

Exploring the translation process for multilingual implementation research studies: a collaborative autoethnography

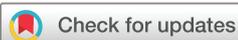
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To cite: Haldane V, Li BP, Ge S, *et al.* Exploring the translation process for multilingual implementation research studies: a collaborative autoethnography. *BMJ Global Health* 2022;**7**:e008674. doi:10.1136/bmjgh-2022-008674

Handling editor Stephanie M Topp

► Additional supplemental material is published online only. To view, please visit the journal online (<http://dx.doi.org/10.1136/bmjgh-2022-008674>).

Received 31 January 2022
Accepted 2 May 2022



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ABSTRACT

Introduction In an increasingly globalised and interconnected world, evidence to evaluate complex interventions may be generated in multiple languages. However, despite its influence in shaping the evidence base, there is little literature explicitly connecting the translation process to the goals and processes of implementation research. This study aims to explore the processes and experience of an international implementation research team conducting a process evaluation of a complex intervention in Tibet Autonomous Region, China.

Methods This study uses a collaborative autoethnographic approach to explore the translation process from Chinese or Tibetan to English of key stakeholder interview transcripts. In this approach, multiple researchers and translators contributed their reflections, and conducted joint analysis through dialogue, reflection and with consideration of multiple perspectives. Seven researchers involved with the translation process contributed their perspectives through in-depth interviews or written reflections and jointly analysed the resulting data.

Results We describe the translation process, synthesise key challenges including developing a ‘voice’ and tone as a translator, conveying the depth of idioms across languages, and distance from the study context. We further offer lessons learnt including the importance of word banks with unified translations of words and phrases created iteratively during the translation process, the need to collaborate between translators and the introspective work necessary for translators to explore their positionality and reflexivity during the work. We then offer a summary of these learnings for other implementation research teams.

Conclusion Our findings emphasise that in order to ensure rigour in their work, implementation research teams using qualitative data should make concerted effort to consider both the translation process as well as its outcomes. Given the numerous multinational or multilingual implementation research studies using qualitative methods, there is a need for further consideration and reflection on the translation process.

WHAT IS ALREADY KNOWN ON THIS TOPIC

- ⇒ The work of translating from the language in which an intervention is implemented into English, the dominant language of academic production, influences knowledge production in global health.
- ⇒ Yet little is written about the translation process in implementation research and even fewer global health research efforts reflect on the role of the translator in the production of knowledge.

WHAT THIS STUDY ADDS

- ⇒ Translation is a process that includes developing a ‘voice’ as a translator, conveying depth of context, and often navigating distance from the implementation site despite having a shared language and/or culture.
- ⇒ The translation process can be improved by using iterative word banks, team building between translators, researchers and the implementation team, and encouraging introspection and reflexivity as an integral part of the translation process.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE AND/OR POLICY

- ⇒ Implementation research in global health must consider the ways in which qualitative data is produced by ensuring translation is a place for reflexivity and participation.
- ⇒ Attention to the translation process is a key step towards prioritising perspectives and experiences from marginalised groups and shifting the power balance towards meaningful sharing of knowledge across languages beyond English.

INTRODUCTION

Evidence implementation relies on robust primary data to guide decision making on the uptake of interventions to practice or policy. In an increasingly globalised and interconnected world, evidence to evaluate complex interventions is frequently generated in multiple languages. These languages may be then translated to a dominant language in the research setting to provide primary data for

analysis and knowledge translation activities. Commonly, English translation is conducted as either a first or subsequent step to ensure research outputs both reach a wider audience, as well as fit within the dominant academic publishing paradigm.¹

However, despite its influence in shaping the evidence base, there is little literature explicitly connecting the translation process to the goals and processes of implementation research. There is a fulsome literature on translation in quantitative global health research, most notably the extensive exploration of survey design and validation across both written and spoken language.²⁻⁴ Further, while much has been written on the conduct and analysis of qualitative research in translation, particularly from the nursing literature, there are fewer examples within the implementation research discourse exploring work between and across languages.⁵ Many studies of the translation process discuss epistemological considerations underpinning the act of translation, yet the often-pragmatic approach best suited to answering implementation research questions warrants a focused exploration of conducting qualitative research in translation for this purpose.⁶ Importantly, there is a need for greater and more nuanced description of the processes and experiences of translation from the perspective of implementation research teams undertaking this work; not only to describe processes, but also to shed greater light on the complexities and tensions inherent in this work.⁷

This study uses a collaborative autoethnographic approach to explore the processes and experience of an international implementation research team conducting a process evaluation of a complex intervention in China. Specifically, we describe the translation and transcription process of qualitative interviews conducted in both Mandarin and Tibetan language to English. In doing so, we offer practical lessons learnt for other teams conducting similar work.

Research setting

This work was a part of a larger randomised control trial in Shigatse prefecture, Tibet Autonomous Region (Tibet), China. The intervention aims to pilot and evaluate the effectiveness of a programme using electronic pill boxes ('e-monitors') to monitor and encourage people receiving tuberculosis (TB) treatment to take their medications. The intervention also uses a smartphone app (WeChat) to connect people taking TB medication and their family 'treatment supporters' with their healthcare providers. The overall aim is to improve treatment adherence among people newly diagnosed with pulmonary TB across five sites (four rural counties and one urban district). A full description of the trial intervention can be found in Wei *et al.*⁸ The process evaluation of the trial uses an implementation research framework to understand what worked and why in the implementation of the intervention and to offer contextual framing for the interpretation of the trial results.

