



Attitudes towards video communication for New Medicine Service at community pharmacies – A qualitative pilot study

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ABSTRACT

Background: New Medicine Service (NMS) is a community pharmacy service that can increase adherence among patients with a newly diagnosed chronic disease. NMS must be carried out by a pharmacist, which is a barrier for some pharmacy units with no pharmacist physically present. Video communication might be a way to overcome this barrier.

Objective: This study aims to explore both patients' and community pharmacy staff's attitudes of video-based NMS in a community pharmacy setting.

Methods: Semi-structured, telephone interviews were conducted with patients who have participated in video-based NMS. Focus groups with pharmacists who have carried out the video-based NMS and with staff that referred patients to the video-based NMS were conducted at community pharmacies. Thematic inductive analysis was used to analyse the interviews and focus groups.

Results: In total, 10 patient interviews were conducted, along with one focus group with four pharmacists and one focus group with 10 referring staff. Three main themes emerged during the analysis: (i) Talking to a screen, (ii) content of the NMS, and (iii) tackling the technique. Patients reported that their questions for the pharmacists were the same as if the NMS had been face-to-face. Pharmacists felt that they appeared more professional on video and that non-medical related conversation was reduced compared with ordinary face-to-face NMS. The referring staff either preferred referring to a video-based NMS over an ordinary face-to-face NMS or had no preferences.

Conclusions: Both patients and pharmacy staff had a positive attitude towards the video-based NMS, the content of the NMS and the performance of the IT-system. The consulting time was reduced for video-based NMS compared to face-to-face NMS, but that did not affect the medical related content of the NMS, which indicates that video-based NMS is possible without compromising the health related content.

Introduction

Non-adherence is a problem for patients with new medication for chronic conditions as correct medication use is essential to control these conditions.¹ New Medicine Service (NMS) is a community pharmacy service that aims to increase adherence among patients with a newly diagnosed chronic disease.² NMS is carried out as a pharmaceutical care counselling service to inform and educate patients with newly diagnosed chronic disease about their new medications. NMS has proved to be cost effective,³ satisfactory to the patients,⁴ and to increase adherence.⁵

In Denmark a community pharmacy consists of a main pharmacy that can have up to seven associated pharmacy units. At both main pharmacies and pharmacy units patients can have their prescriptions redeemed and medication dispensed directly.⁶ A pharmacy unit can be operated only by

pharmacy technicians, without a pharmacist present, with a hotline to a pharmacist operating at the main pharmacy. Pharmacy technicians have a 3-year education equal to a professional bachelor's degree in pharmaceuticals based on community pharmacy apprenticeship and theory, which is sufficient to counsel most of the patients at the community pharmacy.^{6,7} All pharmacy staff can refer patients to pharmaceutical care services. However, according to Danish law, NMS must be carried out only by pharmacists. It is also required by the Danish law that the pharmacists and the patient can see each other during the NMS to obtain good communication. The Association of Danish Pharmacies has as a goal for the Danish community pharmacies to carry out at least 5000 NMS every quarter. However, 3 years after the introduction of NMS in Denmark the national number of NMS carried out every quarter was only 3000.⁸

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Telepharmacy is a tool for managing geographical distances via technical solutions e.g. telephone or video conferences, and is an effective way to deliver pharmacist-led services in rural areas without the physical presence of a pharmacist.^{9–13} Telepharmacy by video communication has proved to improve patients' health,^{14,15} being cost effective¹⁶ and lead to overall satisfaction among patients.^{17,18} Video communication can be used as a supplement to traditional care for older patients as well.¹⁹

The potential absence of a pharmacist at pharmacy units is a barrier to offer patients NMS and thereby to increase adherence among patients with a newly diagnosed chronic disease. Video communication might be a way to overcome this barrier by offering patients video-based NMS at pharmacy units with no pharmacist physically present.

This study aims to explore both patients' and pharmacy staff's attitudes towards delivering New Medicine Service through video communication at community pharmacies.

Methods

Design

This study was carried out as a qualitative explorative study. Individual qualitative semi-structured interviews with patients and two focus groups with pharmacy staff were conducted. The study adapted a hermeneutic phenomenological approach.^{20,21} The phenomenological approach focused on understanding the phenomena of the lived experience of video-based NMS by patients and pharmacy staff.

