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# Qualitative evaluation of a culturally sensitive video intervention for supporting decision-making in cervical cancer screening: An interview study among women of Turkish, Moroccan, and Syrian origin

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# Qualitative evaluation of a culturally sensitive video intervention for supporting decision-making in cervical cancer screening: An interview study among women of Turkish, Moroccan, and Syrian origin

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# Abstract

**Background –** Despite the existence of a national cervical cancer (CC) screening program in the Netherlands, disparities in participation and CC mortality persist. Women with a migration background are at higher risk of developing CC and participate less in CC screening than native Dutch women. Informed decision-making (IDM) is also lower in these groups.

**Objective -** This qualitatively evaluated a culturally sensitive video intervention on CC screening among women of Turkish, Moroccan, and Syrian origin, by exploring how they perceived the video intervention and how it influenced their decision-making.

**Methods –** Thirty women (n= 12 Turkish, n= 12 Moroccan, and n= 6 Syrian) were interviewed between April and December 2025 using a semi-structured interview guide based on the Ottawa Decision Support Framework. Participants were recruited through snowball sampling initiated via community centers, Facebook groups, and the researchers' own networks. Prior to the interviews, participants completed an online questionnaire and viewed eight culturally sensitive videos featuring narratives from experts-by-experience. Interviews were transcribed verbatim and analyzed thematically.

**Results –** Thematic analysis yielded five main themes: 1. Impressions and reactions to the video intervention, 2. Influence on decision-making, 3. Perceptions and needs prior to the video intervention, 4. Factors influencing information seeking behavior and decision-making before viewing the video intervention, and 5. Suggestions for communication practices. Participants responded predominantly positively and particularly valued the narratives from experts-by-experience. The video intervention was perceived as culturally sensitive and appeared to support decision-making by fostering curiosity, reflection, and further information-seeking behavior within social networks and online. Most participants reported an intention to (re)participate in CC screening after viewing the video intervention.

**Conclusion –** The culturally sensitive video intervention was well received and appears to supports decision-making regarding CC screening among women of Turkish, Moroccan, and Syrian origin. By creating space for dialogue and reflection, the video intervention represents a meaningful step forward in populations where these topics are often surrounded by stigma and taboos. Future research should investigate larger-scale implementation and evaluation of this intervention, and explore the adaptation of similar video-based approaches for other underserved populations and for communication regarding the HPV vaccination and other cancer screening programs.



*Key words: cervical cancer screening, immigrant women, decision-making, culturally sensitive videos, interviews*

# Introduction

According to the World Health Organization (WHO), cervical cancer (CC) is the fourth most common cancer among women globally, primarily caused by infection with the Human Papillomavirus (HPV) (1). In the Netherlands, CC ranks as the twelfth most frequent cancer among women overall, and as the third most common cancer among women between 15 and 44 years (2). Importantly, CC is largely preventable through early detection of HPV and treatment of abnormal cells. Consequently, CC screening programs have been implemented worldwide. In the Netherlands, the National Institute for Public Health and the Environment (RIVM) introduced a free of charge CC screening program in 1996, targeting women aged 30 to 60 years (3). Women are invited to participate either by scheduling a smear test at the general practitioner's (GP) office or, since 2017, by using a self-sampling test at home (4). Since the introduction of the program, the participation rates of the Dutch national CC screening program have fluctuated. Between 2017 and 2019, approximately 57% of all invited women in the Netherlands participated in CC screening (5). This rate declined to 49.7% in 2023, but increased again to 54.4% in 2024, potentially due to the expanded use of self-sampling tests (6).