The process evaluation team included a Research Coordinator based in Canada who facilitated the study (VH); a Trial Coordinator based in China with extensive knowledge of the study setting, who coordinated the trial and conducted most of the interviews (ZZ); two bilingual Mandarin-English translators jointly based in China and Canada (BPL and JH); one bilingual Mandarin-English translator based in Canada (SG) and one bilingual Tibetan-English translator based in Canada (LS). The overall trial and process evaluation were led by a senior researcher who is a Chinese national with extensive research experience in China (XW), and two local senior field site leaders with extensive implementation experience in the setting (PP and JH).

To achieve the aims of the process evaluation, 61 interviews were carried out across study sites with policy makers, health workers, and persons affected by TB (persons living with TB and their family members) between April 2019 and August 2021. These interviews were conducted in person either in Mandarin, or in Tibetan through an interpreter. Interviews were consented, conducted, recorded and data were stored in compliance with ethical review board requirements to uphold the confidentiality of participants. Full qualitative study procedures can be found in Haldane *et al.*⁹ The research setting proved challenging for data collection as the mountainous terrain and long distance between villages required hours of transit time to conduct one or two interviews. Further, given the high altitude, team members conducting interviews experienced hypoxia at times with symptoms such as dizziness and headache among others, which made interviewing particularly challenging. However, participants were enthusiastic to be interviewed, welcomed the research team and candidly shared about their experiences. These barriers and facilitators to the interview process ultimately shaped the quality of data collected, however overall interviews were of good quality, meaning that audio quality of the recordings allowed for clear verbatim transcription, and the content met the objectives of the interview guide and study purposes.

METHODS

We adopted a collaborative autoethnographic approach to explore the process and synthesise lessons learnt from the translation work undertaken in this implementation research study. In autoethnographic studies the researcher's experience offers primary data for analysis and interpreting the sociocultural meanings of events.^{10 11} In a collaborative autoethnography, multiple people involved in a process or phenomenon contribute their reflections and experiences, conduct joint analysis and engage in dialogue, reflection, and synthesis of the material.^{7 12} In doing so, collaborative autoethnography offers an opportunity for sense-making of collective experiences by connecting narratives to the social context.¹³ This sense-making through collective exploration of challenges, solutions and processes of knowledge production is

particularly important when the space in which research happens spans borders, languages and contexts.¹⁴

The team was composed of seven members directly involved with the translation process. All members of the translation team embraced the opportunity to discuss their experiences translating the interviews. Translation team members were based in both Canada and China, had university education, and were affiliated with the project lead's (XW) research team. Despite sharing a common language with the data, and in some cases being based in China or with experience working in other Chinese-speaking contexts, translators were not familiar with Shigatse, Tibet. LS, a Tibetan translator born and raised in exile, described engaging with the audio recordings as a privilege and way to connect with his culture despite the distance. The Trial Coordinator (ZZ) was instrumental in overcoming this distance and navigating local nuance; however, we also recognise it is challenging to understand the breadth and reality of a place without multiple perspectives and lived experiences. Thus, as a group we navigated our own intersectionalities and 'Otherness', of being outsiders, to the context with limited inroads to greater understanding given the workloads and capacities of the local team. This Otherness was amplified and complicated by the act of translation, which as Bassett describes, 'the translator has to steer between extremes, between staying so close to the source that the new readership is alienated...by that which is perceived to be Other and, at the opposite extreme, leaving the source so far behind in an attempt to satisfy the needs of that new readership'.¹⁵ The team needed to both navigate the Otherness inherent in translation, as well as that felt in their identities throughout the process. A further reflection on the study can be found in online supplemental file 1, further reflections from the team can be found in online supplemental file 2.

To gather information on the translation process, VH invited the other six team members actively involved in the qualitative research and translation work to participate in a 1-hour interview to explore their perceptions and experiences with the work, or to provide a free form written response to the prompt 'please describe the qualitative research and translation process from your perspective in your own words—including any specific examples of challenges or strengths of our process.' Participants were recruited between August and October of 2021, after the interviews and translation work had occurred. All team members participated, five participated in interviews and one provided a lengthy written reply. Team members were invited to participate as coauthors and were provided written details on the study including details on confidentiality and security of their responses. Interviews were held via videoconference and team members were explained the study aims and procedures at the start of the interview. Participants were then provided additional verbal consent. Interviews were conducted by VH, a PhD candidate who is experienced in collaborative autoethnographic methods and who has acted as the process

evaluation Research Coordinator since 2018, thus having an established rapport with team members.

Interviews were transcribed in full and anonymised. Based on these transcripts, VH curated an overarching 'master narrative' of the translation process. Data interpretation and curation was reviewed in dialogue with BPL and SG. This included active discussion of the foreign gaze and interpretation of meaning, in the condensation, categorisation and creation of the cohesive master narrative from the interviews.¹⁶ All team members reviewed and provided candid feedback that added depth of experience to the curated master narrative. Once the master narrative was finalised, two team members (VH and BPL) analysed the data thematically. The team members employed an inductive coding process to the master narrative and agreed on themes that conveyed challenges when undertaking implementation research in translation.¹⁷ These themes were agreed on by all authors in an iterative process.¹⁸ We then synthesised our collective lessons learnt into key takeaways for other multi-national, multi-lingual implementation research teams. This process relied on reflection among research team members during multiple meetings to identify and refine the principles.

Patients and the public were not involved in the design, recruitment, conduct or dissemination of the study.

