

Patient education in multilingual groups of cardiac patients: Mission (im) possible?

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ABSTRACT

Objective: In Norway, cardiac rehabilitation with patient education is usually accessible only to patients who understand Norwegian. The Cardiac Care Class (CCC) in focus in this article is a unique healthcare service in that, via interpreting services, it provides patient education to patients with limited Norwegian proficiency (LNP). This article examines the adaptations carried out to make cardiac rehabilitation accessible to LNP patients.

Methods: The data stem from a qualitative study with participant observation during interpreter-mediated CCCs and from interviews with healthcare professionals, patients, and interpreters conducted by an interdisciplinary team. The collaborative data analysis focused on identifying various forms of adaptations.

Results: Providing interpreting in CCCs required organizational, logistical, and pedagogical adaptations, including having fewer class participants, engaging qualified interpreters, conducting pre-class meetings with the interpreters, and adjusting the course content and language. Communication was found to be satisfactory, although some critical issues (e.g., interpreters' working conditions) were raised.

Conclusion: This study showed that interpreter-mediated CCCs can reach multilingual groups provided that the necessary adaptations are made.

Innovation: This research is the first to show how a cardiac rehabilitation class in Norway is made accessible to multilingual patient groups by providing interpreting.

1. Introduction

Before I got the interpreter, I understood it like I didn't have any blockages or anything wrong in the heart, but that I may get blockages in the future. That is the reason I thought they had for giving me medications. I understood it that way. But once I spoke with the nurse [at the Cardiac Care Class], and she explained it for me with the interpreter, I understood that there is already a blockage, (...) So it is like a completely different perspective.

This patient's description highlights how interpreting can be crucial for patients' understanding of their own health conditions. Only after hospitalization, and in an interpreter-mediated counseling session with a nurse at the Cardiac Care Class with Interpreting (CCC-I) (*Hjerteskolet med tolk*, lit. "Heart School with Interpreting"), did the patient quoted above grasp the seriousness of his condition. The aim of Cardiac Care Classes (CCCs) is to provide rehabilitation and education to patients with a cardiac diagnosis that requires lifestyle changes and medication after hospitalization [1]. However, the CCCs in Norway usually reach only patients who understand Norwegian. Thus, the CCC-I is a unique service offered in Norwegian hospital settings in that, via interpreting, it provides cardiac rehabilitation to patients with limited Norwegian proficiency (LNP).

The Norwegian healthcare system emphasizes equity and universal access to healthcare services [2] in accordance with the UN's Sustainable Development Goal 3 to "[e]nsure healthy lives and promote well-being for all at all ages" [3]. Equity in health implies "equal access to available care for equal need, equal utilization for equal need, equal quality of care for all" [4].

Cardiovascular diseases, including heart infarction, are common causes of death in Norway (23% of all deaths in 2022) [5] and globally [6]. There is robust evidence that participation in cardiac rehabilitation, with patient education and physical exercise as core components, significantly increases quality of life and reduces mortality and cardiovascular morbidity for heart infarction survivors [1,7-9]. Cardiac rehabilitation is categorized as a Class 1 A, and thus very strong, recommendation [7]. Accordingly, cardiac rehabilitation should be offered to all patients in need. However, studies have documented that cardiac rehabilitation is accessible to a lesser degree to patients with LNP [10]. Determining how access to the necessary cardiac rehabilitation and education can be improved for patients with LNP is therefore a challenge for healthcare providers.

With globalization, Norway's population has grown more linguistically diverse. As of 2023, immigrants and their descendants made up

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approximately 19.9% of the total Norwegian population of 5.5 million, representing more than 200 countries and languages [11]. Lacking proficiency in the Norwegian language represents a significant health risk [12]. A literature review by Laue et al. [13] showed that research on health service adaptations to a culturally and linguistically more diverse patient population in Norway is scarce, and new research is required. Similar conclusions were found in international research on access to cardiac rehabilitation and the role of language barriers [14-16]. Addressing this knowledge gap in the Norwegian context, we explore the abovementioned CCC-I as an example of a service that makes adaptations to reach LNP cardiac patients.

The title of the course, “CCC with Interpreting,” identifies interpreting as a key element of adaptation. The CCC-I is a complex type of institutional encounter, understood as an encounter where professionals representing their institutions and professions encounter persons seeking an institution’s services [17]. Interpreting in institutional encounters enables professionals to inform, guide, and hear patients despite language barriers [18,19]. Correspondingly, Norway’s Interpreting Act emphasizes institutions’ legal duty to communicate, including the provision of interpreting when necessary due to language barriers [20].