Disparities in participation in the Dutch national CC screening program and CC mortality rates persist, particularly among immigrant populations (7, 8). Hamdiui, Stein (9) also found lower levels of informed decision-making (IDM) regarding CC screening participation among women of Turkish and Moroccan origin compared to native Dutch women. In this latter study, IDM is defined as having sufficient knowledge, clarity about personal values, and support to make a decision that is consistent with one's preferences, as based on Marteau, Dormandy (10) and Stacey, Légaré (11). In response to the disparities in IDM, culturally sensitive educational videos were developed, using the Entertainment-Education (EE) framework and the Media Mapping Model (12). A randomized intervention study demonstrated that these videos supported women's IDM regarding participation in CC screening, yet there were also certain limitations (9). Specifically, the videos did not fully address the cultural, religious, practical, and emotional aspects relevant to women of Turkish and Moroccan origin, and the effectiveness in facilitating IDM was not consistently observed. Besides women of Turkish and Moroccan origin, women of Syrian origin are a growing immigrant group in the Netherlands with similarities in cultural and religious norms as women of Turkish and Moroccan origin. A previous study investigated how and why women of Syrian origin decide to participate in the Dutch national CC screening program and found similar facilitators and barriers as among women of Turkish and Moroccan origin (13) Furthermore, we previously conducted a qualitative interview study among women of Turkish, Moroccan, and Syrian origin to investigate more in-depth information about their needs and preferences for information regarding CC prevention programs (14). This study indicated that their needs and preferences for information regarding CC prevention programs were also overlapping and could potentially be addressed with similar communication strategies. This study yielded nuanced insights for the communication strategies in terms of what information should be provided, by whom, how, and at which moments. Women of Turkish, Moroccan, and Syrian origin expressed the need for information that extends beyond medical facts, encompassing practical, emotional, cultural, and religious aspects related to CC prevention programs, such as issues related to intimacy, sexual behavior, fertility, and virginity (14, 15). To further examine the practical feasibility of interventions addressing these aspects, focus group discussions were conducted with key community figures, healthcare professionals, and communication experts, policy makers, and program managers (16). These stakeholders identified the need for a shift from a top-down approach towards a dynamic interaction. To improve recognizability, accessibility, and trust in the information regarding CC prevention program, collaborative approaches, such as joint educational sessions, co-creation of information materials, and interactive events were recommended (16).

Drawing on insights into the information needs and preferences of women of Turkish, Moroccan, and Syrian origin, including practical, emotional, cultural, and religious aspects, as well as the perspectives of various stakeholder groups regarding the practical feasibility of proposed interventions, we have developed a culturally sensitive video intervention. This video intervention combines narratives from experts-by-experience with factual medical information from a female Turkish GP. Previous research underscores the effectiveness of narrative-based interventions in promoting IDM among underserved populations. For example, a randomized controlled trial by Hopfer (2012) demonstrated that culturally tailored narrative videos significantly increased HPV vaccination intentions and knowledge among college women in the USA. This study highlights that narrative

communication can enhance message engagement, reduce resistance, and facilitate IDM (17). These findings support the use of narrative strategies in the development of the current video intervention, suggesting that such approaches may be particularly effective in supporting IDM regarding CC screening participation among women of Turkish, Moroccan, and Syrian origin. However, previous studies also showed some potential adverse effects of the use of narrative-based interventions. For example, a study by Kreuter et al., (2007) indicated that experts-by-experience narratives may also induce fear and personal distress, particularly due to misinterpretation of population risk or probability of survival rates, a phenomenon referred to as potential epidemiological misstatement (18). Furthermore, it was also noted that narratives describing risks and causes of cancer could be stigmatizing for individuals diagnosed with cancer. To investigate whether the video intervention is supporting decision-making among women of Turkish, Moroccan, and Syrian origin and to identify possible adverse effects, the aim of this study was to investigate participants' perceptions of the culturally sensitive video intervention, as well as the influence of the video intervention on their decision-making regarding CC screening participation.

# Methods

**Study design**

This study was part of a larger project in which the video intervention was evaluated using both quantitative and qualitative methods. As part of this larger project, individuals were first invited to participate in a questionnaire, which included exposure to the video intervention. The questionnaire collected socio-demographic characteristics and also quantitively assessed participants' level of IDM according to the Amsterdam IDM scale (19) as well as their intention to participate. These quantitative evaluation of the video intervention will be described in a separate publication *(manuscript in preparation)*. The Amsterdam IDM scale focuses on the process and conditions of IDM, thereby allowing us to incorporate the cultural, religious, practical, and emotional aspects into the evaluation of the video intervention.

After filling in the questionnaire, respondents were asked whether they want to participate in an interview. Between April and December 2025, semi-structured interviews were conducted with women of Turkish, Moroccan, and Syrian origin. During the interviews, participants were asked about how the video intervention influenced their decision-making and information seeking behavior regarding CC screening. This approach allowed us to gain an in-depth exploration of their perceptions and decision-making regarding CC screening (20). We chose to conduct interviews due to the flexibility in exploring complex situations, as they enable an in-depth understanding of participants' perspectives and the meanings they attribute to their individual experiences.