RESULTS

The programme being implemented is a partnership between the University of Toronto research team and local Tibet Centre for Disease Control (CDC) stakeholders. Thus, the research team was jointly based in China and Canada to support implementation research efforts. At the start of the project training sessions were held on site in Tibet, and in Toronto, to onboard research team members, including interviewers and translators. We also defined a process to guide our research activities to ensure coordination between activities across sites. We offer an overview of our transcription and translation process in [figure 1](#).

Data collection, transcription and quality check

Interviews to inform the process evaluation were conducted in Mandarin and Tibetan. Mandarin interviews were conducted with health workers and policy-makers. Tibetan interviews were conducted with patients. An interpreter translated questions posed in Mandarin by the trial coordinator or local research team. The interpreter was fluent in both languages and familiar with the context and the project. Interviews were recorded in full, and members of the research team affiliated with the study site listened to the recordings and transcribed them verbatim into Chinese text. Transcripts were deidentified and assigned participant numbers at this stage. To ensure quality and accuracy, a subset of these Chinese transcripts were chosen to ensure representation of different interviews, interview sites and interview participants. These

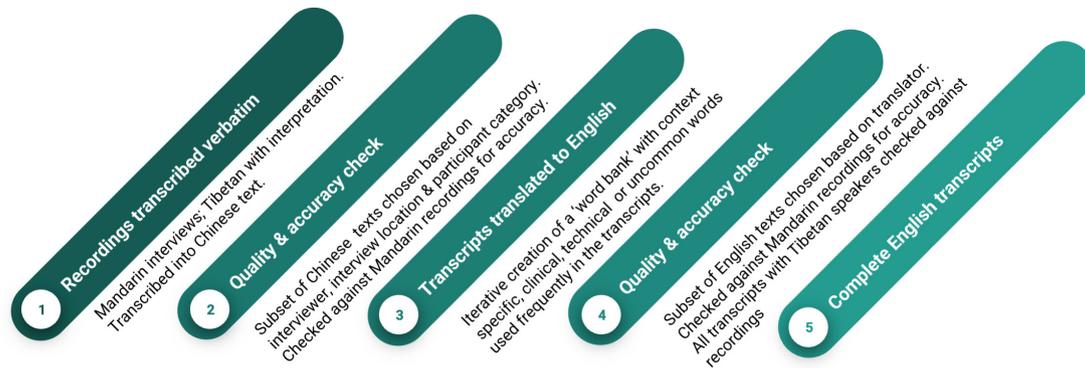


Figure 1 Translation process from Mandarin to English.

were then checked against the recordings for accuracy by a research team member. While no major discrepancies were found, the contingency plan in case of major or multiple errors was to conduct a full check of transcripts and retranslate and rereview. Having texts in Chinese was important to ensure that local team members could fully engage with the data from the project. However, given the joint nature of the programme and wider knowledge translation needs, these Chinese transcripts needed to be translated into English.

Translation to English

The Chinese transcripts were then sent to the Research Coordinator in Toronto (VH) who assigned them at random to the four members of the translation team. The translation team in Canada was composed of trainees who are bilingual in English and Mandarin. Translators were selected based on an interview process to determine their skillset, their familiarity with Chinese or Tibetan and past translation experience. Translators were given documents to familiarise them with the study and were briefed by both the local Trial Coordinator (ZZ) and the Research Coordinator (VH). Briefings included information on the study, the study context, as well as expectations and approaches to translating the documents such as ensuring completeness of meaning rather than word-for-word translation. After receiving the Chinese transcript file, they then translated these texts from Chinese into English. This process involved the creation of a 'word bank' to ensure that the translation team had a shared understanding of uncommon or context-specific words. This word bank included words identified a priori by ZZ, the Trial Coordinator, as being likely to be misinterpreted by those not familiar with the setting, context or clinical aspects of the interviews. It then grew to include words requiring clarification by translation team members as they encountered unfamiliar or professional/clinical terms in the Chinese transcripts.

Translators described that it took some time to develop their approach to translation. In general, once settled into the work, translators described a similar process. Translation would begin with reading through the entire manuscript to get a sense of the content of the interview, both the questions posed and the answers

provided. This process included understanding the target interviewee given that different interview guides were used for different categories of participant (eg, patients, family treatment supporters and village/township/county hospital doctors all had unique interview guides). The translators would then go phrase by phrase to translate the words while retaining the same meaning across the phrase. This process was at times challenging as translators described the tensions that arose between accuracy, their interpretation of the text, and ensuring that they were not introducing bias through their translation or interpretation. Translators described how after conducting a first round of translation they would reread the transcript for grammar and spelling, but also to ensure that the text was coherent and that the English translation accurately reflected the Chinese text. This included understanding the implicit meaning in the Chinese text, which would need to be made explicit in the English translation, otherwise the meaning could not be fully understood by reading a direct translation from Chinese to English. Importantly, this included a need to consider the 'bigger picture' of the sentence or conversation to convey the correct contextual use of the word from Chinese to English.

Quality and accuracy check

A subset of the English transcripts from each translator were checked against recordings for accuracy by ZZ, who is fluent in Mandarin and English and who conducted most of the interviews. All English transcripts in which Tibetan interpretation was required were checked in full against the original recording by a research team member in Toronto bilingual in English and Tibetan language (LS) to ensure accuracy. This process involved the team member listening to the recording in Tibetan while reading the manuscript in English and making corrective notes and comments to elaborate on the text. Here, it should be noted that there were recurrent Mandarin words present in the conversations in Tibetan, and so the researcher had to rely on the translations from Mandarin to English to discern the co-opted terms.

