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ORIGINAL ARTICLE



Participation in a rehabilitation program based on adapted physical activities in Norway: a qualitative study of experiences of immigrant parents and their children with disabilities

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ABSTRACT

Purpose: By exploring immigrant families' experiences of participating in a three-week rehabilitation program focused on adapted physical activity in Norway, this study investigated how beneficial, culturally adapted, and accessible the services were from the families' perspectives.

Methods: A hermeneutic design with semi-structured interviews supplemented by participant observation was applied. Inductive thematic analysis was conducted.

Results: Three themes were identified: "learning through participating," "sharing the same experience," and "gaps in service delivery." By participating in physical activities together with their children, parents became aware of their children's capabilities and interests, as well as the available resources. Parents also socialized and exchanged experiences and information with each other. Children learned new skills, became aware of their preferences and capabilities, built friendships, and improved their social skills. However, a lack of cultural adaptation, such as insufficient information, as well as the location of the rehabilitation center, language barriers, and exclusion of siblings affected accessibility of the services to immigrant families.

Conclusions: Although the beneficial aspects of the services were demonstrated, the cultural adaptation and accessibility of the services were limited. Providing flexible and culturally adapted services that meet immigrant families' needs may improve the accessibility of rehabilitation services to immigrant families.

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► IMPLICATIONS FOR REHABILITATION

- Making information available to immigrant families, mapping their resources and needs well before the intervention may improve the accessibility of the services for these families.
- Rehabilitation professionals need to consider families' perceptions of their own role through the goal-setting process when engaging with families from cultural backgrounds different from their own.
- When planning the intervention, grounding physical activities in the diverse cultural background of participants may increase immigrant families' sense of belonging and inclusion, and thereby facilitate interaction between families regardless of cultural differences.

Introduction

Physical activity is associated with improved health, psychological benefits, and social development among young people [1]. However, participation in physical activities varies within the young population and occurs considerably less frequently among children with disabilities compared to their peers without disabilities [2–4]. Children with disabilities face complex barriers to participation [5], mainly related to the child, family, and wider environmental factors [6]. Children with disabilities and immigrant backgrounds have even lower rates of participation in organized social activities, such as sports, dance, and youth groups compared with their non-immigrant counterparts [7]. Household socioeconomic factors, such as education, as well as household

connectedness with the neighborhood significantly influence the participation of children with immigrant backgrounds [7]. Immigrants and their Norwegian-born children comprise approximately 18% of the total population in Norway. They vary in ethnic, cultural, educational, and socioeconomic backgrounds, as well as the length of their residence in Norway. More than 80% of all immigrants in Norway come from non-Western countries [8].

In recent years, research has shown the potential of interventions based on adapted physical activity and involving parents in improving physical activity participation among children and youth with disabilities [9,10]. Such interventions encourage parents' active engagement in physical activity sessions, which is an essential consideration for the continuation of physical activity behavior once interventions have ceased [11]. Given the low

participation in physical activity among children with disabilities and immigrant backgrounds [7], this study explored the experiences of immigrant parents from non-Western countries and their children with disabilities who participated in a rehabilitation program built on the same principles of involving parents and focusing on adapted physical activity. The purpose of the study was to generate knowledge of how beneficial, culturally adapted, and accessible the services were from the immigrant families' perspectives.

Access is a multidimensional concept and a major concern in healthcare policy, representing the degree of fit between the characteristics of families and health services [12]. Access is optimized by accounting for its dimensions, which include accessibility, availability, acceptability, affordability, adequacy, as well as awareness in service design, implementation, and evaluation [12,13]. The knowledge produced in this study may contribute to providing inclusive and accessible rehabilitation services for immigrant families with children with disabilities.

