Perspectives on remote monitoring technology of South Asians living with a long-term condition in the United Kingdom: a qualitative study

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Abstract

Background: South Asians face a higher burden of long-term conditions, while also experiencing more inequities in healthcare access and outcomes. Despite the potential of remote monitoring technologies to improve management of long-term conditions, South Asians are less likely to engage with digital health interventions and are underrepresented in health research, partly due to language barriers.

Objective: This study explored the perspectives and needs regarding remote monitoring technologies of South Asians living with a long-term condition in the United Kingdom who did not have English as their first language. We used rheumatoid arthritis and early inflammatory arthritis as example long-term conditions.

Methods: We conducted semi-structured interviews and focus group discussions with Pakistani adults diagnosed with rheumatoid or early inflammatory arthritis and who did not have English as their first language. Audio-recordings were transcribed verbatim, de-identified, and analysed thematically.

Results: Seventeen adults participated in this study; none of them had previous experience of remote monitoring technologies. We identified three themes: (a) perceived value and challenges of using remote monitoring technologies for disease (self-) management; (b) differences in perceived needs and capacity for using remote monitoring technologies between first and later-generation immigrants related to social determinants; and (c) role of community and family support for using remote monitoring technologies. Participants perceived remote monitoring technologies as useful, in particular where they were dissatisfied with current healthcare services. Language and family and community members' role in supporting technology use were considered important factors, but needs in these areas varied between first and second/third generation immigrants. In particular for first-generation immigrants, these factors intersected with other social and digital determinants, such as gender and literacy, resulting in additional requirements.

Conclusions: Addressing language and literacy barriers, alongside leveraging family and community support, will contribute to equitable remote monitoring technologies to facilitate (self-) managing long-term conditions among South Asian ethnic minority groups. Future efforts should focus on developing tailored, culturally responsive approaches, particularly for first-generation immigrants, to ensure remote monitoring technologies decrease rather than exacerbate existing ethnic health inequities. Clinical Trial: Not applicable

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Abstract

Background: South Asians face a higher burden of long-term conditions, while also experiencing more inequities in healthcare access and outcomes. Despite the potential of remote monitoring technologies to improve management of long-term conditions, South Asians are less likely to engage with digital health interventions and are underrepresented in health research, partly due to language barriers. Therefore, this study explored the perspectives and needs regarding remote monitoring technologies of South Asians living with a long-term condition in the United Kingdom who did not have English as their first language. We used rheumatoid arthritis and early inflammatory arthritis as example long-term conditions.

Methods: We conducted semi-structured interviews and focus group discussions with Pakistani adults diagnosed with rheumatoid or early inflammatory arthritis and who did not have English as their first language. Audio-recordings were transcribed verbatim, de-identified, and analysed thematically.

Results: Seventeen adults participated in this study; none of them had previous experience of remote monitoring technologies. We identified three themes: (a) perceived value and challenges of using remote monitoring technologies for disease (self-) management; (b) differences in perceived needs and capacity for using remote monitoring technologies between first and later-generation immigrants related to social determinants; and (c) role of community and family support for using remote monitoring technologies. Participants perceived remote monitoring technologies as useful, in particular where they were dissatisfied with current healthcare services. Language and family and community members' role in supporting technology use were considered important factors, but needs in these areas varied between first and second/third generation immigrants. In particular for first-generation immigrants, these factors intersected with other social and digital determinants, such as gender and literacy, resulting in additional requirements.

Conclusion: Addressing language and literacy barriers, alongside leveraging family and community support, will contribute to equitable remote monitoring technologies to facilitate (self-) managing long-term conditions among South Asian ethnic minority groups. Future efforts should focus on developing tailored, culturally responsive approaches, particularly for first-generation immigrants, to ensure remote monitoring technologies decrease rather than exacerbate existing ethnic health inequities.

Keywords: Patient-generated health data; remote monitoring, digital inclusion, South Asian, ethnic

health inequalities, language barriers

Introduction

South Asians represent a substantial ethnic minority in many high-income countries, including the United Kingdom (UK) (1) and the United States (2). In these settings, South Asians experience a higher prevalence of long-term conditions (3–5) and related mortality (6,7) compared to their White counterparts. They are also more likely to live with multiple long-term conditions (8), but their needs often remain unmet (9,10). These differences may partly be attributed to culturally-influenced health and treatment beliefs, and to language barriers that hinder understanding and engagement with treatment (11–14). Delayed or limited access to health services further compounds poor experiences and health outcomes (13), as well as quality of life and work productivity (15).