The hermeneutic approach acknowledges that the researchers' pre-understanding and interpretation of the participants' expressed experiences was fundamental to understand and report the findings of this study. This study used both hermeneutic and phenomenology as the researcher intend to understand a phenomenon based on their pre-understanding.

We chose to combine hermeneutic and phenomenology as we acknowledge that our pre-understanding is necessary to understand the phenomena that we wished to investigate.

Reporting of the study followed the recommended guidelines of the Consolidated Criteria for Reporting Qualitative Research (COREQ).²²

Setting

Attitudes of patients' and pharmacy staffs towards video-based NMS ? thyc = 5? > was studied in the context of actual delivery of the service at Aarhus Marselisborg Pharmacy, a Danish community pharmacy. Aarhus Marselisborg Pharmacy consisted of one main pharmacy and two pharmacy units. All staff at Marselisborg Pharmacy was familiar with ordinary face-to-face NMS before this study. In the study period, all NMS sessions at one of the pharmacy units were conducted by video communication.

Video communication

A laptop was placed at the main pharmacy and a laptop at one pharmacy unit. Both laptops were placed in discrete environments and had a wired internet connection and a headset with microphone. Google Hangouts was used as the video communication platform.²³

All pharmacy staff was trained to operate Google Hangouts. The staff at the pharmacy unit referred patients for NMS, introduced the patient to the laptop, helped fitting the headphones and did not leave the patient until the patient and the pharmacist at the main pharmacy were connected. The NMS was supposed to contain the same topics as an ordinary face-to-face NMS, e.g., side effects, compliance and medication management.

Participants

Patient informants in this study were recruited if they accepted to participate in the video-based NMS and to participate in the study. Patients were included if they were: 18 years of age or older, able to speak and understand Danish, and not suffering from severe dementia or used hearing aids.

The participating pharmacy staff was the staff that had referred patients to the video-based NMS and the pharmacists who had conducted the video-based NMS.

Semi structured interviews

Patient interviews were conducted as individual semi-structured interviews in March and April 2018. Patients who accepted to participate in the study were each interviewed once about the NMS, no earlier than 2 days after the NMS, to give the patient time to reflect over the NMS. Interviews were conducted using a semi-structured interview guide with open-ended questions based on literature discussions; personal interaction in an interview or conversation, everyday practice and experience with face-to-face NMS, and reflections on what could possibly change in an online setting compared to standard face-to-face NMS. The topics included in the interview guide were content of the NMS, IT performance, influence of the video setup on the pharmacist-patient relation and communication, and discretion. The final interview guides are provided as Appendix 1. The interview guide did not develop in terms of themes during the study. However, using the semi-structured strategy the single questions were not fixed but agile. All patient interviews were conducted by telephone due to logistics and, with patients' consent, audio-recorded for transcription verbatim.

Focus groups

The staff was divided into two focus groups: One group with the staff, who referred patients to the video-based NMS; and one group with the pharmacists, who carried out the video-based NMS. The referring staff consisted of pharmacy staff operating in the counter, including pharmacy technicians and pharmacists. Pharmacists who had both been referring to video-based NMS at the pharmacy unit and had carried out video-based NMS at the main pharmacy were represented in both focus groups. The two focus groups were conducted in April 2018 face-to-face at the pharmacy and audio-recorded and videotaped, with content of the participants, for transcription to support the transcription, respectively. The two focus groups were conducted separately. Semi-structured interview guides were used for both focus groups and are provided as Appendix 1.

Data handling and analysis

All audio-records were transcribed verbatim. Transcriptions were compared with the audio recorded interview by an impartial person, who found consistency in the material. Thematic inductive analysis based on Braun and Clarke's six steps framework^{24,25} was used for analysing data for both individual interviews and focus groups. First, all transcriptions were read to get an overall sense of the participants' expressed experiences with video-based NMS. Second, the transcriptions were read again and coded with an inductive approach to resolve the natural meaning units according to the participants' perceptions of video-based NMS. Codes describing the same topic were gathered into overall themes. The themes were reviewed and some themes were brought together and others were divided into sub-themes. Finally, the essence of each theme was analysed and correlated in relation to the other themes to synthesize a consistent statement regarding the participants' attitudes towards video-based NMS. NVivo 11 was used for coding and handling of the analytic process.²⁶

Ethics

All patients provided a written and informed consent to enter the study before the NMS and confirmed their participation at the start of the telephone interview according to ICMJE.²⁷ The pharmacy staff were informed about the study and provided an oral consent. All participants were anonymized during transcription. The National Committee on Health Research Ethics waived assessment due to the qualitative design of the

study. No additional personal data was stored in this study compared to the ordinary data storage in the pharmacy daily workflow.