Interpreting in healthcare has been studied in many different settings [21-25]. However, to our knowledge, the service in focus here—interpreter-mediated cardiac rehabilitation and patient education—has not yet received due attention in research. In the CCC-I, the interpreters render and coordinate the interlocutors’ speech in face-to-face polylogue encounters involving several patients and interpreters. Given the complexity of language-discordant healthcare demonstrated in previous studies [25-28], the question is how interpreting can be performed in a multilingual setting such as that under study here.

Against this backdrop, in this article we seek to examine the following research question: what adaptations have been carried out to make the CCC accessible to LNP patients?

2. Methods

This article is part of the larger research project entitled “How to ensure that an interpreter is called for when required? Needs and solutions related to language barriers in healthcare settings.” The aim of the current article is to examine various forms of adaptations made to accommodate interpreting, including inquiries into organizational, logistical (practical), and pedagogical aspects, as well as how interpreter-mediated CCCs have been received by healthcare professionals, patients, and interpreters.²

2.1. Fieldwork: data collection methods and setting

The data stem from a qualitative fieldwork study with participant observation of CCCs followed by interviews with healthcare professionals, patients, and interpreters [30-32]. The fieldwork was carried out during 2022–2023 at a Norwegian hospital by a multidisciplinary team of five researchers/authors who were not affiliated with the hospital. The hospital is in a region with a mixed population [11] and regularly receives LNP patients. The field site is thus relevant for gaining insight into patients’ education and rehabilitation in a linguistically diverse patient population.

2.2. Ethics

The study’s protocol for data collection and storage was approved by the Norwegian Data Protection Agency (NSD no. 860748) and by the

² Based on the larger project, the research group is preparing articles concerning different aspects of interpreting in the CCC-I and in healthcare in general, including an article focusing on patients’ experiences of and reflections on participating in interpreter-mediated CCC [29].

local hospital’s Data Protection Officer. All five researchers signed a confidentiality declaration issued by the local hospital. The Regional Committee for Medical and Health Research Ethics (REK) considered that the project did not require their approval (REK no. 238907).

Written consent for the participant observations in CCC activities, interviews (individual and focus group), and recording of interviews was obtained from all participants. The researchers read aloud and explained, via interpreters, the project information and the content of the consent form for LNP participants.

To protect the participants’ privacy, the identifying traits of participants have been removed, and the study’s field site is referred to in this article as “the hospital”.

2.3. Participant observation in Cardiac Care Classes

The hospital currently provides CCC courses in three versions: regular CCC (five days), CCC for seniors (three days), and CCC-I (two days). During participant observation of a total of 12 course days, all versions were included, with special attention paid to the CCC-I classes’ activities and interactions (see Table 1). In addition to interviews and fieldnotes, our data include healthcare professionals’ PowerPoint presentations, CCC documents, podcasts, and web information.

2.4. Interviews: Topics of interviews and recruitment of participants

In joint sessions, the research team developed interview guides for semi-structured interviews that were adjusted to fit each group of interviewees but covered the following topics: 1) experiences with and without interpreting in healthcare encounters, 2) experiences of CCCs, and 3) suggestions regarding interpreting (see Appendix 1). The researchers listened to the recordings individually and in group sessions. Agreed-upon sequences were later transcribed in detail by the researchers.

All interpreters present during the fieldwork at the CCC were invited to take part in the interviews, and 11 interpreters, representing nine languages (see Table 1), volunteered and took part in subsequent online focus group interviews with three to five participants in each. All participating interpreters had completed university-level interpreter education of one to four years’ duration.

The patients participating in the interviews were also recruited from the CCCs. All interviewees, a total of 13, had a language other than Norwegian as their first language, representing ten different languages (see Table 1).

Both healthcare professionals in charge of the CCC participated in recorded individual interviews and numerous follow-up conversations (see Table 1).

2.5. Data analysis

The qualitative data analysis was conducted collaboratively [33-35] to benefit from the research team members’ multi-perspective inputs and backgrounds in interpreting studies, physiotherapy, the nursing sciences, and medical anthropology. A series of joint sessions, held during and after data gathering, included the sharing of data and reflecting upon observations from the fieldwork and the recorded interviews. These collaborative reflections were an integral analytical method applied throughout the research process [32]. After the concept of adaptation had been agreed upon as a central theme for analysis in this article, [36,37] the examination focused on identifying various forms of adaptations, such as organizational, logistical/practical, and pedagogical adaptations. The data were then ordered chronologically, resulting in pre-class-, in-class-, and after-class adaptations, and described accordingly [32]. Further, the analysis was informed by ideas from patient education, such as patients’ peer support and mutual learning [38-41], and themes from the literature on interpreting in healthcare, such as the interpreters’ working conditions [19,21,42-45].