Materials and methods

The present study used a hermeneutic design. This approach is especially advantageous for conducting multicultural research in that it provides the space to identify and understand various perspectives. Hermeneutics also raises researchers' awareness about how their own preunderstandings, linguistic capacity, and cultural identity may influence the multicultural research process and the findings. Furthermore, the integration of interpretation and critical reflection in hermeneutic inquiry allows researchers to reexamine practices that are closely defined by traditions and cultures, which is precisely within the scope of the current study [14]. A mixed-method qualitative study was chosen, with semi-structured interviews as the main method and participant observation as the supplementary method [15]. Participant observation was applied as a supplementary method to gain insight into the interaction between professionals and families as well as inter-family interactions [15,16]. Observations give the opportunity to grasp interactions that are lived, but not conscious or articulated [16].

The study was registered with, and approved by, the Norwegian Center for Research Data (NSD) and received permission for implementation (reference number 51764). The study was also submitted to the Regional Committees for Medical and Health Research Ethics (REC) but was considered to be outside the remit of the Medical Research Act; it could, therefore, be implemented without the approval of the REC (reference number 2016/1764). The participants gave written consent to participate in the study. The consent form was approved by the NSD. The participants were informed in writing and verbally that the findings would be published in scientific journals.

Participants

Applying purposive sampling [17], the study included immigrant parents from non-Western countries and their children with disabilities who participated in the pediatric rehabilitation program between 2015 and 2018. Immigrants are persons born abroad of two foreign-born parents and four foreign-born grandparents [18]. Non-Western immigrants refers here to immigrants from Eastern Europe, Asia, and Africa [19]. Most of the children were born in Norway to two immigrant parents. Only four children had immigrated to Norway, arriving at a very young age with their parents.

Participants were recruited through the rehabilitation center via an information letter about the study, sent either before or

after their three-week stay at the center. In total, 66 families were approached in writing. After receiving the information letter in Norwegian, potential participants who lived in the Oslo area were additionally informed by phone about the study in simple language by the first author. Forty families did not respond, and two declined because of their work and life schedules.

The rehabilitation program

The context of the study was a private rehabilitation center, located in the mountains, within the Norwegian specialist healthcare system, which provides services to both children and adults with disabilities. The eligibility criteria of the program were broad and included children aged 5–17 years with various functional levels, diagnoses, and disabilities. The program was based on intensive intervention and the principles of adapted physical activity [20,21], reflecting Norwegian culture with a particular focus on outdoor activities [22]. The intervention was based on each child's individual goals but was also designed to introduce families to novel and varied adapted physical activities [9]. Depending on the season, families participated in summer or winter activities, such as skiing, snowboarding, horseback riding, rock climbing, swimming, cycling, and canoeing. A multidisciplinary team of six professionals—comprising a physician, a physiotherapist, an occupational therapist, a sports pedagogue, a nurse, and a social worker—provided the interventions for each group of 8–10 children and their parents, five hours a day, six days a week, for three weeks [20]. The program also included optional leisure activities comprising physical, social, and cultural activities, such as picnicking, target shooting with air rifles, painting, and playing games provided by recreation workers in the afternoon and evening. Children and parents resided at the center for the duration of the program. Children's activity preferences were identified before the intervention using ActiveYou I, a web-based self-report assessment instrument that is a Norwegian-adapted version of the Preferences for Activities in Children (PAC) [23]. The goal-setting process used an adapted code set based on the International Classification of Functioning, Disability and Health and included 40 categories, most of which were subsumed within Activities and Participation [22]. The goals were mainly to improve children's participation in their preferred physical activities, such as learning to swim or ride a bike. Parents were involved in some of the activities to learn about possibilities for facilitating their children's participation back home in their local community [10].

As a part of the program, parents also participated in informative group meetings. One of the meetings, led by the social worker, was about the families' rights and the services to which they are entitled. A regional sports association consultant was also present to inform parents about the different types of adapted physical activities available in their region. Additionally, a meeting was organized with a psychiatric nurse who guided parents on how to overcome daily challenges by using mastery strategies. Another meeting was organized with a nutritionist about the importance of healthy food in maintaining good health. The families were also introduced by the occupational therapist to assistive activity devices, which are available free of charge and may facilitate activities in their local communities.