Results

Participant characteristics

In total 10 semi-structured patient interviews were conducted. One focus group was conducted with the referring staff, consisting of four pharmacists and three pharmacy technicians (focus group 1), and one focus group was conducted with four pharmacists who conducted the video-based NMS (focus group 2). Individual participant characteristics are displayed in Table 1. There was no registration of the number of patients rejecting the offer of NMS. All patients who accepted to participate in the study were included and interviewed.

Three overall themes derived from the codes of the transcriptions of both interviews and focus groups were identified: 'Talking to a screen', 'content of the NMS' and 'tackling the technique'.

Talking to a screen

All patients reacted positively to the video-based communication form, when they were told that the NMS would be carried out via a computer.

"Well, I don't care about that [communication by video]. It's my everyday job to be in an IT department, so I'm used to it. That's not an issue."

[Patient 4]

Some patients preferred talking to people face-to-face, but found the video communication as a good alternative. The visual contact created a more respectful communication between the patient and the pharmacist compared to a phone call. This might be caused by the opportunity of using body language as addition to the vocal communication.

"Of course, it would have been pleasant to be together with the person face-to-face, but it didn't scare me off. Since it wasn't an option, I think this [video communication] was a fine solution. Because we could see each other and hear each other and respected when the other said something."

[Patient 1]

Some of the participants seemed to consider video communication and face-to-face communication to be equal. Most of these participants were familiar with some kind of video communication through their work or by private use.

"Video communication is almost like sitting in the same room. If you use video communication, you get the feeling that you are just in front of the person you are talking to. At least I do."

[Patient 8]

Regardless of the preference towards face-to-face or video-based NMS, all patients found the visual contact positive. Most patients expressed the positive visual contact as being more personal compared to only vocal contact, e.g., by telephone, because the visual contact created some kind of respect in the personal relation between the patient and the pharmacist. Other patients reported to being more focused and to paying more attention to the things being said with visual contact. One patient mentioned the practicality in showing the pharmacist the container of the new medication, they were talking about to make sure the pharmacist knew which medication the patient had been given.

"I think it was very good, the video connection, because you faced the person and you could show the pill bottle, so you could see the name and things like that. I think it was a fine solution."

[Patient 7]

All patients preferred a video-based NMS over booking a face-to-face NMS due to convenience. Some patients mentioned the benefit of having the video-based NMS straight away to avoid waiting for an appointment, because they were pleased to talk about the medication before initiating the treatment. Others expressed the benefit of not having to go to another pharmacy with a pharmacist on site, while others even wished to participate in the video-based NMS from their home.

"I think the thing with the screen was fine. Then you can do it from home too, so you don't have to leave [home]. (...) I could get used to this."

[Patient 9]

Table 1

Demographic characteristics of participants.

Participant number	Role	Gender	Age	State of IT knowledge ^a	New medication (ATC)	Interview time (min:sec)
1	Patient	Female	72	3 + 4	C07AB02	14:35
2	Patient	Female	73	3 + 4	G03CA03	08:07
3	Patient	Male	71	2 + 5	C03AB01	12:54
4	Patient	Female	60	3 + 4 + 5	L04AX03	12:55
5	Patient	Male	74	3 + 5	M04AA01 H02AB06	08:00
6	Patient	Male	53	3 + 5	C07AB02 C01AA05 B01AF01	13:38
7	Patient	Male	43	3 + 4 + 5	H03AA01	09:58
8	Patient	Female	44	4 + 5	C03AB01	16:04
9	Patient	Female	75	2	C10AA05	07:05
10	Patient	Female	82	2 + 5	R03AL04	05:06
Participant number	Role	Gender	Age	State of IT knowledge	Interview time focus group 1 (min:sec)	Interview time focus group 2 (min:sec)
A	Pharmacist	Male	45	3 + 4 + 5	29:59	21:22
B	Pharmacist	Female	33	3 + 4 + 5	29:59	21:22
C	Pharmacist	Female	30	3 + 4 + 5	29:59	21:22
D	Pharmacist	Male	51	3 + 4	29:59	21:22
E	Pharmacy technician	Female	58	3 + 4 + 5	29:59	N/A
F	Pharmacy technician	Female	39	3 + 4 + 5	29:59	N/A
G	Pharmacy technician	Female	40	3 + 4 + 5	29:59	N/A

^a 1: None IT use, 2: Only use if needed, 3: Used to work with IT, 4: Everyday use, 5: Familiar with video communication.