Table 1
Overview of fieldwork in Cardiac Care Classes, participants, and languages.

| Overview of participant observations in Cardiac Care Classes | | | |
|--|--------------------|------------------------|--|
| Time | Number of patients | Number of interpreters | Languages |
| Spring 22 | 3 | 3 | English, Punjabi, Urdu |
| Spring 22 | 4 | 4 | Dari, English, Punjabi, Urdu |
| Spring 22 | 5 | 4 | Arabic, Persian, Sorani, Vietnamese |
| Spring 22 | 5 | 4 | Arabic, Persian, Sorani, Vietnamese |
| Summer 22 | 11 | No interpreters | |
| Fall 22 | 10 | No interpreters | |
| Winter 23 | 6 | 5 | Dari, English, Urdu, Vietnamese |
| Winter 23 | 7 | 5 | Dari, English, Urdu, Vietnamese |
| Spring 23 | 3 | 3 | Polish, Spanish, Urdu |
| Spring 23 | 3 | 3 | Polish, Spanish, Urdu |
| Spring 23 | 7 | 6 | Arabic, English, Pashto, Sorani, Urdu |
| Summer 23 | 7 | 6 | English, Pashto, Sorani, Turkish, Urdu |

| Overview of individual interviews with patients | | |
|---|--------------------------|-------------------------------|
| Language used in interview | With/without interpreter | First language of interviewee |
| Dari | with interpreter | Dari |
| Punjabi | with interpreter | Punjabi |
| English | without interpreter | Telugu |
| Arabic | with interpreter | Arabic |
| Arabic | with interpreter | Arabic |
| Sorani | with interpreter | Sorani |
| Vietnamese | with interpreter | Vietnamese |
| Norwegian | without interpreter | Persian |
| Norwegian | without interpreter | Persian |
| Albanian | with interpreter | Albanian |
| English | without interpreter | Tamil |
| Sorani | with interpreter | Sorani |
| English | without interpreter | Pashto |

| Overview of focus group meetings with interpreters | | |
|--|------------------------|--------------------------------------|
| Meetings | Number of participants | Languages |
| 1 | 3 | Arabic, Persian, Vietnamese |
| 2 | 4 | English, Persian, Sorani, Vietnamese |
| 3 | 4 | Dari, Finnish, Polish, Urdu-Punjabi |

| Overview of interviews with healthcare professionals | |
|--|------------------------|
| Meetings | Number of participants |
| 2 | 1 nurse |
| 2 | 1 physiotherapist |

The analysis was kept data-near to ensure transparency and to present trustworthy and recognizable descriptions of the findings from the participant observations and interviews [46-48].

3. Results

The description of CCC-I adaptations is based on observations and interviews with the healthcare professionals. Moreover, to document how the adaptations were received, we include issues related to course communication that were recurrently raised by interpreters and patients.

The CCC, providing rehabilitation and education to cardiac patients, has been offered at the hospital since 2006. In 2017, the first CCC-I was launched to reach a multilingual group of patients. This innovative approach was initiated by a physiotherapist and a nurse (henceforth, “the healthcare professionals”) who recognized that an increasing number of cardiac patients in need of rehabilitation and education were not being offered equal access to such services due to language barriers. Apart from a break during COVID-19, the CCC-I has been offered four to five times a year since 2017, according to demand. The aforementioned healthcare professionals have been in charge of the courses since their inception.

The CCC-I is based on the regular CCC. The principal adaptation, namely, the provision of interpreting in all phases and during all learning activities, requires organizational, logistical, and pedagogical adjustments to the course (Fig. 1).

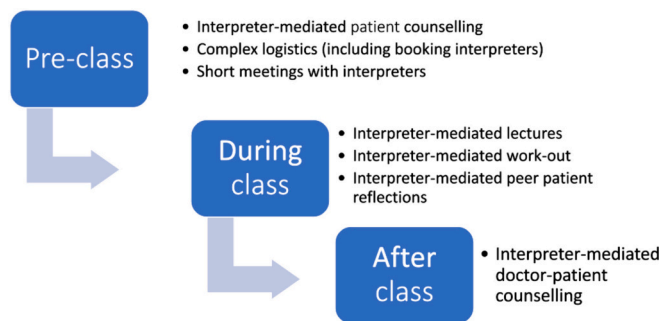


Fig. 1. Phases of Cardiac Care Class with Interpreting (CCC-I).

The current CCC-I format is, in many ways, the outcome of compromises and attempts to balance competing concerns and priorities, as detailed below.

3.1. Pre-class adaptations

Recruitment for all CCC courses starts with a referral from the hospital cardiologist. The detection of a language barrier upon the referral of a cardiac patient triggers a cascade of tasks for healthcare professionals. In addition to carrying out regular routines, such as contacting patients, booking rooms, and scheduling timetables, they must

engage interpreters. Furthermore, CCC-I patients are offered an individual interpreter-mediated pre-class counselling session with one of the two healthcare professionals and an interpreter-mediated after-class consultation with a cardiologist.