The process generally occurred in 'batches' given the iterative nature of qualitative research, where initial interviews are reviewed and analysed to inform the content

Table 1 Key challenges and lessons learnt in translation implementation research

| Theme | Exemplary quote |
|--|--|
| Challenges | |
| Developing your voice and tone as a translator | “The first 10 or 15 transcripts I was doing, I was still trying to figure out how to translate, I was developing my style in translating.” (P02) |
| Conveying the depth of idioms | “Sometimes I feel like maybe there are certain words that could have been better translated, but I couldn't find a specific way to express them...That's one of the main challenges that I encountered.” (P01) |
| Distance from the study context | “I still remember my first transcript, it was brutal... because I didn't know if I could translate it well... and then we accumulate more experience, it became much easier to translate. And then you could start analysing the stories behind the transcript [because] there's a story that comes together. You know the different levels of work from the clinics to the township hospitals to the CDC. Gradually the picture started to come together nicely.” (P03) |
| Lessons learnt | |
| Iterative word banks increase accuracy and understanding | “The unified word translation document helped it to be consistent between translations.” (P04) |
| Team building between translators can strengthen the translation process | “If you're able to connect with other translators, I think it would be very helpful...And to ask how they would approach the same problem.” (P01) |
| Introspection and reflexivity are important towards translator engagement and sense-making | “The conditions in Tibet were reminiscent of the stories of my parents growing up in kind of rural China...Like for me, in a way, it also kind of brought a different deeper sense of connection [to the text].” (P02) |

and direction of subsequent interviews, and to determine if saturation has been met insofar as subsequent interviews offer no new information.

Key challenges and lessons learned

We identified key challenges and lessons learnt in translating qualitative data for use in implementation evaluation (table 1).

Key challenges: developing a voice, conveying idioms, distance

The team described several challenges during the translation process. First, there was a learning process around developing a ‘voice’ and tone as a translator. Translators described an iterative process of translating and reviewing, and how particularly with the first set of transcripts there was a clear learning curve as they engaged with the content and texts. One translator described the process,

It wasn't until I got to the first ten or fifteen, I was like okay, this is my style. And the ones I translated afterwards have a very distinct kind of more objective style, because I think with the first two, I was almost struggling with wanting to translate word-for-word but I also know that [doing so] did not click as well... Like it is a skill that you're developing, you're still finding out how to do in a very standardised same way. It's almost like you need a little bit of trial period, almost needing to hone that skill a bit more. And then you can produce your best work from that onwards. (P02)

One translator expanded on the interpretative aspect of translating tone and the process of developing translation skills to express this well, explaining:

Even though we were told to transcribe it word-for-word it's just your own interpretation of how the words come together. And even how you choose to write how those words come together can actually influence what that sentence ends up meaning in a way... As I translated more, it became easier for me, and I knew like which steps I should take before. I knew the whole process of how, what is the best way to approach this. I tried out several methods. And I finally, like found the best one I should go with, and I just stick to that one for most of the other transcripts. (P01)

A second challenge during the translation process was correct word choice, conveying the depth of Chinese idioms and capturing the nuance of these expressions. Translators described the challenges in word choice when translating. As one translator described:

One word in Chinese doesn't have just one meaning, it can have multiple meanings, but the true meaning is greatly affected by the other words around it. The phrasing is at times more important than the solitary word itself. The idea of a word for word direct translation approach doesn't really apply as well in that case because of this. Like anything else the translational process depends on the context, on the words around it to better elucidate the meaning. (P03)

Translators described how participants would use idioms to possibly signal their emotions in answering questions. Often these idioms were difficult to convey in English with the same emotional nuance and contextual understanding of the emotions and experiences they signal towards. As one translator summed up ‘sometimes in Chinese when they converse with each other they tend to use something a little bit more abstract,’ (P03). Another translator explained how this aspect of the translation process was challenging:

Even just looking at the transcriptions I feel there were undertones of maybe emotions that when I translate to English it doesn't seem to carry as much weight. And in Chinese, we have these groups of four words which they almost rhyme and then it just gives the technical [phrase] a lyrical feel to it. But when I translate it word for word, it never kind of quite comes across...and we do try to get it across, but you always carry a personal bias in how you choose to write it. (P02)

A third translator described how there were differences across transcripts in the expressions used given that our study population comprised healthcare providers, and a variety of patients and their family members. The translator highlighted that 'Some people's word choice is quite simple, while others are more poetic,' (P01).

A related challenge was the difficulty in conveying the discrepancy between some commonly used phrases in Chinese and their literal translations in English, with the latter coming out as more emotionally charged. One translator offered an example, describing 'A lot of Chinese people would say 'I don't think so' if they're arguing [a point] but they're really just saying 'maybe we should consider other ideas.' But you know, in English 'I don't think so' it's a stronger expression [in this situation],' (P03).

When considering the Tibetan interviews, the translator reflected on how not only words, but also silences can hold meaning, describing:

I feel like the formalized format of the interviews and the data compilation and conversion process sometimes overlooked or failed to recognize the nuances in the interviewee's response. There was hesitancy heard before answering some questions, however, these could not be completely reflected in the transcript because they were sometimes long pauses, (P05).

The research coordinator reflected how the translation process can try to manage the use of idiom and differences in phrases saying:

There's so much layer to these four-character Chinese sayings that doesn't come across in English. There's a whole tapestry of meaning that you feel is being lost. I think that's a limitation maybe with translating to English because Chinese uses so much metaphor and imagery, like, what can you do? I think that the best we can do is expand as much as possible on the meaning through notes or in discussions and be transparent where we've had more personal interpretation in the text. This holds true where perhaps English readers may read more tone into a text than is there, we can make notes about where phrases may be more or less emotional, (P07).