Data collection

Twenty-three interviews with parents and 17 interviews with children were conducted from April 2017 to January 2018, between one month and nearly two years after the program. The authors

discussed data saturation, and consensus was achieved. All interviews were conducted by the first author in Norwegian, except one interview that was conducted in English. Professional interpreters facilitated interviews with six parents; this necessity was determined by the first author's perception of these parents' language skills during the initial telephone conversation or at the participants' own request.

The interview guide for parents explored five main domains of experience: (1) receiving information about the rehabilitation services, (2) challenges to, and motivation for, participation in the rehabilitation program, (3) the program itself, (4) collaboration with rehabilitation professionals, and (5) meeting other families at the center. The two main domains of the interview guide for children were the experience of the program and getting to know other children and families. The interview guide was developed based on the review of previous research and experiences from a prior developmental project involving informal conversations and observations of the immigrant families. The project was intended to inform and encourage immigrant families to participate in the rehabilitation program studied. The interview guide was not further pilot-tested.

The first author, herself an immigrant from the Middle East, had worked as a pediatric physiotherapist in the primary health-care system in a multicultural district of Oslo for several years. She therefore had experience working with culturally diverse families, and consequently some familiarity with different cultures and values. This cultural familiarity became a foundation for building trust between her as a researcher and families as participants. Furthermore, her experience as a pediatric physiotherapist contributed to helping the children participating in the study to feel safe and to communicate freely.

Prior to each interview, the first author explained the purpose of the study and the confidentiality regulations to both children and parents, then obtained written informed consent from all parents. For children, informed consent or assent was obtained in addition to informed consent from their parents. The first author also emphasized that the participants could later withdraw their consent without giving any reason if they wished to. The participants were informed of the interview procedure and that audio recordings would be made of the interviews. The interpreters also explained their roles and duty regarding confidentiality prior to each interview and signed a declaration form. Interviews with the parents lasted for approximately 55–130 min, and for 10–25 min with the children. One interview with a parent was conducted on two different days and lasted for approximately 170 min in total. Children were informed that they could take a break, refuse to answer questions, or even ask to end the interview whenever they wished. Interviews were performed at a time and place convenient for each participant, including their home, a café, Oslo Metropolitan University, the rehabilitation center, and the Family House health and educational center in the participants' local district. Three participants' spouses were partly present while the interviews occurred in their homes. Children could choose to be interviewed alone or in the presence of their parents. Only five children were interviewed in the full presence of their parents. Having their parents nearby was reassuring for these children and helped them to express themselves easily. Two parents also assisted their children's contributions by reminding them about their shared memories. Although the parents' presence might have influenced the findings by producing richer data, it might also have limited the expression of the children's views [24]. All interviews were recorded and transcribed verbatim by the first author.

In addition to the interviews, observation was applied as a supplementary method in this study [15]. Since most of the families consented to participate in the study after their stay at the center, the opportunities for observation were limited. Therefore, only three families who gave consent prior to their stay at the center were observed by the first author during parts of their stay, in December 2017 and January 2018.

Observations occurred at a range of occasions, such as the arrival of the families, conversations with the professionals, intervention activities, leisure activities, informational meetings, meals, and periods of informal interactions and communications. Field notes were written by the first author following each observation period and contained descriptions of events, conversations, and reflections. Two of these parents were also interviewed by the first author. One of the observed parents had grown up in Norway and thus spoke fluently; the two others spoke little Norwegian. Several of the families in this study were also observed by the first author during the former developmental study at the center, prior to the commencement of the present study. These families had consented to be observed during parts of their stay. Those observations provided the first author with a deeper understanding of the context of the study, the program, and the interactions in which these families were involved. All the observations, as a supplementary source, enriched the data developed by the interviews [15].

Analysis

An inductive thematic analytic approach [25] was applied to explore the potential patterns in the data. The interview transcripts and field notes were read individually, and then the codes were defined broadly to bring together a large group of data extracts that could be related. As a result, the field notes were organized into three codes: "language difficulties," "goal-setting process," and "group dynamic." The parents' transcripts were also organized into 14 codes and those of the children into six codes.