To accommodate interpreting, the CCC-I's group size is reduced from the regular ten to fifteen patients in a CCC to a maximum of eight patients in a CCC-I. Moreover, it is not only the group size that is reduced: the course duration is also shortened from the regular CCC's five days over five weeks to two days over two weeks in CCC-I. The rationale is that two days' duration is all that the healthcare professionals find manageable given the extra organization associated with the CCC-I.

Condensation of course content follows from the need to shorten the course duration. Only content that the healthcare professionals perceive as "the most important parts" remains. Another adaptation is that other professionals, such as a nutritionist and a cardiologist, who contribute to regular CCCs by making specific lectures, are not involved. Instead, in the CCC-I, a brief overview of these professionals' lectures is embedded in the healthcare professionals' own lectures.

Interpreters are booked via the hospital's in-house Interpreting Service. As a rule, interpreters are assigned to serve one or two patients for each language spoken, and they are expected to keep interpreting throughout the day's activities, from 9 AM to 2 PM (with a one-hour lunch break). Ideally, the same interpreter should cover both course days. However, this is seldom feasible, due, for instance, to the interpreters' other assignments. For the interpreters to prepare for the job, the healthcare professionals provide information packages that the Interpreting Service forwards to the assigned interpreters. In addition, the interpreters are paid to meet 15 min before class for a briefing on the day's program and the healthcare professionals' expectations of the interpreting process. The healthcare professionals find that these 15 min are crucial for their collaboration with the interpreters and label it "problematic" if interpreters miss the briefing.

Generally, the healthcare professionals express "a burning wish" for CCC-I patients to benefit from the course. At the same time, they acknowledge the complexity inherent in conveying information to patients via interpreting. Complications are, however, mainly experienced in the pre-class phase, according to the healthcare professionals: "when we eventually get to the point where everyone is brought together, then everything is fine". The enthusiasm remains throughout the course: "when we've been to the gym and are finished for the day, we're pretty exhausted, but very happy".

3.2. In-class adaptations

As in the regular CCC, the learning activities are organized into three basic session types: lectures, physical exercise, and patients' peer-learning sessions. Each activity accommodates interpreting in different ways, as illustrated below. In the interviews, the patients, healthcare professionals, and interpreters highlighted different aspects of the interpreter-mediated communication, as described below.

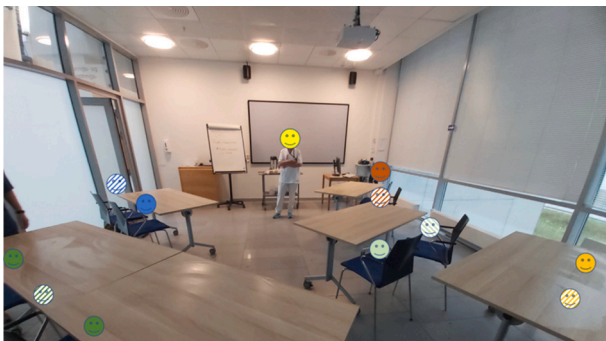


Fig. 2. The CCC-I classroom, organized with desks in a fishbone pattern.

3.3. Lectures

To investigate what lifestyle changes and medication routines are necessary for the patients, healthcare professionals find it crucial that patients acquire knowledge about their own medical conditions. Accordingly, the objective of the lectures is for patients to gain knowledge about 1) the physiology and pathology of the heart; 2) medical treatment and the prevention of new heart failure; 3) the importance of lifestyle changes, including nutrition and physical activity; and 4) the mental and social aspects of experiencing heart disease.

To facilitate interpreting, the healthcare professionals maintain that they reduce their speech rate and "allow ample time for the interpreters' delivery." They also try to "speak clearly" and "simplify the information." Moreover, they support their lectures with PowerPoint presentations and artifacts, such as models of the heart and the cardiovascular system. To further accommodate interpreting, the classroom desks are organized in a fishbone pattern, which allows for the seating of patients and interpreters according to language (Fig. 2).

Throughout the different sessions, the interpreters are expected to consecutively render the lectures and the patients' questions and answers. The setting, with multiple interpreters rendering in different languages at the same time in a relatively small space, creates a cacophony of voices. This is bound to be a challenging form of communication for all participants and a challenging work situation for the interpreters, in particular. However, despite the complexity of the setting, the healthcare professionals and patients gave positive feedback about how well communication flows. The patients unanimously praised the course, the interpreters, and the interpreting. Even when prompted, the patients did not complain about the intermix of different voices. They held that they "just concentrate on their own interpreter". During question and answer sessions, due to the interpreting, the patients embrace the opportunity to compare their own questions with those of others. In the words of one of the patients:

My translator is translating what I am saying into Norwegian, at the same time she is also saying what other patients are saying, and what the answer was to their questions. So, everything is translated, what the group is saying, including my individual questions. [...] When another patient has a question, because of that question, I will create a new question.

