines like this were developed, professional interpreters would most likely be used more in medical contexts.

Educating patients and parents is an important part of the RNs' tasks, yet our findings showed that RNs never (17.2%) or seldom (31.7%) used professional interpreters when educating patients and families. We find this result surprising since one wonders how the education is done without means of patient safe communication. It seems that information may be given but not received and/or understood. We argue from our findings that there are many clinical situations where care is performed without a professional interpreter, just as Evans et al. [26] also found. Furthermore, our results also indicate whether different clinical tasks use professional interpreters as a routine (often) or more haphazardly (sometimes or seldom). This finding indicates that RNs' procedures and treatments often proceed

without a professional interpreter and that the use of ad hoc interpreters is a way of handling these situations. The responsibility to ensure that the patient/family receives understandable information lies with the MDs, RNs and the NAs together and is based on their various professional assignments. Furthermore, especially RNs and NAs need to make conscious decisions about when a professional interpreter is needed, for example when educating the patient/family, and not rely on professional interpreters' availability in connection with medical consultations with MDs.

Previous research has shown that the use of professional interpreters results in a significantly lower likelihood of errors than similar situations with ad hoc interpreters or no professional interpreters at all [27]. This is in accordance with the views of the respondents in the present study, who agreed that they think that the use of professional interpreters is important for the patients' involvement in care and patient safety. Over 90% of the respondents believed that the use of professional interpreters increased patient safety, and over 80% believed that it increased the patient's and family's involvement in care and improved the care relationship to a high degree. Nevertheless, this overwhelming belief did not always translate into the actual use of professional interpreters. One reason for this may be the one Llopis [28] points out, namely that the use of ad hoc interpreters can come from the fact that healthcare personnel do not understand the risk involved in communicating through ad hoc interpreters. Another reason could be a lack of time, because time has been identified as one of the most important barriers in interactions with families that do not speak the majority language [29]. In a study by Jaeger et al. [30], however, the respondents viewed the use of professional interpreters as time consuming, but the alternative of not using a professional interpreter was viewed as even more time consuming.

In this study, we have not looked into the reasons for avoiding or refraining from using professional interpreters. However, we find it worrying that the respondents on the one hand seem to understand the importance of using professional interpreters in order to increase patients' involvement in care, patient safety and care relationships. On the other hand, they do not use professional interpreters in order to meet those goals.

Limitations of the study

We would argue that the opportunity to survey MDs, RNs and NAs at all six pediatric oncology centers in Sweden together with the high response rate strengthens the study. A descriptive analysis was chosen in order to give an overview of the healthcare personnel's own perception of their use of professional interpreters. The use of professional interpreters is not mapped in exact figures, but it is our belief that the perception of an action pinpoints whether certain behavior is a routine ('often') or rather decided on ad hoc basis ('sometimes' or 'seldom'). Furthermore, the questionnaire does not ask about the use of interpreters in

situations where the presence of an interpreter is perceived to be absolutely necessary.

The reason for splitting the population into different professions is to clearly demonstrate the difference between the professions, and we believe it is a strength to be able to compare professions.

In terms of participants, certain groups lack, such as dietitians or physiotherapists, however, the three major groups in close patient care, viz. MDs, RNs and NAs were included, which we believe is a strength to the study.

In the CoLB-q, there is no distinction in the written and web-based material between professional and nonprofessional material which is a limitation of the questionnaire since this is an area with great future advancements. Furthermore, the patient/family is treated as a unit because in pediatric care information and communication occurs mainly with the parents/guardians.

Conclusions

Considering that healthcare personnel believe that the use of professional interpreters is crucial when caring for a patient/family, this study highlights an obvious discrepancy between their belief and the actual use of professional interpreters. Our results indicated that when MDs perceive that the need to communicate over language barriers they use professional interpreters on site. RNs and NAs use professional interpreters mostly when they are already available on site. This stands in contrast to the ideal that the use of professional interpreters should in all care contexts be based on the patient's needs and not merely on the professional interpreter's availability. Parents have a crucial role in the care of their child, especially in between hospital stays. However, the possibility for parental involvement is compromised because nurses rarely use professional interpreters in patient/parent education.

We would argue that in order to improve communication over language barriers and to achieve equal access to healthcare, there is a need to include education and training in interpreter-mediated consultations in the basic education of healthcare professionals. Furthermore, the evidence-based guidelines on communication over language barriers need to be implemented in healthcare and the clinical organizations must provide the right conditions for the individual healthcare personnel to handle situations with language barriers. Further research is needed to evaluate the reasons behind potential barriers for the use of interpreters as well as implementation of the guidelines and to investigate how language barriers affect children in pediatric oncology care, especially when children are used as translators.

Healthcare personnel believe that professional interpreters are important for patient care, including patient/parent involvement in care, and thus organizational structures should help them use professional interpreters in accordance with their beliefs. The use of professional interpreters needs to be based on the patient's capability of understanding and be understood by the healthcare personnel. By doing that,

the healthcare institution not only ensures patient-safe care but also maintains the legal right to equity in healthcare.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by Swedish Society for Childcare, Astrid Lindgren Children's Hospital, the Foundation of Freemasonry Children's House and Karolinska Institutet. The last author was supported by the Swedish Childhood Cancer Foundation [TJ2013-0050], including this research.

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