Next, in searching for themes, data extracts within each code related to the field notes and the interview transcripts of both the parents and the children were merged and formed two initial themes: "a multidimensional program" and "gaps in the service delivery." Whereas the first theme was identified by merging data extracts related to only the transcript data, the second theme was identified by merging the data extracts related to the field notes and the parent transcripts.

Reviewing the initial themes in the next phase led to breaking the first theme into two new themes: "learning while participating" and "sharing the same experience." The second initial theme of "gaps in the service delivery" was also further analyzed, and three subthemes were generated to give structure to the theme and assist in directing readers to its key components. The subthemes are presented in the Results section. The codes and the final themes were reviewed by all four authors to ensure that the themes were appropriate with regard to the dataset and the research question. Finally, three main themes and three subthemes were identified, and representative quotes were selected for presenting the results.

Results

In total, 24 parents (7 fathers and 17 mothers) (Table 1) and 17 children (aged 8–17 years) with physical or developmental disabilities participated in the study. At the time, three of the children were not diagnosed but had participation restrictions identified

Table 1. Sociodemographic characteristics and country of origin of the parents.

| | |
|--|----|
| Sex | |
| Female | 17 |
| Male | 7 |
| Age (years) | |
| 31–40 | 9 |
| 41–50 | 13 |
| 51–60 | 2 |
| Education | |
| University | 9 |
| High school | 10 |
| Primary school | 4 |
| Not available | 1 |
| Norwegian language skills* (estimated by the first author) | |
| Very good | 7 |
| Good | 4 |
| Basic | 5 |
| Very basic | 7 |
| Almost none | 1 |
| Length of residence in Norway (years; median 16 years) | |
| 2–10 | 8 |
| 11–20 | 9 |
| 21–29 | 7 |
| Country of origin | |
| Afghanistan | 1 |
| Bosnia | 1 |
| Bulgaria | 1 |
| Chechnya | 2 |
| Iran | 1 |
| Iraq | 2 |
| Jordan | 1 |
| Pakistan | 4 |
| Poland | 2 |
| Serbia | 1 |
| Somalia | 4 |
| Sri Lanka | 2 |
| Tunisia | 1 |
| Zimbabwe | 1 |

*Very good: communicates fluently in Norwegian; good: communicates with varied vocabulary; basic: communicates with limited vocabulary; very basic: communicates with very limited vocabulary; almost none: can only use a few Norwegian words.

Table 2. Characteristics of the children.

| | |
|--------------------------|---|
| Diagnosis | |
| Autism | 2 |
| Acquired brain injury | 1 |
| Cerebral palsy | 6 |
| Intellectual disability | 2 |
| Spina bifida | 2 |
| Vision impairment | 1 |
| No diagnosis at the time | 3 |
| Sex | |
| Female | 8 |
| Male | 9 |
| Age (years) | |
| 8–12 | 8 |
| 13–17 | 9 |

by a general practitioner (Table 2). All but three families lived in the Oslo area. Some participants were familiar with the first author before the study, due to her role in the prior developmental project.

One of the families was also familiar with the first author because of her role as their child's physiotherapist. Six families in the study had participated in the program more than once, and four of these had experienced both winter and summer activities.

Other families had participated in the program mostly during the warm seasons, finding summer activities more attractive and culturally familiar. Analyzing the families' experiences of participating in the rehabilitation program revealed several aspects of

the services, which are presented within the three themes: "learning through participating," "sharing the same experience," and "gaps in the service delivery." The last theme builds only on parents' experiences and the field notes and is presented within the three subthemes: "lack of information about the services," "unmet needs of the family as a whole," and "communication difficulties."