Nonetheless, the CCC-I is clearly a demanding setting for the interpreters. As expressed by one interpreter:

[...] it became kind of chaotic when all the interpreters were to deliver their renditions consecutively at the same time, and then [the participants] talked again, and then the interpreters in all the languages.

To improve their working conditions, some of the interpreters suggested the implementation of technology that allows for conference-style interpreting (i.e., simultaneous interpreting via headphones and microphones). This mode was tested in the CCC-I and, according to the interpreters taking part in the testing, both interpreters and patients appreciated it: "the patient that listened to my interpreting was very fascinated and said he felt catered for like in UN meetings". However, the healthcare professionals have not yet decided on the implementation of technology that allows for conference-style interpreting. One of the healthcare professionals' concerns is that the introduction of new technology might have a negative impact on group dynamics and reduce the extent to which patients can engage in dialogues and develop a sense of group belonging.

3.4. Physical exercise

Physical exercise is a central element of every CCC course day. The healthcare professionals underscore that "the heart is a muscle" and emphasize the benefits of physical activity for cardiac patients. They underline that there is solid research evidence to support this claim. Cardiac patients, however, tend to be anxious about harming their hearts. The main objective of the workout is therefore to inspire the patients to undertake increased physical activities by letting them



Fig. 3. A workout session with interpreting.

experience how a workout is safe and manageable as well as to motivate them to implement physical activities in their daily lives.

The workout takes place either in the physiotherapy department's gym (Fig. 3) or outdoors. Additionally, to demonstrate that exercise can take many forms, even hospital hallways and staircases are utilized.

The physiotherapist leads the workout, instructing and demonstrating the exercises. Simultaneously, the nurse assists patients in need of supervision and supports them in differentiating between pain caused by their heart condition and pain caused simply by working out. Ensuring satisfactory communication in determining the cause of pain makes interpreting a crucial aid during workouts, and some of the patients highlighted the importance of interpreting in these exchanges. In the words of one patient:

There was one occasion when somebody ran out of breath and had to sit down. Again, he had an interpreter with him, so the nurse, who was helping to lead the session, she went over and started talking to him. [...]. [29]

During the workouts, the healthcare professionals expect each interpreter to follow the patients speaking their language. Moreover, to ease group dynamics, the interpreters are encouraged to participate in the exercises. For the interpreters, these expectations may be difficult to comply with simply because “you cannot interpret when you are short of breath,” as one interpreter puts it. Moreover, the information that interpreters are expected to participate in workouts do not always reach them in time to prepare:

Erm ... one could maybe say that I should have read between the lines that we were supposed to work out—but I didn't know beforehand, so I showed up in a dress! And I have been thinking a little about that it would have been nice to receive that information specifically beforehand, because it is about clothing and not all interpreters are able to partake in a workout.

It appears that the rationale behind the workout sessions is not clear to all the interpreters. Consequently, the interpreters were observed to handle this task in different ways: some participated moderately while interpreting, while others participated fully in the workout, possibly risking the quality of the interpreting.

3.5. Patients' peer-group learning

The objective of the peer-group learning sessions is to enhance patients' understanding and mastery of their own health conditions through the sharing of experiences and reflections. Developing trust and a feeling of group belonging are two important elements for the success of this pedagogical learning activity.

Classes are initiated with questions such as “how has the heart problem affected your life?” or “do you consider yourself healthy or sick?” The patients raise questions about their heart conditions,

medications, nutrition, and physical exercise and express individual experiences of pain and anxiety.

In the complex polylogue of the joint peer-group reflections, even a simple question–answer sequence becomes very nested due to the multiple language combinations. Turn allocation during the interpretation of polylogues is an issue recurrently addressed by the interpreters. As one interpreter mentions the need for the interpreters to raise their hands on behalf of the patients, another responds:

I didn't give it much thought, but when you mention it, I ended up doing the same myself [i.e., raising her hand on behalf of the patient]. Because often when there is another parallel conversation going on, and you interpret for the patient and then the patient wants to respond and then you raise your hand both to get the turn and to make the patient understand that it is not me [the interpreter] he is supposed to address.

Healthcare professionals must coordinate the speaking turns so that the patients can follow both what their peers and the healthcare professionals are saying. Still, despite its complexity, the patients maintained that the communication contributed to forming a sense of group belonging:

When my interpreter translated back to me what the other patients were saying, I felt I was in a group. Together. Even though they speak other languages, they could understand. [...] So, it was like we all were talking together in one language—because of the translation.