Culture and language shape people's perceptions of and communication about health (16,17), as well as their interactions with healthcare services and subsequent outcomes (18). For South Asians, language proficiency is crucial to accessing health information and services. Those with limited formal education may need interpretation support (19), which is not always available (20). Specific sub-groups among South Asians, such as older adults and immigrant women, may face additional challenges, including misalignment between their culturally-influenced health beliefs and behaviours and how health services are offered (21). Compounding these issues is the lack of cultural confidence and competence among healthcare professionals (22)(23), which in turn can result in poor patient-provider communication and lack of considerations of sociocultural factors in care planning. For instance, managing chronic pain effectively requires sensitivity to a patient's cultural context, yet such considerations are often overlooked, leading to suboptimal treatment decisions (24,25).

Remote monitoring technologies, such as symptom tracking apps or connected home blood pressure monitors, have the potential to improve patient-provider communication when managing long-term conditions (26–28). For example, by providing visual summaries of changes in symptoms (32). The UK National Health Service (NHS) Race and Health Observatory further recognised the potential of digital health technologies to address inequities in health service access and outcomes for ethnic minority populations (29). However, the successful implementation of such technologies relies on patients' digital literacy skills (30) and meaningful, digitally-enabled engagement between patients and providers (31). These requirements may present particular challenges for South Asian communities, where language barriers and culturally inappropriate health practices may hinder uptake and sustained use. Applying digital equity frameworks (38,39) and engaging with South Asian communities during the early stages of technology development may help address these, and

contribute to digital health solutions that are equitable, inclusive, and culturally appropriate.

However, despite this growing attention for digital health technologies, South Asians have lower utilisation rates of digital health tools within the NHS (33) and remain underrepresented in related research (36,37). This is likely due to intersecting factors at individual and system levels, resulting in language barriers and health beliefs and behaviours (34) and challenges in accessing digital health services and research (35). This leaves South Asians' perspectives and needs regarding remote monitoring technologies largely unknown.

This study, therefore, aimed to explore the perspectives and needs regarding remote monitoring technologies among South Asians in the UK living with a long-term condition, specifically those who do not speak English as their first language.

Method

We used a narrative study design as we wanted to focus on people's narrative accounts of their unique experiences and perceptions regarding various aspects of human interactions and culture (40). We used the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist to report this study (41) (see Appendix 1 for a completed checklist).

Ethics approval and consent to participate

The study received ethical approval from the UK Health Research Authority, South Central - Berkshire B Research Ethics Committee (ref: 22/SC/0103). All participants provided written informed consent before taking part, ensuring they understood the purpose of the study, data confidentiality measures, and their right to withdraw from the study without impact on their care and treatment. The study was conducted in accordance with the Declaration of Helsinki and its later amendments.

Study context

We used rheumatoid arthritis as the example long-term condition for our study because it is more prevalent among South Asians (42). They also face significant delays in being diagnosed with rheumatoid arthritis (43) and are less likely to receive treatment (9). Similar to conditions such as asthma, heart failure and inflammatory bowel disease, management of rheumatoid arthritis relies on patient reports of symptoms and flares. Many patients struggle to describe these accurately during their brief and infrequent outpatient consultations (44), which may lead to incomplete and inaccurate information, poor treatment decisions, and ultimately worse outcomes (45,46). This may be harder

for people who do not have English as their first language. Remote monitoring technologies may help to address this by enabling all patients to track their symptoms at home using a smartphone app and share this symptom data with their healthcare team for discussion during consultations. As an example technology for this study, we used the Remote Monitoring of Rheumatoid Arthritis (REMORA) symptom tracking smartphone app, which served as a prompt during interviews and focus groups. The app is currently being evaluated as part of a complex intervention in a randomised controlled trial (47).