**Development of the video intervention**

The video intervention consisted of eight short culturally sensitive videos. Each video lasted between one to three minutes and addressed a specific topic relevant to CC screening. These topics were based on the findings of previous studies, conducted as part of the larger project. For example, participants from an interview study among women of Turkish, Moroccan, and Syrian origin recommended the use of audiovisual materials incorporating factors such as sexual behavior, fertility, and virginity (14). During focus group discussions with several groups of stakeholders, using a combination of narratives from experts-by-experience and factual medical information from a healthcare professional (both with similar cultural or religious background) was suggested (16). A brief overview of each video's content with corresponding references is provided in Supplementary materials 1.

A female Turkish GP (KK) provided the factual medical information regarding CC screening. The text of the GP in the video intervention was pre-tested among a group of women of Turkish and Moroccan origin, recruited via an local community organization.[1] This was done via an in-person session, in which the women first viewed a draft version of one of the videos of the GP. Afterwards, the first versions of the texts of the GP in all eight videos were analyzed in pairs. The women could indicate which words and sentences were not clear to them. After providing extra explanation, they were asked for suggestions for other words to use in the video intervention that would be more understandable to them. To make sure that the information provided in the video intervention is in line with other information provided by the RIVM, communication advisors from the RIVM were also asked to review the text of the GP. These narratives were complemented by narratives of experts-by-experience, consisting of women from diverse ethnic backgrounds sharing their personal thoughts, emotions, concerns, and experiences related to CC screening. These women were also recruited via the same local community organization.

The video intervention was developed by a media agency. For the first draft, the media agency and one of the researchers (TV) jointly selected the recordings that were deemed suitable. During the editing phase, the media agency organized three feedback rounds. In those rounds, the project team and the communication advisors from the RIVM could provide feedback for certain adjustments of the videos.

[1] https://www.al-amal.nl/over-ons/

The video intervention was available in several languages: Dutch, Turkish, Moroccan-Arabic, Moroccan-Berber, and Syrian-Arabic, with corresponding subtitles (except for the Moroccan-Berber, as in the Netherlands, this is mainly a spoken language rather than written). However, in the questionnaire, only the Dutch versions with Dutch subtitles were used because the video intervention was primarily focused on second-generation immigrants. Following the definition of Statistics Netherlands, second-generation Turkish, Moroccan, or Syrian immigrants were defined as women born in the Netherlands with at least one parent born in Turkey, Morocco, or Syria, while first-generation immigrants were defined as women born in Turkey, Morocco, or Syria who later migrated to the Netherlands.[2] Since second-generation women were born and educated in the Netherlands, their command of the Dutch language was assumed to be sufficient to view the Dutch videos. However, first-generation immigrants who also considered their command of the Dutch language as sufficient were also eligible to complete the questionnaire and participate in the interview. After completing the evaluation studies, we plan to also make the other languages available so that the video intervention could be viewed by everyone. To aid comprehension to the video intervention, we kept sentences short and chose words that were identified as easy to understand by women from the target population during the pre-test.

**Study population and recruitment**

Women of Turkish, Moroccan, and Syrian origin, aged between 28-65 years, either first- or second-generation immigrants who considered themselves to have a good command of the Dutch language, participated in the interviews. Respondents of the questionnaire, who indicated to be interested in participating in a follow-up interview to elaborate on their perspectives regarding the video intervention, were contacted by email. Interview-participants received an incentive of €15,- as a token of our appreciation. Recruitment for the interviews went on until data saturation (i.e. no new (sub)themes were generated during the analysis of the latest interview) was reached for all three immigrant groups (women of Turkish, Moroccan, and Syrian origin), and the sample being diverse in terms of the following socio-demographics characteristics: first- or second-generation, migration background (Turkish, Moroccan, Syrian), age, educational level, and geographical distribution in the Netherlands.

**Data collection**

*Theoretical framework as a base for the interview guide*

We developed the interview guide based on the Ottawa Decision Support Framework (ODSF) (see Supplementary materials 2) (21). This is a well-established model for the development and assessment of decision aids (11). The ODSF provides a systematic approach to identifying and addressing the individuals' decisional needs, incorporating decisional support interventions, aimed at IDM. Consistent with the ODSF, the questions in the interview guide assessed the influence of the video intervention on participants' knowledge regarding CC screening, clarity regarding their personal values and preferences, and levels of decisional conflict related to CC screening participation. While the model often includes clinical counseling and decision coaching, it also recognizes the role of evidence-based decisional tools that support IDM. In this research, the evidence-based decisional tool is the culturally sensitive video intervention. The video intervention is designed to function as a standalone decision aid, rather than being part of an interactive consultation. Therefore, components as 'Clinical counseling' and 'Decision coaching' of the ODSF were not incorporated in the interview guide. The interviews began with general questions about participants' perceptions of CC and CC screening and their needs for information prior to the video intervention. Furthermore, participants were asked about the factors that previously influenced their information seeking behavior and decision-making regarding participation in CC screening before viewing the video intervention. This was followed by further questions aligned with the video intervention's content and ODSF. Questions covered topics such as emotional responses, perceived cultural, religious, and practical barriers, and changes in their decisions regarding participation in CC screening. To assess and improve the quality of the interview guide and the conversational flow, we conducted the first three interviews as a pilot. Based on feedback from these interviews, the interview guide was iteratively refined with