Learning through participating

Parents and children discussed the opportunity to try new and different activities during rehabilitation. Horseback riding, canoeing, and skiing were some of the activities introduced at the center that were new to some of the children and parents. Parents experienced that doing activities intensively facilitated learning new skills and made their children feel more confident about their capabilities. One parent explained how her child overcame his fears and mastered new activities during their stay:

He feared height so much, but by the time we came back, he was climbing up and down. He was feeling confident in himself. (P 19)

The children also discussed all the different activities that they had tried and the new skills they had learned. The opportunity to participate in the activities made them aware of their interests and capabilities. They spoke about their favorite activities and those that they wished to continue back in their local communities.

It was a good experience to be able to do many different activities that I do not usually do in Oslo ... Back home I wish I could continue swimming and cycling. (C 7, 17 years)

Although the children were mostly excited about participating in the varied activities, some expressed that they would rather participate only in their preferred activities. They were frustrated that they had to participate in all activities, even though they did not enjoy them.

I did not like that sometimes we had to do the activities, that we could not choose, sometimes we could choose, like after dinner [leisure activities], maybe it was a little silly that we had to do some activities. (C 11, 13 years)

Like their children, some parents also experienced difficulty remaining focused and collaborating with the professionals on their children's goals and preferred activities. This was largely due to hectic daily routines and participation in different activities.

They [the professionals] were experts on organizing and accomplishing all those different activities, but there was not so much focus on what she [the child] wished to improve, or what we [the family] preferred to focus on ... (P 1)

However, parents experienced that doing activities together with their children made them aware of their strengths, capabilities, and interests, and were pleased to know exactly which activities they would invest in back in their local communities. Participating in the rehabilitation program as an immigrant was also an opportunity to experience Norwegian nature differently. Despite their initial skepticism about staying for three weeks at a totally unknown place in the mountains, far from where they lived, parents felt close and connected to nature soon after beginning their stay at the center. Parents described how peaceful it was to listen to the birds, walk through the woods, sit by the bonfire, and chat with each other. The experience of performing physical activities together with their children outdoors in nature was also new and thrilling to the families.

Sharing the same experience

Parents talked about the opportunity to socialize with other families, and how observing the other parents coping with their challenges gave them the strength to persevere. They also exchanged information about assistive devices and services they were entitled to, which they believed was important for their children. One of the parents explained how she had received information from fellow parents that she had never received before:

You receive information from parents, that you have never heard from physicians or the government ... It is not like you are intending to take advantage [of the system], but you wish to do the right thing for your child. (P 22)

To the children, having fun and socializing with friends was one of the best parts of participating in the program. They described it as an opportunity to make friends, spend time with them and have fun while doing activities together.

It was exciting to be there, doing different activities, making good friends ... I felt energized. (C 4, 14 years)

Gaps in service delivery

This theme is presented within three subthemes that are intended to assist in directing readers to the theme's key components.

Lack of information about the services

Parents experienced that information about the services was not easily available to them. Most of the parents had first received information about this rehabilitation program through the prior developmental project, which started in 2015. They knew nothing about it before that time, despite their connections to their local pediatric rehabilitation center and the primary healthcare system over several years. One parent, who was frustrated about not knowing about the opportunity before, explained:

I am still wondering why her physiotherapist did not think about that. Why didn't she mention it? We have the same rights [as the rest of the population]; why were we not informed [about this] sooner? (P 14)

This participant had experienced that health professionals did not always inform families about the services they were entitled to, which made it impossible for them to benefit from such services. The parents believed that in order to make the services inclusive of immigrant families, it was important to begin by making information available to them.

Unmet needs of the family as a whole

The program was limited to parents and their children with disabilities that make it difficult for immigrant families who lack a social network in Norway to participate in it. However, some parents were permitted to bring their other children to the center after explaining their situations. Although bringing siblings to the center was a relief for these parents, it also posed new challenges. Parents had to care for the siblings and entertain them during the stay at the center, since they were not included in the program. This limited the parents' opportunity to actively participate in the rehabilitation process of their children with disabilities and to socialize with other families. One such parent even explained how her child who was not included in the program experienced her time at the center as boring and perceived it to be unfair that she was not allowed to participate in the activities with the others. Some parents believed that making an inclusive program for immigrant families demands services that meet the needs of the family as a whole:

I think the place [the rehabilitation center] is originally established to take care of ethnic Norwegians' needs, this was the idea, but now there are so many immigrants in the country, then there is need for cultural facilitation [of the services] in a way that immigrants also feel more included. (P 6)

Communication difficulties

Because most conversations with the professionals were conducted without interpreters, language barriers hindered some of the parents from optimally benefiting from the program during their three-week stay at the rehabilitation center. According to the parents, the conversations went well because their children assisted with the interpretation or because the professionals adjusted their language by speaking slowly and using simple words. Some conversations were also conducted with the assistance of a phone interpreter, but the professionals' lack of experience working with phone interpreters negatively impacted the quality of the conversation. Although the parents did not complain, language barriers nevertheless made it difficult to communicate thoroughly about important topics, and communication therefore remained superficial. As a result, the professionals themselves steered the rehabilitation process and even set the goals they considered useful and meaningful for the children. One of the parents who spoke only a little Norwegian explained her experience of goal-setting for her child's rehabilitation:

It was a goal that they [the professionals] set, because they read the reports and recognized what was missing. (P 9)

This statement reflects the passive role of the parent, who is supposed to be actively engaged and cooperating in the goal-setting process and shared decision-making.

Informative group meetings were also held in Norwegian without interpreters, which affected some parents' ability to follow and understand the information provided. One parent with basic Norwegian language skills even chose not to participate in the group meetings due to language difficulties.

Discussion

This study explored the experiences of immigrant parents from non-Western countries and their children with disabilities of participating in a rehabilitation program in a context that reflected Norwegian culture in all its aspects. It is about not only the entire intervention but also the culture that dominates planning the program and running the center in the mountains. The purpose of the study was to generate knowledge of how beneficial, culturally adapted, and accessible the services were from the immigrant families' perspectives. In terms of experienced beneficial aspects of the services, our findings—in line with prior research on ethnic Norwegian families in the same context—showed that the group-based design of the intervention created a social support network for parents and enabled them to learn from and empower each other [20]. These findings are particularly important when providing intervention for immigrant families, given that they may not have a developed social network in their host country [7]. Our findings also revealed how participation in a variety of activities provided parents with insight into the possibilities and resources available to them [20]. Interestingly, our findings showed how getting close to nature awakened a new desire in immigrant parents to explore and enjoy outdoor activities as a family. Although nature plays a vital role in human health and wellbeing [26], immigrant families participate significantly less in nature recreation [27,28]. Therefore, providing interventions that connect immigrant families to other families, introduce them to outdoor

activities, and facilitate their participation in activities in their host countries, such as hiking and camping, will be valuable [29].

Furthermore, in alignment with earlier research on ethnic Norwegian children, our findings showed the beneficial aspects of the services in terms of children's experience of enjoyment, connectedness, and skill development after participating in the studied rehabilitation program [30]. However, our study also revealed how some immigrant parents and children preferred to focus on learning and participating in only their chosen activities rather than a wide range of activities. Previous research has highlighted the importance of considering children's freedom of choice and learning self-initiated activities [31,32]. Preferences for activities will create motivation and enjoyment, which are important for continued participation following rehabilitation [31,33]. Therefore, a more flexible and individualized approach within the group-based interventions that thoroughly engages parents and children may improve rehabilitation outcomes.

Activity choices within the rehabilitation program were also mainly derived from Norwegian culture without consideration for cultural diversity among the families. This supports the current critique that physical education in Norwegian schools does not accommodate cultural diversity among children [34]. Physical activity has the potential to act as a tool for promoting social inclusion of the immigrant population, and it is also beneficial in that it fosters cultural interaction between immigrants and the native population. However, the inclusivity—and thus, the social benefits—of physical activity may be greatly diminished in an environment that is not based on acknowledging and accommodating cultural differences [35]. Therefore, when planning interventions, physical activities must be grounded in the diverse cultural backgrounds of the participants in order to increase immigrant families' sense of belonging and inclusion, and facilitate interaction between families regardless of cultural differences.