In the interviews conducted in Tibetan, a related challenge was the use of different dialects. While the researchers verifying the accuracy of the translations was able to understand these dialects, this too involved a learning curve, particularly when different words were used interchangeably across the dialects. For instance, patients would interchangeably use words for 'food' or

'child' in the Tsang dialect of Shigatse with the Ü dialect's terms for the same terms.¹⁹

Finally, the team based in Canada described challenges given their distance from the study context. This manifested as challenges with word choice, understanding how concepts related to each other, and the experience, research and learning needed to gain an understanding of the context. Regarding word choice, a specific challenge was how to romanise place names that at times used the Chinese pinyin and at other times used the Tibetan transliteration, as well as navigating the implication of these choices in the study context. One translator described how they managed word choice considerations and the work to supplement their understanding:

If I really don't have the word for those I usually go to the dictionaries. And you know, often I don't find the answer in the dictionaries. For example, when they're referring to their own group within the CDC or within the township hospital, they usually just omit the names or omit the subject. So, who are they talking about? Sometimes translating you're like, I should try to research more, (P03).

The researcher verifying the Tibetan interviews reflected on the nuance of his linguistic and cultural connection saying:

You felt like you were studying something that you were familiar with, but at the same time, you could sense that there was this unfamiliarity...you're able to really appreciate how you can connect with the patients through these interviews, not only because of the shared language but also because of the shared cultural values that you could instinctively sense from the conversations. However, there were indeed moments where differences became evident—this was especially the case when patients included borrowed terms from Mandarin. But then, when you reflect on the conversations during the interviews, you realise that these are experiences that are not easily accessible, and it's a privilege to be able to hear them share their experiences in Tibetan, (P05).

This complements a reflection from the Research Coordinator on interpreting and analysing the data considering the foreign gaze, explaining that:

This is the fundamental issue with being a researcher who doesn't speak the language, that we don't have the ability to access a more nuanced side of the conversation and I don't try and go there alone with the text. I'm not going to just presume to understand or access these experiences that people trust us with when they are interviewed. I'd rather acknowledge my position, my foreign gaze, and work more closely with someone closer to the context, who can dig in a bit more, than try myself to interpret and overstep. I want to co-create an understanding of the situation so that I'm not assuming things I can't assume, (P07).

Some team members reflected on the importance of the connection with the Trial Coordinator who had extensive knowledge of the implementation site. The Trial Coordinator in turn explained the importance of his connections and relationships at the local level to elaborate on the context.

Lessons learnt: word banks, team building, introspection and reflexivity

The team also identified key lessons learnt that may benefit others undertaking similar work. First, the team emphasised the importance of creating unified word banks of jargon or technical/clinical words and phrases commonly used in the interviews. These word banks should offer standard ‘unified’ translations of common words be shared between the translation and implementation team and regularly updated through an iterative process during translation. The study team had an extensive word bank first established by the Trial Coordinator and updated by translation team members. One translator described how:

The document on unified words was very helpful, especially when I was first starting the translation...because there’s some specific nouns like the ‘e-monitor box’ that if I didn’t receive the [unified word] list I would have translated it in a different way. It’s helpful to know how other people are translating and follow it, (P01).

Another translator explained how having this document accessible to all team members was important because as questions or words were added by translators, the Trial Coordinator’s replies were visible and enabled transcripts to be updated.

Another lesson emphasised by many on the team was the importance of collaborating between translators. This was in some ways a missed opportunity in the current work. Although the team had an introduction to the work, the shared unified word bank, and transcripts were checked for accuracy after their completion, there was room for greater connection and checking between team members. This team building effort can help with increasing confidence in decision making among translators regarding word choice, as well as creates a space for shared solution-finding during difficulties in the process. Further, such a team approach would allow the group to develop a more consistent style or ‘voice’ that may help reduce bias or inconsistencies during the process. As one translator described:

I think looking back, it would have been helpful to have a meeting and gone through a transcription together...because I think I was always like ‘Am I doing this right? What are other people doing’ and it would have been nice to develop a team approach and then go off into your individual work...I think it helps to have the [Trial Coordinator], but it’s good to have [a translator] there to second check your work, (P02).

Another translator underscored this need for connection saying:

If you’re unsure about how to translate something, where you have difficulty in the process...maybe together you can find a better solution instead of just trying to find the solution on your own, (P01).

The Research Coordinator explained how:

It was challenging because there were a lot of moving parts, data coming in at different times, different availabilities and I think sometimes translation is seen as a more technical skill, when really it is a skill that needs teamwork and connection. This was a lesson learned about how conducting this type of research also needs attention to the translation team and their experience, (P07).

Another translator explained how sharing protocols, interview notes from the field, emerging findings and other materials associated with the overall project and how the data was collected could further strengthen translation by providing greater contextual understanding and help identify words for the unified word bank.

Finally, team members highlighted the importance of introspection and reflexivity towards sense-making when interpreting the texts. Translators discussed how the work allowed them to connect to aspects of their own culture, while also reflecting on the experience of others. This was important to their ongoing engagement in the work. As one translator described:

I guess being in Canada you actually don’t get as many exposures to Chinese language as much, so for me personally was a good kind of learning opportunity...It kind of helps me keep engaged with my own language and culture, which is really nice, (P02).

Another described how the process involved empathy to the participants situation, explaining that:

Every time I translate, I just read through, and I sort of know what the interviewees they’re going through. I think it’s very just fascinating for me to learn about their experiences and the entire system of the medical environment, how it’s working in Tibet, or can it be applied to other rural areas in China, (P04).