[2] https://www.cbs.nl/nl-nl/faq/specifiek/wat-is-het-verschil-tussen-de-eerste-en-tweede-generatie-

minor adjustments to the phrasing and order of the questions. Although the questionnaire and the corresponding video intervention were only provided in Dutch, participants could indicate whether they preferred to do the interview in another language. Therefore, the interview guide was translated into Turkish and English, as the interviews were conducted by three bilingual female researchers (TV and colleagues/interns) individually in Dutch, English, or Turkish. TV held a Master degree and had previous experience with conducting qualitative research via interviews. TV guided the colleagues interns during the data collection and data analysis process. The interviews took place online via MS Teams or in person, at a preferred time and location of the participants.. The interviews took twenty to fifty minutes, with the majority lasting approximately thirty minutes.

**Data analysis**

All interviews were audio-recorded. The interviews with women of Turkish origin were initially transcribed verbatim in Turkish and subsequently translated into Dutch by a bilingual researcher who is sufficiently proficient in both languages. This two-step approach was adopted to minimize potential subjective interpretations that might occur during direct transcription into Dutch. Other interviews were directly transcribed in English or Dutch. This was done to ensure that the entire analysis team was able to participate in the coding process. Interviews were inductively analyzed, using the software program MAXQDA v.26. A thematic analysis were conducted by four researchers, through open, axial, and selective coding (TV and research-colleagues/interns). Fifteen out of the 30 interviews were independently double-coded (by KK and TV). Open coding was used to identify concepts such as the participants' reactions to the emotional and practical aspects of the videos (22). Next, axial coding grouped these initial codes into broader categories, highlighting relationships between different concepts. Finally, selective coding refined these categories into core themes that captured the overarching patterns within the data (22). After each step, interpretation of the codes, categories, and themes were discussed among the researchers until consensus was reached. This was done to ensure consistency and accuracy of the data.

**Ethical considerations**

The study was performed in accordance with the Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects. Before starting the interview, participants received an information letter of the study and were asked to sign an informed consent form (see Supplementary materials 3). This letter described the purpose of the study, the procedures, how the data will be used, and their rights when they want to withdraw their participation. Both the participants and the researcher kept a copy of the informed concept form. Participants' identities were treated confidential, and all personal details mentioned during the interviews were removed during transcription to protect their privacy. Interview recordings were removed after transcription and transcripts were stored within the RIVM database, which were only accessible to the researchers involved in this study.

The study protocol (code LCI-716) was reviewed by the Clinical Expertise Centre (in Dutch: *Klinisch Expertise Centrum (KEC))* of the RIVM. Based on this review, it was determined that the research plan does not fall under the scope of the Dutch law on medical research involving humans (WMO) and therefore further assessment by a Medical Ethical Board (METC) was not deemed necessary by national and European legislation.

## Results Women of Turkish origin

### Socio-demographic characteristics

A total of thirty interviews were conducted with women of Turkish, Moroccan, and Syrian origin. Table 1 presents the socio-demographic characteristics of the participants.

*Table 1: Socio-demographic characteristics of the participants*

| | **Women of Turkish origin**<br><br>**(n= 12)** | **Women of Moroccan origin**<br><br>**(n= 12)** | **Women of Syrian origin**<br><br>**(n= 6)** | **Total number of women**<br><br>**(n= 30)** |
|---|---|---|---|---|
| **Age group** | | | | |
| 28-39 years: | 7 | 4 | 3 | **14** |
| 40-49 years: | 4 | 4 | 3 | **11** |
| 50-59 years: | 1 | 4 | 0 | **5** |
| **Migration generation** | | | | |
| 1st: | 7 | 7 | 6 | **20** |
| 2nd: | 5 | 5 | 0 | **10** |
| **Educational level**[3] | | | | |
| Low: | 0 | 1 | 1 | **2** |
| Secondary: | 4 | 2 | 0 | **6** |
| High: | 8 | 9 | 5 | **22** |