The healthcare professionals also found that the peer-group activity allowed patients to share experiences and reflections. Simultaneously, the healthcare professionals felt that it increased their understanding of the patients.

4. Discussion and Conclusion.

3.6. Discussion

This qualitative study shows the ways in which a CCC class is adapted and made accessible to multilingual groups of patients. By including interpreting, the CCC-I increases patient recruitment and participation in cardiac rehabilitation, which is a highly recommended, evidence-based, but underutilized, secondary prevention measure [7,8,49,50].

We have identified organizational, logistical, and pedagogical aspects of adaptations that have not previously been described in the literature on cardiac rehabilitation, although some issues have been addressed in the literature on interpreting, as mentioned below.

The organizational adaptations include communicating with patients via interpreters before the course as well as condensing course content and reducing group size, course duration, and even the number of lecturers involved. Logistical adaptations include engaging interpreters, organizing pre-course meetings with interpreters, preparing information packages for interpreters, and booking and setting up the classrooms in an “interpreting-friendly” fish-bone pattern. The pedagogical aspects of adaptation include structuring the information to be interpreted by using shorter sequences and leaving room for interpreting. These different, partially overlapping aspects (e.g., the condensation of the course content has both organizational and pedagogical aspects) were to some extent differently received by the CCC-I participants, as discussed below.

The healthcare professionals were pleased to be offering adapted CCC-I with physical exercise and patient education. In accordance with basic ideas of patient education, the focus is placed on the individual patient's resources, enhancing their knowledge about the heart and managing their disorder [39–41]. Via interpreting, the healthcare professionals felt that they succeeded in creating an atmosphere of trust where patients could freely express their concerns. The researchers' observations during CCC-I confirmed the impression that patients actively shared experiences with peers and healthcare professionals, displaying relevant questions and reflections. Thus, dialogues between healthcare professionals and patients and among patients themselves on health issues of common concern were observed in line with definitions of dialogue as central in patient education [41,51,52].

However, healthcare professionals also identified several factors of vulnerability in the adaptations, such as the logistical complexity, the condensation of the course, and its dependency on a few healthcare professionals. Ideally, they would have preferred a similar capacity to the regular CCC. As regards the interpreting, the healthcare professionals expressed general satisfaction, a finding that contrasts with what is often reported in the literature [43,53]. Still, the healthcare professionals identified challenges similar to those reflected in previous research, such as costs, logistics, and finding the right interpreter at the right time [22,43,53-58]. In addition, the healthcare professionals related that some interpreters displayed uncertainty as to how they should perform in certain situations, for instance, during the workouts.

Without exception, the interviewed patients spoke about the course and the interpreting in positive terms; for example, they referred to the interpreters as “professionals” or “experienced”. However, they also expressed awareness of challenges, such as constricted classroom space, and “the noise” of several languages interpreted at the same time. The patients’ positive responses may have several explanations, including biases, such as social desirability bias [59]. Another explanation may relate to the patients’ previous negative experiences related to language barriers, which were brought up in almost every interview. The patients’ negative experiences from other healthcare settings partially overlap with earlier findings from Norwegian and international research [24,42,43,60-66]. The lack of access to qualified interpreters appears to be a common denominator in the studies cited above. In contrast, all interpreters in the CCC-I are qualified according to Norway’s National Register of Interpreters [67].

Even the interpreters, in general terms, described interpreting in the CCC-I as a positive experience and stressed that they felt “appreciated as professionals” and experienced the CCC-I as “well planned”. At the same time, however, the interpreters voiced several issues concerning their work conditions. First and foremost, the interpreters highlighted the importance of timely access to relevant information to enable them to prepare for the assignment. Previous studies have shown that the work situation often appears more complex from the interpreter’s vantage point and that the primary parties involved do not notice the challenges experienced by the interpreter [19,44,45,68-71]. Secondly, the interpreters reported that the expectation to perform interpreting while participating in workouts represented a challenge. Finally, the interpreters conveyed that interpreting in consecutive mode in a multilingual polylogue is cognitively extremely taxing. The interpreters accordingly suggested improvements in CCC-I quality by adjusting the interpreters’ work conditions, for instance, allowing for simultaneous mode interpreting.

Evidently, the complexity of situations such as that described here adds challenges to the interpreter’s job. The observations mirror the need to stress that the interpreters also exercise professional discretion and that successful interpreting depends largely on their work conditions and ability to prepare for each assignment.

In sum, the healthcare professionals offer a course where patients, notwithstanding language barriers, gain access to cardiac rehabilitation, including patient education (lectures, physical exercise, and peer-group learning). Above all, course communication is achieved by engaging qualified interpreters in all phases and learning activities. However, our discussion also shows that the success of the course depends on how well the situation is accommodated to interpreting—for instance, by providing the interpreters with detailed information about the course before the assignment. Thus, informing healthcare professionals about the complexity and challenges of the interpreter’s task and how to communicate via interpreters is important.