Another reflected on the ways in which a translator’s ‘background, upbringing, as well as their interpretation of the text, as well as the whole translation process, created a complex macrocosm of interconnected microcosms’ (P03) that shaped the act of translating.

The translator verifying the Tibetan interviews, reflected how few studies there are exploring the Tibetan experience with TB in their native language and the importance of studies that connect to these experiences. The translator noted the importance of interacting with the patients in their own language and suggested that this can help the study, to some degree, pivot away from ‘Othering’ the patients and provide a more authentic understanding of their circumstances. The translator said:

By communicating through their Indigenous language, Tibetan, the conveyance of true, and whole perspectives, is enabled, and this in turn can help in our endeavor towards establishing a database that can genuinely be representative of the patient population, (P05).

However, team members reflected on inherent challenges due to distance from the study site and for some, limited insights into the culture that may limit the

Box 1 Practical approaches for teams conducting work in translation

- ⇒ Allow time for translators to develop their voice and tone.
- ⇒ Use notes and discussion to better understand 'untranslatable' elements.
- ⇒ Ensure a clear connection to the implementation team from the start to clarify contextual elements.
- ⇒ Create an 'word bank' of unified translated words or phrases as a living document accessible to the translation team.
- ⇒ Build connections across the translation team for cross-checking and problem-solving.
- ⇒ Give space for the translation team to work introspectively and explore their positionality and reflexivity during the work.

completeness of any translation. These reflections also engaged with an exploration of our 'Otherness' when engaging with the text and the challenges in rendering unfamiliar concepts, forms, and language into a different cultural context.¹⁵

DISCUSSION

This study adopted a collaborative autoethnographic approach to explore the translation process of qualitative primary data collected through participant interviews as part of an implementation research study. Our findings offer important insights for similar multi-lingual or international research and implementation teams evaluating programmes or interventions. We highlight several challenges in this work including the process of developing voice and tone in translation; limitations in conveying the depth of idiomatic expressions; and issues arising from translators' unfamiliarity with the implementation site. We also offer key lessons learnt including the use of word banks with unified translation to increase accuracy; the need to build a translation team for cross-checking and problem-solving; and the need for translators to be introspective and reflexive as part of the sense-making process. These practical and actionable findings can be adopted by implementation research teams to strengthen their research efforts when requiring translation (box 1).

Importantly, our findings emphasise that to ensure rigour in their work, implementation research teams using qualitative data should make concerted effort to consider both the translation process as well as its outcomes. Translation processes can be conceptualised using established approaches such as the TRAPD approach of translation, review, adjudication, pretest and documentation used for survey translation, or other similar approaches that encourage researchers to think systematically about translation.²⁰ Without such a rigorous translation process, depth may be lost from the translated outputs used for qualitative analysis. Conceptually this interrogation of process aligns with the goals of implementation research, but instead asks the research team to reflect inwards on its own processes.²¹ Translation is commonly seen only as a procedural step,

necessary to ensure that research enters English, the lingua franca of modern academic knowledge dissemination.¹ Our findings show that the translation process itself is a microcosm of tensions, negotiation, reflection and sense-making that both shapes and is shaped by the data itself. This is an area with great potential for reflective implementation research and an important place for attention and exploration to ensure accurate representation of qualitative data. Further it is an important jumping off point from where emerging discourses can challenge power asymmetries in the global production of knowledge and an opportunity to avoid epistemic injustice by valuing the words of those omitted from the dominant academic discourse.^{22 23} As efforts to decolonise implementation research (and health research more broadly) progress, a deeper understanding and attention to the translation process will be key to dismantling hegemonic language structures, prioritising perspectives and experiences from marginalised groups, and shifting the power balance towards meaningful sharing of knowledge across languages beyond English.²⁴

A strength of this work is the collaborative autoethnographic approach, which allows for description of a collective experience, interrogation of a process and also highlights the narratives of those conducting the translation work. Autoethnographic studies, in which authors are the subject of study, as well as actively shaping analysis, are crucial to more deeply exploring the experiences of research teams and unravelling the many ways in which research in translation is done.⁷ However, our study has some limitations, mostly those inherent in the collaborative autoethnography process, including the potential for desirability bias shaping how participants responded to the questions posed. This was mitigated by the strong and collegial rapport between the co-authors and the interviewer allowing for free and frank sharing of experiences. Another limitation is that our work highlights the process of translating from Mandarin, with less opportunity to explore the written translation of Tibetan text given the use of an interpreter for these interviews. Future studies, including those adopting autoethnographic methods such as this, should explore the translation process between other languages across various teams to enhance the evidence base on using translation for implementation research.

CONCLUSION

Given the numerous multinational or multilingual implementation research studies using qualitative methods, there is a need for further consideration and reflection on the translation process. This is a crucial step that both shapes and is shaped by the data. Our study underscores the importance of capacity building the translation team to ensure more accurate and nuanced data for analysis and knowledge translation.

Acknowledgements The authors would like to thank the research and implementation teams for their dedication and efforts. We would also like to thank

Weilin Zhang, Dr. Katie Dainty, Dr. Elizabeth Rea and Dr. Savithiri Ratnapalan for their valuable inputs to strengthen this work.

Contributors VH and XW conceptualised the study and collected the data; VH, BPL, SG, JZH, HH, LS and ZZ analysed the data and wrote the draft in consultation with PP, JH and XW; all authors reviewed the manuscript. XW is the guarantor of this manuscript.