Study participants and recruitment

We recruited participants using a purposive sampling method. People were eligible to take part if they were ≥18 years of age, did not have English as their first language, self-identified as Pakistani, had a diagnosis of rheumatoid arthritis or early inflammatory arthritis, and were able to give informed consent. We focused on Pakistanis as a South Asian subgroup because they form the largest ethnic minority in the UK (1) and we had two research team members from the same background: SMA, a male digital and public health researcher and YM, a female qualitative health service researcher. Both had Urdu as their first language and had experience of working with the Pakistani community in the UK. SMA and YM were mindful of their possible influence on the data collection, analysis and interpretation, and they used reflexivity to bring insights, which were relevant for addressing the study objectives.

We identified and recruited potential participants via a rheumatology outpatient clinic and a community centre for South Asian women in Greater Manchester (http://letstalkrochdale.co.uk/). Local research nurses and a community centre manager approached people to introduce the study, share or read the participant information sheet, and obtain consent-to-contact from those who were interested. One researcher (YM) contacted potential participants to see if people had any questions and were happy to participate, after which they were asked to provide informed written consent. Recruitment continued until data saturation was achieved, with no new ideas emerging from the interviews.

Data collection and analysis

We used a brief questionnaire to collect data on participants' age, gender, language proficiency, and their diagnosis. We conducted interviews and a focus group discussion with the help of a topic guide (Appendix 2 and 3, respectively), which was developed based on published literature (35,37,39,48) and input from patient representatives (KS and others). Topics included: experiences of living with rheumatoid arthritis or early inflammatory arthritis; experiences of health care services; experiences

of using digital technologies; views on symptom monitoring; views on using digital healthcare technologies, including potential benefits or barriers. Previous studies have highlighted the importance of the wider context in which people manage their healthcare problems, including any social support and existing healthcare arrangements when researching perspectives regarding implementation of new healthcare technologies (42). Consequently, interviews and the focus group began with discussion of this wider context before focusing on views about remote monitoring technologies. The topic guide provided a structure for the interviews and focus group discussion, while leaving flexibility for participants to introduce topics which researchers did not consider. In addition to the topic guide, we used screenshots from the REMORA app as visual prompts to give participants an idea about what a remote monitoring technology could look like (see figure 1).

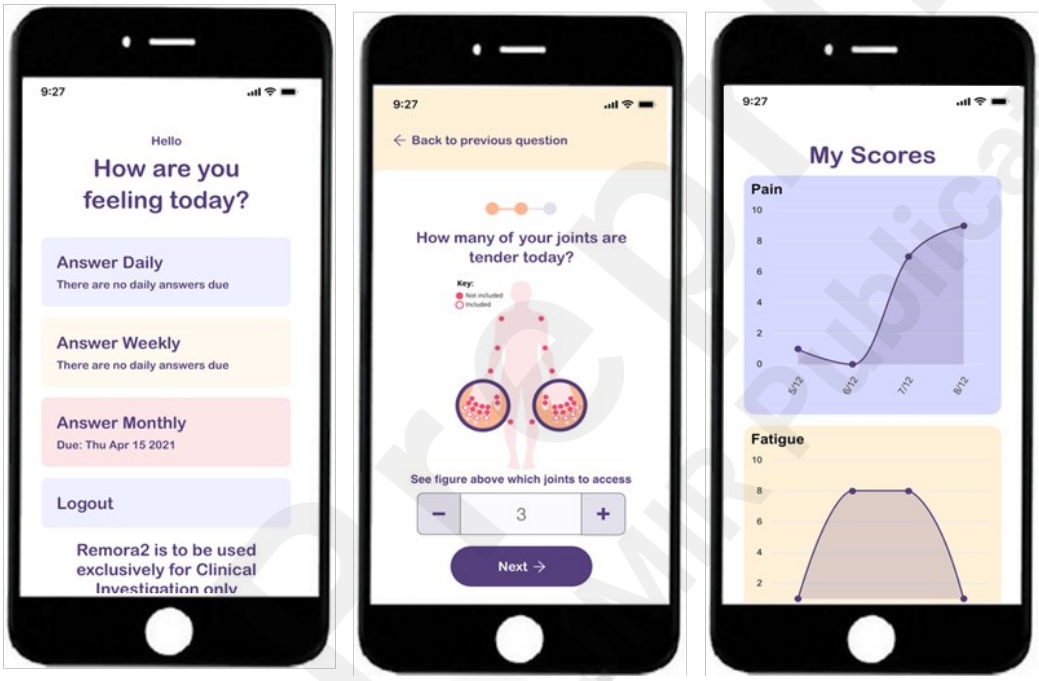

Figure 1: Screenshots of the REMORA app, an example remote monitoring technology (Copyrights University of Manchester)