All pharmacists preferred video-based NMS too. The pharmacists believed that they appeared more professional during the video-based NMS, as this eliminated aspect as looking up facts at the computer in front of the patient, preparation in front of the patient like finding a chair, cleaning up the desk at the consulting room and turning on the computer.

“I think it works out better to conduct it [NMS] at the computer rather than face-to-face, because I can look at the patient and still look up things online. (...) It seems more professional.”

[Pharmacist C]

Another pharmacist added that the dialogue seemed more professional during video-based NMS, because the patients did not talk about things that were not related to the new medication. The video-based setup made the NMS more focused and the patient seemed more ready for the NMS when they turned up at the screen compared to walking in to the consulting space for a face-to-face NMS.

“It is more focused on the medication and less on family and the holiday and the doggie. (...) Personally, I think it gives us a more professional dialogue than the face-to-face NMS.”

[Pharmacist A]

Some patient found the video setting as a time neutral setting, compared to the doctor's office or at the pharmacy counter, because the patient did not know if the pharmacist was in a rush or not.

“I felt that the pharmacist had time. She had all the time in the world, if needed. And I think that matters when you are standing here about to start a whole new world with the medication. (...) If you had been at the counter at the pharmacy and there had been 10 customers in the line, you would not have got the same feeling that they got the whole day for you.”

[Patient 6]

Some patients mentioned the feeling of having unlimited time at the NMS as a positive aspect. At most Danish general practitioners, the appointment time is 10–15 min. Some patients felt that they did not have the time to ask their questions about the medication at the general practitioner's office, and saw the NMS as a second chance to ask these questions about the medication. The feeling of unlimited time at the NMS gave the patient room for asking as many questions as needed to feel safe about the new medication.

“You can often walk into your doctor[’s office] and be given some medication, and maybe there is 15 minutes for your appointment, and maybe you don't get the answers for something about the medication, and then you leave feeling a bit uncertain. (...) So, I think this [NMS] is good.”

[Patient 8]

The pharmacists found the video setup advantageous when it came to the time from the patients were handed over from the referring staff to the pharmacist until the beginning of the NMS. If the pharmacist was in the middle of a counselling session with another patient at the counter, the pharmacist felt no a pressure to end the counselling session to start the video-based NMS, because the patient waiting for the NMS was not physically present at the counter.

“Let's say, that you [as my colleague] have a patient and refers [to a NMS], and I am standing at your side with another patient at the

counter, and you say ‘the pharmacist is ready in a moment’. That put some kind of pressure on me as the pharmacist. Now I know that there is somebody waiting for me and what about the other patient I am facing? (...) You don't have that situation when the NMS is online.”

[Pharmacist A]

Content of the NMS

All patients reported that the video-based setting of the NMS had no effect on the contents of the conversation. No patients expressed that they would have asked different or more or less questions if the NMS had been face-to-face. The pharmacists reported that the contents of medical related topics were the same as for a traditional face-to-face NMS, even though the total consultation time was reduced.

“Well, the patient is just as well-informed about the medication whether it's a physical or online [NMS]. It has just taken less time online because there is no small talk.”

[Pharmacist C]

Both patients and pharmacists reported that the content of the NMS primarily were about the new medication and diagnosis. The majority of the patients asked the pharmacist about the effect and side effects of their medication at the NMS.

“It was, of course, especially the side effects I was interested in, and what's the benefit of the medication. (...) I got the answers to my questions and explanation of what I needed.”

[Patient 1]

Some patients mentioned the advantage of browsing through the leaflet with a pharmacist over reading the leaflet themselves. The patients found that NMS increased their understanding of the important things about the medication. Some of the patients mentioned that they usually do not read the leaflet or did not understand it.