Funding The trial is funded by TB REACH, a special initiative of Stop TB Partnership (Grant number: STBP/TBREACH/GSA/W6–5). TB REACH is supported by Global Affairs Canada.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

Ethics approval Ethical approval for the study was obtained from the Office of Research Ethics at the University of Toronto (Ref: 36569) and the Ethics Review Committee of the Xizang Centre for Disease Control and Prevention (Ref: 006).

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement All data relevant to the study are included in the article or uploaded as online supplemental information. N/A.

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Author note The reflexivity statement for this paper is linked as an online supplemental file 1.

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Supplementary File 1 – Reflexivity Statement

1. How does this study address local research and policy priorities?

This study provides key information on the translation process in the local setting, this is an important part of knowledge translation and dissemination from the local setting to other contexts. Given the global nature of TB, and the innovative approaches to managing TB in Tibet, disseminating this information to a global audience is one goal of local research efforts. As such, the study provides a practical approach of conducting meaningful and reflective translation in a global setting. This work sheds light to global health studies that involve multiple translations and offers examples of how to better understand and respect local culture while maintaining the study rigour.

2. How were local researchers involved in study design?

Local researchers (JH, PP) were supportive of the study in order to better understand strengths, weakness, and improve the process of translation across languages in the research setting. Specifically, the local researchers helped orientate the research coordinators to understand the research setting, the clinical and public health procedures related with TB treatment and care, and the local culture.

3. How has funding been used to support the local research team?

Funding from the larger trial has been used to support the local research team in several ways, for example, we provided local research team (i.e., interviewees and coordinators who travelled to Tibet) with standard stipend based on local rates. We also provided transportation and other necessary help.

4. How are research staff who conducted data collection acknowledged?

The staff who collected the data analysed in this study are all named as authors.

5. Do all members of the research partnership have access to study data?

All members of the partnership have access to data.

6. How was data used to develop analytical skills within the partnership?

Those interested were invited to a qualitative research workshop, which offered an introduction to qualitative research methods, with a focus on collaborative autoethnography. All involved in the study were briefed on collaborative autoethnography and actively involved in the data analysis and writing of the manuscript.

7. How have research partners collaborated in interpreting study data?

Research partners reviewed the manuscript and provided feedback at all stages of the study including interpreting study data from the perspective of the trial coordinator (ZZ) and local stakeholders (PP, JH).

8. How were research partners supported to develop writing skills?

The manuscript was written in an iterative and collaborative process by all authors. Through this process junior researchers (BPL, SG, JZH, LS, HH) were given opportunity to learn how to write an academic manuscript. Further, their views and feedback were actively sought and shaped the text. More experienced writers (VH, XW) supported the writing process to help refine the manuscript and ensure all voices were heard and one view was not prioritised over others.

9. How will research products be shared to address local needs?

The findings from this study are important to furthering research efforts led by local researchers who are not fluent in English. The lessons learned from this work help to identify process improvements that will help future local studies, given that most qualitative data have to be translated into either Chinese or English. Through this study we have identified ways to engage with the local research team for skill building and for a better understanding of the culture and linguistic phrases, and how to maintain rigour in translation work.

10. How is the leadership, contribution and ownership of this work by LMIC researchers recognised within the authorship?

We have the local leadership contribution from Dr. Pande Pasang, the Director of the Shigatse CDC. Dr. Pasang is bilingual (Tibetan and Chinese) and offers the Tibetan cultural perspective, in addition to having two decades of working experience in public health. We also have Dr. Jun Hu, who has been working in Shigatse as the Vice Director of CDC for three years, and shared a strong motive to improve accessibility and quality of TB care.

11. How have early career researchers across the partnership been included within the authorship team?

Early career researchers (VH, BPL, SG, JZH, LS, HH) were included within the authorship team. They were involved throughout the research and writing process. We acknowledge that they are based in high-income countries.

12. How has gender balance been addressed within the authorship?

Seven authors are male (XW, JH, PP, ZZ, JZH, LS, and HH) and three authors female (VH, BPL, SG). We acknowledge that we could have a better gender balance on the authorship team.

13. How has the project contributed to training of LMIC researchers?

The larger project this study is a part has contributed to the training of LMIC researchers in several ways including both quantitative and qualitative research training and experience, as well as trial implementation training facilitated by the project team and trainings offered in Shigatse associated with the trial. For this study, our work has exposed the entire research team to the nuances of the translation process. This paper focuses on the experiences of the translation team however the process contributes to building up study rigour and also helps the process of mutual understanding and respect. The process of discussing these details and engaging in this work is an important step towards de-colonizing and democratizing health knowledge in LMICs.

14. How has the project contributed to improvements in local infrastructure?

This project has not directly contributed to improvements in local infrastructure.

15. What safeguarding procedures were used to protect local study participants and researchers?

There was no primary data collection with local participants as part of this study, therefore this question is not directly applicable. For the larger project, there were multiple safeguards and ethical approvals obtained and trainings conducted with researchers to ensure confidentiality and privacy in regards to participant participation and data.

Supplementary File 2: Team reflections

General reflections on the autoethnographic process:

The team was keen to embark on the autoethnographic process. All members of the translation team embraced the opportunity to discuss their experiences translating the interviews and freely shared the positives and negatives. The project lead (XW) was very supportive of the work as him and VH had previously conducted a collaborative autoethnography reflecting on a project process and found the experience to be important for the team, as a point of sense-making, and a way to understand the ways in which we research. This work had a similar effect of creating space for team members to offer suggestions for process improvements in future and also reflect on their positionality and the ways in which they engage with global health work. Further, the process offered an important opportunity for interested translation team members to learn more about the qualitative research process and come together to learn and apply new skills.