In terms of cultural adaptation and accessibility of the services, the results also showed that most of the families were unaware of the rehabilitation services to which they were entitled. It has been documented that immigrant families have unmet needs for information and are largely unaware of the rehabilitation services they may benefit from [36–38]. Awareness is an important and two-sided dimension for access to health services: families who are aware of the services may better access and use them, and professionals who are aware of the families' needs may provide appropriate and effective services that are easily accessible [13]. As the findings showed, the professionals were not aware of the families' needs or resources. The informative group meetings, conversations, and even the goal-setting process were accomplished without consideration for families' language skills or perceptions of their own role through the process of goal-setting. Insufficient use of professional interpreters and the exclusion of siblings from the program consequently reduced the availability of the services for the families. Availability is another important dimension of access in terms of services' sufficiency to meet the needs of the families [13]. The location of the center, which was far from where the immigrant families lived, also reduced its accessibility for the families, who had no network to care for their children left at home for three weeks. Some parents also explained that they were initially skeptical about participating in the program because of its location on the mountain, which was culturally unfamiliar to them. According to Penchansky and Thomas [12], an accessible service is within reasonable proximity to the consumer in terms of both time and distance. Therefore, increased support and resources are needed to provide flexible services that meet immigrant families' needs and improve their access to the services

[39]. The use of professional interpreters is critical for promoting effective communication and improving immigrant families' access to rehabilitation services. Providing information about services to immigrant families and mapping their resources and needs are also important for raising awareness and increasing access.

Study strengths and limitations

To our knowledge, this is the first study to explore the experiences of immigrant families from non-Western countries in a rehabilitation program focused on participation in adapted physical activity in a Norwegian context. It suggests strategies to provide services that are culturally adapted and accessible within the rehabilitation context based on reasoned consideration of immigrant families' needs.

Six families in this study had participated in the program more than once. The broader range of these families' experiences may have contributed to generating richer data, thereby influencing the results.

Forty families did not respond to the information letter in this study, and two declined. Several studies have remarked on the challenges in recruiting immigrants to participate in research and have suggested different reasons for the phenomenon, including fear, a lack of trust, and negative attitudes toward research [40,41]. However, we believe language and literacy difficulties, together with the volume of daily responsibilities and challenges faced by immigrant families of children with disabilities, may have influenced the low response rate in the current study [42].

Norwegian is not the first language of the first author (interviewer) or the interviewees, which may have affected the quality of the produced data. Some interviews were also conducted through interpreters. Therefore, the first author continuously asked participants questions to verify mutual understanding of the questions and responses during the interviews. However, due to participants' restricted daily schedules and responsibilities, neither the interview transcripts nor the findings were subjected to a member check.

The study included immigrant families who had participated in the rehabilitation program between January 2015 and January 2018 due to the low number of immigrant families participating in the program and difficulties in recruiting them. This caused a delay of between one month and nearly two years from the end of the program to conducting the interviews. Although this discrepancy may have influenced the results, our findings revealed that the overall experience of the services and participation in the program was similar, regardless of how much time had passed.

Conclusion

The findings demonstrated the empowering and beneficial aspects of the services for immigrant families. However, the services' accessibility and cultural adaptation were limited. Making information available to immigrant families and mapping their resources and needs well before the intervention may improve the accessibility of the services for these families. Rehabilitation professionals need also to consider families' perceptions of their own role through the goal-setting process when engaging with families from cultural backgrounds different from their own. When planning the intervention, grounding physical activities in the diverse cultural background of participants may increase immigrant families' sense of belonging and inclusion, and thereby facilitate interaction between families regardless of cultural differences. This study contributes to the existing literature by

demonstrating the need to provide accessible and culturally adapted rehabilitation services for immigrant families of children with disabilities. Research still needs to explore immigrant families' needs and expectations of services within the rehabilitation context.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

The datasets generated and analyzed during the current study are not publicly available due to the need for participant anonymity. However, they are available from the corresponding author on reasonable request.

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