3.7. Innovation

There are two principal innovative elements in this study. First, the CCC-I under scrutiny is an innovative approach to cardiac rehabilitation as the course, via the provision of qualified interpreting in all phases and

learning activities, is designed to reach patients who previously lacked access due to language barriers. The current article shows how the CCC is adapted and offered to a multilingual group of patients with whom healthcare professionals lack a common language. While previous research on access to cardiac rehabilitation has pointed to language barriers as an important hindrance to recruitment and participation [14-16], these publications do not discuss how cardiac rehabilitation should be adapted to accommodate interpreting.

To show that such adaptations are possible has relevance not only for cardiac rehabilitation courses, but for servicing multilingual patient groups in healthcare in general. Thus, the issue addressed in this study is highly relevant in the broader context of ensuring professional standards and integrity in linguistically diverse healthcare, despite language barriers [12], in Norway and elsewhere.

Second, the study’s approach is innovative in the field of cardiac rehabilitation in that it combines methods and insights from interpreting studies, physiotherapy, the nursing sciences, and medical anthropology. Based on experiences from the current study, we suggest that this novel approach may be utilized in research concerning interpreting in other healthcare services.

3.8. Conclusion

The question posed in the title of this article is whether interpreter-mediated patient education in multilingual groups is possible. Our study demonstrated that, to some extent, the mission is possible—that is, the overall goal of patient equity can be achieved in the sense that patients gain access to services that were not previously available to them due to the language barrier. The necessary adaptations include assigning qualified interpreters in relevant languages, organizing pre-course consultations with patients and interpreters, and informing healthcare professionals about the task of the interpreter. However, as our discussion also showed, there is room for improvement in the interactions between the healthcare professionals and interpreters; thus, in the sense of quality of services, the goal of equity is not yet fully achieved.

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CRedit authorship contribution statement

Tatjana R. Felberg: Writing – review & editing, Writing – original draft, Resources, Methodology, Investigation, Formal analysis, Conceptualization. **Gry Sagli:** Writing – review & editing, Writing – original draft, Resources, Project administration, Methodology, Investigation, Formal analysis, Conceptualization. **Camilla Hansen:** Writing – review & editing, Writing – original draft, Resources, Methodology, Investigation, Formal analysis, Conceptualization. **Anne Langaas:** Writing – review & editing, Writing – original draft, Resources, Methodology, Investigation, Formal analysis, Conceptualization. **Hanne Skaaden:** Writing – review & editing, Writing – original draft, Resources, Methodology, Investigation, Formal analysis, Conceptualization.

Declaration of Generative AI and AI-assisted technologies in the writing process

The authors declare that there was no use of AI and AI-assisted technologies in the writing process.

The authors confirm that all patient/personal identifiers have been removed or disguised so the patient/person(s) described are not identifiable and cannot be identified through the details of the story.

Declaration of competing interest

The authors have no competing interests to declare.

Appendix 1

Questions in patient interviews.

Introductory questions about language use

- Can you tell us a little about which language, or languages, you usually use in various contexts?
- What's your mother tongue?
- Do you speak other languages? Which ones?
- Which language do you usually use in everyday life? At home (with whom)? In working life? In other social contexts?
- How long have you lived in Norway?
- Can you tell us a bit more about how you experience living in Norway and not speaking Norwegian? Examples?
- Anything else that you think is important?

Language use in health care encounters: Experiences with/without an interpreter

- Can you say a little about what usually happens with regard to language and communication when you are at the doctor's or in a hospital or elsewhere in the health service?
- Do you have concrete examples of how communication challenges have been sorted out? (Interpreter? Other ways?)
- Do you have previous experience of communicating via an interpreter?
- In what contexts?
- Can you give examples of health care encounters with and without an interpreter?
- Special challenges? Misunderstandings?
- What makes you think "I would like an interpreter in this conversation"?
- If applicable, have you ever said that you would like an interpreter? Have you got an interpreter? Or not?
- What do you think are the advantages and disadvantages of using an interpreter?

Experiences and reflections from the Cardiac Care Class with Interpreting (CCC-I).

If you have attended a CCC-I:

- What are your experiences about participating in a group where there are many languages and many interpreters?
- How do you experience interpreting in contexts such as: 1) group conversations, 2) lectures, 3) workouts, 3) individual conversations, and 4) other activities?
- Based on your experiences, what advice would you give the interpreters to improve their approach to you as a patient?
- What do you experience as the main problems in interpreting various activities, including the workout sessions?