“I think I got more value out of having this conversation and learned more about the medication [compared to reading the leaflet] and maybe I had never read it. (...) It is in fact more understandable, when the pharmacist reviews the side effects.”

[Patient 6]

Tackling the technique

All participants were pleased with the technical performance of the video communication platform.

“I think the sound was clear and a good picture.”

[Patient 7]

A few patients reported some lag of the picture, but no problems with the sound, and therefore the conversation was not affected.

“Sometimes there was some breaks [in the picture], but nothing that mattered (...) Because the audio went through loud and clear, and then sometimes the person disappeared but was back in 5 – 10 seconds.”

[Patient 3]

Most participants, regardless of age, were familiar with at least one online video communication platform before entering the study.

“I had a grandchild in America, and at that time we used it [video communication], when we talked to each other. Then we Skyped. It is very good to Skype, when you have somebody to Skype with.”

[Patient 10]

One patient had a wish that his wife could participate in the NMS by via extra headset. The patient had never used medication on regular basis before, and the patient was worried about not remembering every detail himself.

“I had my wife with me, maybe if there were two headsets it had been an advantage. She could in fact have some questions that I maybe forgot.”

[Patient 6]

The pharmacists mentioned the limitation of one headset, too, and the benefit of having an extra headset or speaker in the future to let a relative participate in the video-based NMS. The possibility of a relative participating in the NMS would especially be needed for patients suffering from dementia or other cognitive disorders, who often need their relative to care for them and to handle their medication, as well as the need of a parent to take part in a NMS for their child.

“I had a patient, he was super happy about it. Really happy about it. But he had his wife with him, so I said, ‘It’s going to be online, and that unfortunately means that you [wife] cannot hear what is being said.’ And then it could be interesting in the long term to say, ‘then we just put the speaker on’ or having an extra headset.”

[Pharmacist A]

None of the staff preferred referring patients to standard face-to-face NMS over video-based NMS. Some of the staff felt the same about referring to a video-based NMS as referring to a standard face-to-face NMS. One of the staff expressed that the referring process for the video-based NMS was more convenient compared to the usual procedure for face-to-face referrals. For that reason, she has referred more patients to the video-based NMS, than she have done to face-to-face NMS before this study.

“I haven’t really referred anybody before [this study]. I’ve thought ‘okay I have tried a few times now and nobody has risen to the bite’. But I think now where I have been so well informed and ready — then it was easy to get started.”

[Pharmacy technician F]

All pharmacy staff were overall satisfied with the setup and decided to continue providing video-based NMS after the end of this study.

“We will just continue with this setup.”

[Pharmacist A]

Discussion

In this study, video communication could be used for NMS without any major compromises compared to the ordinary face-to-face NMS. Overall, the participants; patients, pharmacists and the referring staff appreciated video-based NMS, found that the outcome of the NMS was good in terms of health information, and that the IT solution performed well.

Contribution to the field

The study is relevant because it explores both the patients’, the pharmacists’ and the referring staffs’ perspectives on video-based NMS. The patients’ attitudes is just as important as the health care professionals’ perspectives²⁸ as the patient plays the most important role in terms of

correct use of the medication. The COVID-19 pandemic has showed the potential of video communication in healthcare to limit infection spread.^{29,30} Global evidence supports video consultation as an effective, accessible and cost effective method of health services delivery.³¹

Even though some patients generally preferred face-to-face communication, all patients preferred the video-based NMS to booking an appointment later, due to convenience. This is in contrast to an English study finding that community pharmacists, in general, underestimates the willingness of patients to wait for or book a later NMS.³² However, other studies also found that both patients and health care professionals appreciated video-based consultations in primary health care due to convenience.^{33,34}

Age of the participant and level of familiarity with video communication (Table 1) did not seem to affect the response to video-based NMS. In this study, the oldest patient, aged 82 years, used video communication to talk to her family on a regular basis, and saw no problem in using video-based NMS. Other studies have shown positive effects of video consultation used by older patients too.^{19,35,36} This indicates that age is not a barrier to video-based NMS, consultations and other health care services.