Individual interviews were conducted in Urdu or in English, whichever language participants preferred. The focus group discussion was in English as participants were bilingual and were comfortable in sharing their thoughts in English. All data collection happened in a community setting familiar to participants, which facilitated a more comfortable and culturally sensitive interaction. All interviews and the focus group were audio-recorded and transcribed verbatim in the language in which they were conducted. The interviews lasted approximately 45 minutes, while the focus group discussion lasted around 90 minutes.

SMA and YM independently reviewed transcripts line-by-line and assigned codes, and used NVivo v.12 software to manage the data. For interviews in Urdu, SMA and YM selected examples from the initial codes and data for translation into English to enable discussion with the wider research team (CS, KS, SMA, SNvdV, YM). These regular team discussions guided iterative coding, thematic analysis, and interpretation. We also shared a summary of the findings with our patient representatives to sense-check our interpretations. Finally, SMA and YM translated further relevant sections of the Urdu transcripts into English to illustrate themes.

Results

Table 1 shows the characteristics of the seventeen participants, of which ten participated in an individual interview (nine in Urdu, one in English). The majority were women, aged 60 and above, first-generation immigrants, bilingual (proficient in speaking and understanding English but with limited proficiency in written English language), and living with multiple long-term conditions (hypertension and diabetes were the most common).

Table 1: Characteristics of participants (n=17)

Variables	Number (percentage)
Gender	
Female	16 (94)
Male	1 (6)
Age	
45 – 59	6 (35)
60 and above	11 (65)
First-generation immigrant	
Yes	15 (88)
No	2 (12)
Working	
Yes	7 (41)
No	10 (59)
Recruitment route	
Community centre	14 (82)
Outpatient clinic	3 (18)

Perspectives and needs related to remote monitoring technologies were explored within a wider context of managing rheumatoid arthritis or early inflammatory arthritis and experiences of healthcare services. None of the participants had prior experience of using any remote monitoring technology. We are reporting three main themes that reflect views of participants in relation to remote monitoring technologies, which were developed through iterative process of analysis: (a) perceived value and challenges of using remote monitoring technologies for disease (self-) management; (b) differences in perceived needs and capacity for using remote monitoring technologies between first and later-generation immigrants related to social determinants; and (c) role of community and family support for using remote monitoring technologies. We described the themes in more detail below, illustrated by participants' quotes.

Perceived value and challenges of using remote monitoring technologies for disease (self-)management

Participants perceived both challenges and value in using remote monitoring technologies for disease (self-)management. Particularly, their self-management practices or lay remedies and their experience with healthcare services provided a relevant context for discussing the potential value of integrating remote monitoring technologies in their care.

The culturally influenced lay remedies reflected strongly in people's health beliefs and behaviours regarding managing their condition, which seemed to be resulting from their dissatisfaction with healthcare services. All participants mentioned the use of one or more lay remedies, ranging from consuming turmeric, garlic, vinegar, honey, ginger, and herbs, to applying massaging oil and turmeric paste on painful sites. Participants also mentioned incorporating lifestyle modifications, such as exercise, yoga and changes in diet (e.g., consuming more vegetables) to manage their condition.

> *'I use herbal products too…sometimes I ask someone to bring them from Pakistan or sometimes I get them from Birmingham. Consuming them makes me feel better'* (interviewee 2)
>
> *'My condition gets worse when I have flare ups….for that time….someone told me to apply black seed oil on my heels….I also add vicks to it…it feels better'* (interviewee 3)

Referring to their experience with healthcare services, their dissatisfaction with healthcare services seemed to stem from a long and difficult diagnostic process, a lack of treatment options being offered, delayed appointments with healthcare professionals, and limited consultation time. One of

the participants said:

> *Firstly, you don't get an appointment…..if you get it….then they are not interested in knowing about what has been happening with you* (interviewee 1)

They also shared their expectations about support in between clinical consultations:

> *'I think so between consultations there should be a person who can advise how to manage your pain and your arthritis. This can help a lot, because not everyone is alike'* (interviewee 5)

Participants also mentioned how memory affected their day-to-day living and how the same might have affected the quality of their consultation with clinicians. One participant described it as:

> *'I go to my appointment myself…I leave home, and when I reach for my appointment, I forget what I am here for'* (interviewee 8)

Following the above experiences, participants acknowledged the potential value of remote monitoring technologies in aiding patient-provider interaction, helping patient in-between consultations, scheduling of appointment and helping them remember and communicate important information about flares, their underlying causes and frequency during clinical consultations. One of the participants described how the use of remote monitoring technology could help in memorising key information about their conditions:

> *'...even if I open that app and start using it, I may forget what I wanted to do…but then it would also refresh my mind. If you have already put some information in it then it won't go anywhere'*. (focus group participant)

Remote monitoring technologies could potentially benefit patients in capturing changes in their pain and guide them in managing their conditions better, as described by one of the participants:

> *'It (remote patient monitoring) can help you monitor your condition, if it is getting better or worse, and what are the underlying causes….and what are the alternatives…if your condition is getting better, then how can you improve it further and if it is getting worse then you can identify if a consultation or help is needed'* (interviewee 1)

Recognising the potential benefits of remote monitoring technologies, all participants expressed their positive views about sharing their data with healthcare professionals. However, one of the participants raised concerns about data sharing:

> *'Well…it depends where it (data) is going, where it's going to be used, or how far will it go… I don't know'* (interviewee 9)

In addition, some older women expressed their lack of motivation for learning to use new digital tools. A >70 years old woman, who opposed using remote monitoring technologies, shared her

frustration regarding trying different tools or approaches for managing RA:

> *'I have accepted now that this the way I am going to live my life…..initially I was advised to maintain a diary, which I used to do. Now I have threw everything away….that I will not do anything now….I feel like I am fed up of all this'* (interviewee 2)

When asked for how barriers to accessing and using remote monitoring technologies among Pakistanis could be addressed, participants suggested some technology features, such as in-app reminders to submit symptom scores, presenting questions or instructions in translated and/or audio-visual format, information on how to interpret symptom summary reports, and a biometrics-enabled login instead of using passwords. Participants shared challenges or difficulties related to their experience of using technologies:

> *'The password is the worst…when you have to make it and they say it's not right, do this, there's no capital. I hate passwords. I have to get my sons to do it'* (focus group discussion)

Differences in perceived needs and capacity for using remote monitoring technologies between first and later-generation immigrants related to social determinants

Participants suggested differences in needs and capacity for using remote monitoring technologies between first and second/third generation Pakistani immigrants and related this generational aspect to other social and digital determinants of health, such as gender. For example, one of the participants referred to gender norms and said:

> *Women are usually at home and are not exposed to technology, and in our culture, it's very common that women are least engaged with new technologies* (interviewee 3)

Limited proficiency in English was identified by participants as a key potential barrier to using remote monitoring technologies mainly for the first-generation immigrants. Among these immigrants, participants identified young immigrant women (i.e., who moved to the UK at a young age) as a sub-group at greater risk of developing inequities because of their language barriers. For example, young immigrant women can only communicate effectively in their local language (such as *Punjabi*, *Pothwari*) not in Urdu, which is the national language in Pakistan. One of the participants described it as:

> *'The ladies group that I attend regularly (organised by local charities)…most of the group members don't know how to speak English….they sometimes find it hard to communicate in Urdu….these are the ladies who came to the UK for marriage when they were very young, and they typically lack good education and digital skills '* (interviewee 1)

One of the participants suggested the way through which language requirements can be addressed:

> *‘ [referring to the REMORA app] see the content of the app in English, which is a barrier. This should be translated into Urdu …may be in audio format. Certain words such as tiredness and others in the app can be best described through images or visuals’* (interviewee 3)

There were also different language requirements between first- and second-generation immigrants, suggesting that not every individual with Pakistani background will have Urdu language as a requirement for accessing digital health tools and resources (i.e., understanding written materials or content). For example, second-generation immigrants can understand spoken Urdu but may not be able to read Urdu. Similarly, first-generation immigrants are proficient in spoken English but may struggle to read English. One of the participants described it as follows:

> *‘Having the app in English and Urdu languages will be helpful….our kids understand Urdu…but if you speak to them in Urdu, they feel shy in answering in Urdu, but they do understand it…they just not speak Urdu’* (interviewee 1)

Participants considered second/third generation immigrants to be more educated and skilled:

> *This second generation is very educated and intelligent. They are well settled and capable to do anything. They are capable to use digital health technologies too* (interviewee 3)

Among second/third generation immigrants, participants also perceived the emerging need of using such digital health tools because Pakistanis are being diagnosed with rheumatoid arthritis or early inflammatory arthritis in their younger ages. Acknowledging the hesitation among older adults, one of the participants highlighted the need for older adults or first-generation immigrants to use digital health tools for managing their health conditions:

> *‘…if you can’t look after yourself who’s going to look after the rest of the family? So, take the time out for yourself. I encourage other ladies to have a free computer lesson. It’s a big help to them. But they are reluctant to go, they are scared to go’* (focus group participant)

According to participants, most first- and second/third-generation immigrants either lived together in the same household or remained in close contact to support each other in health and non-health related matters. Related to this, participants identified lone older women as an example of a subgroup at risk of inequities because of their living and social circumstances. One of the older women said:

> *There are women in their older age, who live alone, their husbands are dead, their kids are settled elsewhere, so normally they are left with their own challenging circumstances….I personally think that women of my (older) age are either not interesting in using digital health technologies or they don’t have enough resources to support the use of these*

technologies (interviewee 1)

Role of community and family support for using remote monitoring technologies

Participants acknowledged family and communal values of helping each other, particularly older people, those living in challenging circumstances, and those with less education. For example, one of the participants said about older adults:

> *'Older people normally would not be able to use these tools (remote monitoring technologies) on their smartphones. Unless there are community groups…just like the one I attend….where someone sits with them and explains and shows them'* (interviewee 3)

Similarly, participants described how some women got help from local community groups, where they received support for day-to-day living and with managing health issues. In addition to community support, (grand)children could provide family support for their (grand)parents to handle their day-to-day affairs and manage health issues. For example, they could find and share relevant health-related information or show how to search for relevant information themselves online (e.g., YouTube videos, which participants mentioned as a common source of information, often shared by their family or friends). One of the participants said:

> *'I am not very educated…so kids can help us in recording important information in the app so that doctor could access that information. Otherwise, I would not be able to remember and communicate this information during consultation'* (interviewee 8)

Sometimes, help available from (grand)children was a reason for older adults to lose interest in learning new skills and tools, which otherwise could enable them to manage their own condition better without taking help from their children. One of the participants said:

> *'I am not interested in learning how to use the (remote patient monitoring) app, when all such needs are fulfilled at home by family members'* (interviewee 1)

Lastly, participants proposed different activities and resources which might be helpful for patients to improve their health and digital literacy, particularly regarding the use of remote monitoring technologies. For example, disease-specific awareness sessions in community settings are regularly conducted by local medical doctors. Participants proposed organising similar sessions to promote the potential value of remote monitoring technologies and train people how to use them effectively. In addition to in-person sessions, participants also proposed audio-visual content to help enable them using such technologies. Group exercise sessions were also suggested, as one the participants described the difficulty they faced:

> *'Say, a physiotherapist gave you exercise, then they say go and just do it. There is no follow-up, there is nothing. You are just left to your own devices. If there is something that people every so often kept on top of called you in, there was some groups or sessions, and it's like how you are doing, and has it worked or not worked?'* (interviewee 9)

Discussion

This qualitative study explored perspectives and needs regarding the use of remote monitoring technologies for (self-) managing rheumatoid arthritis among Pakistanis living in the United Kingdom, who did not speak English as their first language. Study participants were dissatisfied with healthcare services and perceived remote monitoring technologies as a potential solution for this. For example, by helping them to address their memory problems, enrich patient-provider communication, and to feel supported in-between consultations. However, some subgroups (such as lone older women living in challenges circumstances, or young immigrant women with language barriers and poor educational backgrounds) were considered at greater risk of developing (further) inequities if remote monitoring technologies are introduced in care pathways. Moreover, first-generation immigrants were expected to face more inequities than later-generation immigrants because of differences in intersecting social and digital determinants. Participants highlighted how family and communal values within the South Asian community could be leveraged to guide the development of support for people with using remote monitoring technologies, facilitated by audio-visual contents and in-person awareness sessions.