[3] *Educational level 23. CBS. Onderwijsniveau SOI 2021. 2024 [01-09-2025]. Available from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen/onderwijsniveau-soi-2021#:~:text=In%20plaats%20daarvan%20wordt%20voor,omschrijvingen%20laag%2C%20middelbaar%20en%20hoog.:*

*Low: primary education, special needs primary education, prevocational secondary education, secondary vocational education level 1 or equivalent, first three years of senior general secondary education, or pre-university secondary education.*
*Secondary: senior years of senior general secondary education, or pre-university secondary education, secondary vocational education levels 2, 3 or 4*
*High: higher vocational education, university bachelor's or master's degree, PhD*

| | | | | |
|---|---|---|---|---|
| **Marital status** | | | | |
| Single: | 1 | 3 | 0 | **4** |
| Unmarried with partner | 2 | 0 | 0 | **2** |
| Married | 6 | 6 | 5 | **17** |
| Divorced: | 3 | 2 | 1 | **6** |
| Widowed: | 0 | 1 | 0 | **1** |
| **Self-reported CC screening participation** | | | | |
| Every 5 years: | 4 | 4 | 2 | **10** |
| Not every 5 years: | 2 | 3 | 2 | **7** |
| Never: | 6 | 5 | 1 | **12** |
| Unknown: | 0 | 0 | 1 | **1** |

Many participants (47%) were aged between 28 and 39 years. The sample predominantly consisted of first-generation women (67%) and those with a high level of education (23) (73%). In total, 19 participants (64%) were married or had a partner. Most women (56%) had previously participated in CC screening at least once before. Participants were recruited from various regions across the Netherlands, with most residing in or near major urban cities such as Amsterdam, Utrecht, or The Hague.

**Thematic analysis**

The thematic analysis resulted in five main themes: (1) Impressions and reactions to the video intervention, (2) Influence on decisional outcomes, (3) Perceptions and needs prior to the video intervention, (4) Factors influencing information seeking behavior and decision-making before viewing the video intervention, and (5) Suggestions for communication practices.

Theme 1: Impressions and reactions to the video intervention

This theme described the impressions and reactions to the video intervention according to the following three subthemes: 1a. General impressions of the video intervention, 1b. Reactions to the narratives of experts-by-experience, and 1c. Reactions to the GP in the video intervention.

*1a. General impressions regarding the video intervention*

Overall, the impressions of the video intervention were very positive. Participants noted that it was easy to understand. Participants indicated that the video intervention presented CC screening as being safe and accessible. Others also emphasized that the repeated information was helpful to them, as it served as a good reminder of the information they already heard. On the other hand, some participants mentioned having difficulties with maintaining their attention to the video intervention, as they experienced it as too repetitive. Participants also reported the use of accessible language as a positive aspect of the video intervention. Furthermore, they highly appreciated the inclusion of topics such as fear, the screening process, the option to request a female GP (assistant), the possible test results, the sense of not being alone, and the autonomy and responsibility associated with health-related decision-making. Several participants of Syrian origin found the alternation between experts-by-experience and the GP particularly appealing, as factual medical information was balanced with personal stories and doubts about whether to participate .

"*Yes, I find it very educational, very beautiful. Then you also really hear: yes, it is a combination between just stories from the people, but also a medical professional someone who tells about this. Yes, it was really beautiful."*

- Women of Syrian origin, 28-39 y/o

There were also some participants of Syrian origin that indicated a preference for minimizing the transitions between factual medical information provided by the GP and the experts-by-experience narratives, as these were perceived as potentially confusing and not always aligned. For example, they suggested to do separate videos in which a GP has a conversation with one expert-by-experience at a time. This preference was not indicated by participants of Turkish and Moroccan origin in this study.

*1b. Reactions to the narratives of experts-by-experience*

Many participants responded positively to the inclusion of experts-by-experience narratives in the video intervention. They described these narratives as honest, clear, and relatable. Some participants expressed a sense of recognition, as several older first-generation participants indicated that they could relate to the fear of diagnosis and their doubts to participate, as addressed by the experts-by-experience in the video intervention. Another commonly appreciated element was the ethnic diversity of the experts-by-experience. According to the participants, this made the video intervention more realistic, trustworthy, more convincing, and impactful than if only a GP had spoken:

*''I appreciated the inclusion of the experts-by-experience narratives. They made a stronger impression and showed that women's opinions and information were truly represented. I believe it is more motivating. If the videos had only included the doctor sharing information, I still would not be sure whether I would*

*participate in the screening.*
*But seeing women who have participated themselves and encourage others to do so, yes, that gives a much better idea.''*

- Women of Turkish origin, 28-39 y/o

Many participants described that the video intervention encouraged them to speak about CC screening that is otherwise considered taboo. They also described that the personal stories made them realize that CC screening is important and that taking care of oneself is essential. One participant of Syrian origin mentioned that the personal stories of the experts-by-experience in the video intervention made her feel that the video intervention was made for them too, creating a sense of belonging and inclusion, despite the political difficulties.