The possibility of delivering NMS by video communication introduces the opportunity to deliver other pharmacy services by video and to deliver pharmacy services to patients outside the pharmacy, e.g., to patients at their home or nursing home. This could break down geographical barriers, ensure equal access to pharmacy services no matter of mobility, and ensure the best possible discretion. Video-based health care services in patients’ homes have been useful in overcoming geographical barriers in palliative care³⁷ and for cancer patients.²⁹ Furthermore, a scoping review has found video consultations feasible for older adults in nursing homes.³⁸

Patients reported that their questions for the pharmacist and the conversation would not have been different if the NMS had been face-to-face instead of by video communication. However, both referring staff and pharmacists expressed that the time of NMS was reduced by video communication compared to an ordinary face-to-face NMS. This might indicate that the non-medical content of the NMS, in some way, is affected by video communication. Pharmacists reported that the contents of the NMS by video were more related to the medication and less about anything else compared to the traditional face-to-face NMS. The fact that the patients did not think the NMS would have been different than a face-to-face NMS might indicate that the patients did not notice the absence of non-medical related conversation or did not need it. Other studies found that doctor-patient interaction in terms of information exchange and interpersonal relationship building were not different in video-based consultations compared with face-to-face consultations.³⁹ A smaller study investigating patients’ perspectives on “patient-centred communication” and “pharmacists’ clinical competence and skill” also found no difference between video-based and face-to-face consultation.⁴⁰

Some patients expressed that the video communication created a time neutral setting, because the patient did not know if the pharmacists was in a rush or not, which lead to the feeling of the pharmacist having all the time needed, and of being treated well. This is an interesting finding in the light of the pharmacy staff reporting a reduced time spent at video-based NMS compared to the ordinary NMS. This indicates that the influence of the NMS via video communication can have a positive effect on the relation between the patient and the pharmacist. The positive effect is supported by the finding that all the pharmacists preferred video-based NMS to face-to-face NMS due to appearing more professional via video communication.

The setup can be improved in simple ways, e.g., by making a relative to the patient able to participate in the NMS by an extra headset. Relatives’ participation in illness has shown to have a positive effect on both physical and mental diseases compared to no or less participation by the relatives.^{41,42} Therefore, the improvement of making a relative able to participate in NMS could be important.

Pharmacy services delivered by video communication make the opportunity for a third party to participate in the NMS without being at the pharmacy by screen sharing, for example a relative, another health care professional, or an interpreter⁴³ for immigrants or deaf persons.

Strength and limitation

This study has several strengths. First, this study provides an in depth investigation of the use of video-based NMS. A scoping review from 2020 found 13 studies about NMS, which primary focused on implementation of the service and were all based on the face-to-face NMS.⁴⁴

Second, this study provides a case-based in depth insight in the participants' experience with video-based NMS. Last, the average age of the patients in this study seems fairly representative for the target group for NMS considering the median age of being diagnosed with a chronic disease.^{45,46}

A limitation of this study is the fact that this is a single site pilot study, which limits the transferability of the findings in this study. The feasibility and outcome of the tested video based NMS depends on the context e.g. having access to the IT hard- and software and a good internet connection. Testing this setup in a different context may lead to different outcomes.⁴⁷ This is a pilot study, which by nature is small scale.⁴⁸ Many points made by the patients were repeated at the end of the data collection, however, we cannot assure that more interviews would not have given others or new perspectives. Patients had to participate at free will both at the NMS and for entering the study, which makes a bias by selection to keep in mind. People not willing to use the online setup could have declined the offer of the online NMS and thereby did not participate in the study. Another limitation of this study is that one of the pharmacists who participated in the focus groups was co-author of this study, which may have affected some findings. However, the co-author did not participate in the analysis of the interviews. All patient interviews were carried out by telephone, which may have reduced the quality of the interviews. The patients described the visual connection in video-based NMS as a benefit to the conversation with the pharmacist, which could also have been the case in the interviews.

Conclusion

All participants; patients, pharmacists and the referring staff were overall positive about video-based NMS.

This study supports the use of video communication for NMS, which can probably facilitate the NMS and lead to better access to pharmacy services for patients. It is reasonable that other pharmacy services, too, can be performed via video communication, but that requires further investigation.

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Authors' contributions

CL was the principal investigator for this study. MN and CL developed the design and setting for this study. CL conducted the interviews, transcription and coding. The analysis was made by CL in collaboration with TG. The draft for the manuscript was made by CL. All authors revised and approved the manuscript before submission.

Declaration of competing interest

The author(s) declare(s) that there is no conflict of interest.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.rcsop.2022.100103>.

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