Reflections from co-author, translator (BPL):

I am a fourth-year undergraduate student involved in the translation process of this work. I was born in China and immigrated to Canada at 10 years old. Having lived and studied in both Chinese speaking and English-speaking countries, I am aware of and is influenced by the differences in culture. My mixed backgrounds and fluency in both languages have allowed me to utilize these advantages to translate findings from Chinese to English in an interpretable and meaningful way. Reflecting on the translation process, I believe my cultural and educational background in China have allowed me to interpret traditional Chinese idiomatic expressions, which are often employed by participants, and understand the context by which they are used in. As such, I strive to translate expressions with a deeper layer of meaning that reflects the original piece. In addition, I grew up in an autonomous region of northern China (non-Tibet) and realize the challenges faced by minorities in terms of language and geographic barriers that may limit their optimal recovery.

Reflections from co-author, translator (SG):

I am a Singaporean Canadian, Mandarin and English-speaking MD candidate who played a role in translation and process evaluation. Through this experience, I have reflected on how our experience with language can influence our interpretation of texts and experiences that can influence how qualitative data is analyzed. Navigating the limbo between the east and west of my own personal background, I have been able to utilize my linguistic knowledge to ensure that our study's participants are heard in a way that is accurate and authentic. However, I am also aware of the gaps of experiential knowledge, which may influence how a text or statement is interpreted. I am continuing to learn from my colleagues and study participants, and most importantly, their unique lived experiences and allowing their message and voice to be heard in a way that is representative and meaningful for them.

Reflections from co-author, translator (JZH):

I am a first-generation Chinese Canadian immigrant, speaking both Chinese and English at relatively native-speaker level. I joined the research process during the fourth year of my undergrad in life science, as a member of the translation team I was responsible for the

translation of first-hand interview transcripts (Chinese – English). Throughout the translation process, I have been aware of the limitations in my language translation skills as translating word-for-word and translating meaning-by-meaning can be often, quite contradicting. In the autoethnographic process, I have reflected extensively with the team on how communication with each other as well as translation discussions are critical throughout the translation process due to the difference in cultural, education, and familial backgrounds within the team. Although I have sought to borrow skills and knowledge from my Chinese Canadian cultural and linguistic background as much as possible, I acknowledge that limitations still exist in my efforts as some details are inevitably lost in translation when making inter-linguistic jumps. Fortunately, by working extensively with my colleagues, both Canadian and Chinese, I am confident that we, as a team, tried our best make sure that our participants are heard on paper.

Reflections from co-author, translator (LS):

I am a Tibetan-Canadian, Tibetan-speaking undergraduate student serving as a member of the translation team responsible for assessing the accuracy of the translation work. Over the course of this project, I was aware of my limited experience in the Tibetan Autonomous Region's public health system and discourse relevant to the region's healthcare system. This awareness of the gap in my knowledge pushed me to dedicate additional effort towards recognizing lived and cultural nuances expressed by participants in my analysis and translation work. As a member of the Tibetan community, I strongly felt morally obligated to ensure that the translations captured the subtle cultural nuances to the best of my abilities. Having been born and raised in exile, I have never had the opportunity to visit Tibet. And because of this, being able to participate and asynchronously engage with fellow Tibetans and assist them was a privilege.

Reflections from co-author, translator (HH):

I am Chinese, and I am fluent in speaking Mandarin, Cantonese, and English. I was in my last year of BSc during the translation process. VH and ZZ provide us (the translators) with a multi-national and multi-lingual friendly environment where we can receive help and feedback in a short time. Furthermore, my father and my grandfather are active frontline doctors working for the Chinese health care system, and as such I was able to infuse my personal experience into the translation process based on my knowledge of the medical system and the perspective of health providers. This also help me develop and refine my process and tone during translation. I am aware that the medical education systems are very different between China and the western world, so I added notes to elaborate on the Chinese system or provide contextual information in English. It is important to me to ensure that experiences with the Chinese healthcare system are shared and to be a part of the process to help doctors in China communicate their experiences with their peer around the globe.

Reflections from co-author, Research Coordinator (ZZ):

I am Chinese national that has international work experience in Canada. My role is the research coordinator for this project. I led the on-site data collection with local researchers in Tibet, introduced the interview skills and purpose of each question to them in a way that the local staff can understand the interview questions proposed by the Canadian team. On the other side, I

provided the context and implementation details to the Canadian team so that they can understand more about the logic of the responses and unify the translations. I have used my knowledge and work experience in both China and Canada to link the relevant participants to reduce the gap in language and understanding of the context.

Reflections from co-author, Research Coordinator (VH):

I am a Canadian, English-speaking PhD candidate and researcher coordinating the translation team and leading on the process evaluation which the data is supporting. Throughout this process I have been keenly aware of the gaps in my linguistic and experiential knowledge, as well as the racial and cultural differences between myself (a white Canadian woman) and my team members. This includes the ways in which my perspective, understanding and worldviews inform my analysis and interpretation of the texts. I have reflected extensively on the foreign gaze in global health (and the harms that come from it) and have had many discussions with XW and ZZ about the research setting and how my skills can be best used to meet local goals. This includes evolving work to identify how I can best support my colleagues, as the team on which I work is majority Chinese-speaking and undertaking projects in China. I have sought to use my skills and the privileges ascribed to me by my race, location, experiences and language to contribute meaningfully to the team, in ways that meet their needs, both in Canada and in Tibet. This work includes an ongoing process of developing and fostering authentic relationships with my team mates, pursuing research questions and methods (such as this) that excite us, ensuring their recognition in our research outputs, and engaging in knowledge exchange with them to develop and expand our skillsets.