Advice for health care professionals:

- Health care professionals are responsible for ordering an interpreter. Do you have any advice/thoughts for them about what assessments should be taken into account when deciding whether an interpreter should be selected or not?
- Please give concrete examples!
- What do you think should determine whether engaging an interpreter is necessary or not?

Self-assessment of Norwegian skills.

- How well do you speak Norwegian? (1 = not at all, 2 = not well, 3 = well, 4 = very well).
- Followed up with: When you are with the doctor or at the hospital, if you could choose freely—in an ideal world—would you prefer to communicate with health personnel in your mother tongue (i.e., via an interpreter or native-speaking health care personnel) or in Norwegian?
- Would you benefit from attending the CCC without an interpreter?

Questions in interpreter interviews

- How is interpreting at CCC working in your opinion? – How is your experience of interpreting at CCC in comparison with interpreting in other group situations or training programs generally?
- What do you find to be well-working aspects of interpreting at CCC?
- What might be difficult with interpreting at CCC? – Or in the interpreting of group meetings and training programs in general?
- How does the cooperation between the interpreters and the health care professionals in charge of the course work?
- What information do you normally receive beforehand?
- What information did you receive beforehand that was useful for you being able to deliver interpreting?
- And what (additional) information do you wish you had received beforehand?
- How could the situation have been even better facilitated with regard to the interpreters' task and their work conditions?
- Food is part of culture – what are your thoughts about the advice on food given by the course?
- What may have been different, do you find?
- How does the interpreters' collaboration work?
- In what ways does the CCC experience differ from other interpreting assignments (e.g., regular doctor-patient consultations or courtroom meetings)?
- What are your thoughts about interpreting in groups – generally?

- Would you share some reflections on when one, in your opinion, need to call upon interpreter(s)?
- It is great if you can think of concrete examples where an interpreter should have been called upon – and situations where calling an interpreter would not have been necessary!
- How may this knowledge be conveyed to the (health care) professionals in charge – and to the patients?
- What are your reflections on participating in a focus group discussion on interpreting in complex settings based on the experiences from CCC?
- How often do you get interpreting assignments at CCC – or in similar settings (elsewhere)? /How many assignments have you hitherto had at CCC – or in similar settings (elsewhere)?
- How do you find the interpreter's work conditions in this setting/ these settings?
- What challenges do you experience when interpreting in a group exercise setting?
- What is your category in Norway's National Register of Practicing Interpreters? /Working Languages? /Years of practice.

Questions in interviews with healthcare professionals.

Introductory on language and interpreting.

- Can you tell me a little about your work?
- How long have you been working at [hospital]? At CCC?
- Previous work experience?
- The importance of communication for [succeeding with] your work? Important? Not very important?

Language barriers in healthcare encounters. Experiences with/without interpreting?

- What do you normally do when you encounter with language barriers in your everyday work? Do you have specific examples as to how challenges with communication have been resolved? (Via interpreter? Other ways? If yes, which ones?)
- Do you have any experience with communication via interpreting/an interpreter? If yes, in which connections?
- What is decisive as to you thinking: «here I would really like an interpreter»?
- What does it take for you to actually hire or engage an interpreter?
- What do you regard as pros and cons with using interpreters?
- Have you ever had training/guidance on how to communicate via an interpreter?

Experiences and reflections on the activities of CCC.

- In those cases where you have decided that you want to hire an interpreter, how have you reached the conclusion that you need interpreting? Nice if you can give some actual examples!
- Feel free to use actual examples from CCC as your vantage point. Before the encounter? In the course of the encounter? In hindsight?
- Do the situations differ (e.g., a one-on-one conversation, vs. group gatherings, workouts, dialogues (?), lectures, counselling?)
- What assessments did you make prior to the course arrangement starting here (CCC with interpreting)?
- Counselling or cooperation with the hospital's inhouse interpreting services?
- What do you find to be an important base for assessing whether a patient does not speak very Norwegian well enough to understand what is being said?

Experiences from CCC with interpreting

- What evaluations are underpinning the decisions that some patients sort into a group with or without interpreting?
- How do you experience the interpreters' communicative competencies in general?
- How do you experience the interpreters' communicative competencies in various contexts such as group counselling? Group workouts/gym? Individual counselling?
- Based on your experiences, what advice would you give the interpreters as to how they could better reach you as a professional?
- How do you cooperate with the interpreters before, during and after the course activities that are to be interpreted? What measures have, in your opinion, been most successful?
- What could, in your opinion have been done differently? Could you give examples?
- What could the interpreters have done differently, in your opinion? Could you give examples?
- How would you describe the biggest difference between this group and other patient groups when it comes to notions of illness and training?
- What taboo areas are there that may differ? What similarities are there? Could you give examples?

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