Relation to other studies

Our study showed inter-generational differences in perspectives and needs regarding the use of remote monitoring technologies to support Pakistanis in managing their condition. In keeping with Aldosari et al. (35), our study highlighted that literacy levels and language requirements varied between first- and second-generation immigrants. This supports previous research advocating language proficiency as an important determinant for equitable access to and use of digital health technologies for South Asians (35) and for ethnic minority groups more generally (49,50). In turn, this influences their trust in digital health research and services (37,51), making exploring and addressing language requirements crucial for ensuring equitable and inclusive digital health research and technologies.

We also found that the role of family and community members is important in supporting the use and adoption of remote monitoring technologies. While the role of family and community members is increasingly being recognised in facilitating South Asians' access to digital health tools and services

(34,52), their social and cultural needs remain poorly understood and met (25,53). For example, while family carers (e.g., (grand)children) may act as enablers for addressing health inequities by providing technology support, we found that this could have a simultaneous negative impact on people's motivation to obtain digital skills because of support available from (grand)children. This aligns with findings from another study in South Asians with cardiometabolic diseases that found that family members and South Asian community members acted as both positive and negative drivers for adopting healthy version of cultural food (34).

Limitations

One of our eligibility criteria was that participants did not have English as their first language. Our aim was to recruit a sample at risk of experiencing language barriers for engaging with digital health technologies and research. However, most participants were able to speak English and did not consider language an important barrier for themselves. Although they highlighted English language as a barrier for some other first-generation immigrant women, our sample did not allow an in-depth exploration of perspectives from those with more limited English language proficiency.

The majority of study participants were recruited via a community-based organisation that organised regular health-related activities (e.g., awareness sessions, exercise sessions). This may partly explain why community support was identified as a potential enabler for using remote monitoring technologies. Patients recruited from other routes or less health-focused community-based organisations might have had different perspectives on the role of community-based resources in addressing ethnic health inequities.

Implications for practice and research

Researchers and technology developers should consider proficiency in reading and writing English or Urdu as an important determinant of health when designing equitable remote monitoring technologies for end users from South Asian ethnic minority groups. This should include exploring the language proficiency of end users' family members (e.g., children or grand-children) to examine if and how information should be offered to ensure it is accessible to multiple generations and enables both the end user and their 'supporters' to engage with digital health tools and resources. These explorations should form part of understanding people's wider social context and of proactively involving (family) carers in co-designing remote monitoring technologies, as has been done previously in the context of, for example, dementia (52) and diabetes (54). This will support development of more equitable remote monitoring technologies that contribute to better health outcomes among South Asian ethnic minority groups.

Conclusion

Remote monitoring technologies have the potential to enhance care for South Asians by addressing language barriers, cultural needs, and issues of trust. Language barriers often intersect with other social and digital determinants, such as age, educational attainment, and digital health literacy. This creates further obstacles, especially for first-generation South Asian immigrants, who may require additional support. In this context, the role of family carers and the wider community to support access to and use of remote monitoring technologies is particularly important. Researchers and technology developers must therefore consider the social and cultural environments in which people from South Asian minority backgrounds live to ensure that remote monitoring technologies are inclusive, accessible, and capable of addressing existing health inequities for those living with long-term conditions.

Data availability

Anonymised data will be made available by the corresponding author upon a reasonable request.

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Conflict of interest

None of the authors has to declare any financial or non-financial interests.

Author contribution

SNvdV, WGD, CS and KS conceived the idea of this study. YM drafted topic guides and used them for collecting data. YM and SMA coded and analysed textual data. SMA, YM, SNvdV, CS and KS interpreted the data. SMA and YM contributed to the first draft and all authors reviewed and approved the final draft of the manuscript.

Clinical trial number

Not applicable

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Supplementary Files

CONSORT (or other) checklists

COREQ checklist.
URL: http://asset.jmir.pub/assets/a2f02360791f17ee878067b48e6aabb9.pdf