*"Yes, especially because people think, it is also for you. Some name it political, with everything that is happening in the Netherlands, you also feel: No, no, I am, I also belong to this society. "*

- Women of Syrian origin, 28-39 y/o

Most participants described the experts-by-experience narratives as recognizable, comforting, and helpful. However, not all participants demonstrated enthusiasm for the experts-by-experience. Some of them indicated that they were less emotionally affected and provided more neutral views. For example, two older women mentioned that they found it difficult to relate to the emotions of the experts-by-experience and considered it less relevant for their decision-making. Others felt that these narratives were a bit superficial and had no added value for their decision-making process.

*1c. Reactions to the GP in the videos*

Participants also provided positive feedback regarding the GP included in the videos, specifically noting her use of accessible language, clear pronunciation, and her visible migration background. A participant of Syrian origin mentioned that hierarchy plays an important role among people with a migration background and that they are more likely to accept information coming from a doctor.

*"And I think that for people with a migration background, that that is also quite nice, because hierarchy is a thing. If the doctor says something, then it must be correct, so to speak. "*

- Women of Syrian origin, 28-39 y/o

Overall, the GP made a clear, trustworthy, and professional impression on the participants. They particularly liked receiving information regarding the self-sampling test, the procedure when visiting a GP, and the fact that the test is also recommended for women who are not sexually active (yet). Participants also perceived the presence of the GP as credible and comforting, noting that it contributed authority and reassurance. One participant of Turkish origin mentioned that the information provided by the GP was helpful to normalize the topic:

*'' I thought the GP was really good. She gave clear information and emphasized that CC is a human thing. That is what stuck with me. That is the feeling I got from her.''*

- Women of Turkish origin, 28-39 y/o

<u>Theme 2: Influence on decisional outcomes</u>

This theme described the influence of the video intervention on: 2a. Social network engagement, 2b. Decision-making regarding screening participation, and 2c. The intention to participate in CC screening.

*2a. Social network engagement after the video intervention*

Participants indicated that after viewing the video intervention, they engaged more frequently in conversations regarding CC screening with individuals in their social environment, including their partners, friends, and family members. They described that these conversations touched upon topics such as how accessible the usage of the self-sampling was perceived, the representation of women with a migration background in the video intervention, and the relevance of participating. Several participants felt inspired and enthusiastic to share the video intervention with others. Some were already actively informing other women in their communities about CC screening. Others also indicated that they are considering doing further online research on HPV and CC or are planning to visit their GP with questions. These questions were often regarding the steps after receiving a (potential) HPV-diagnosis. Multiple participants stated that they had not sought further information after the video intervention, partly because the content was clear and answered many of their questions, and partly due to time constraints from other obligations.

*2b. Decision-making for participation after the video intervention*

Some participants mentioned strong motivations to participate, while other participants were still uncertain and indicated the need for additional information for their decision-making. For some participants, past trauma (e.g. childbirth, gynecological procedures) remained a barrier to seek further information, and therefore also hindered their IDM. However, these participants also indicated the information provided in the video intervention as useful. A few participants mentioned that the decision is still challenging and expressed a preference for greater emotional reassurance. Additionally, one women indicated that, although she intends to participate, the video intervention led her to associate having an HPV-infection with (inappropriate) sexual behavior and stigma, which in turn increased her feelings of shame. However, most participants mentioned that the video intervention made it easier to make a decision, as they felt more aware, reassured, and informed. For example, one participant with no prior knowledge of CC screening indicated that the GP in the video intervention provided her with a basic level of understanding that is essential to her to make an informed decision. Some participants mentioned that the inclusion of women with similar backgrounds helped them to realize they were not alone in their fears or misconceptions. Moreover, several participants indicated that, because of the video intervention, they would read future invitation letters more carefully, instead of simply discarding them without reading. Others highlighted that they are more conscious about the importance of screening and its preventive role:

*‘’I am now more aware about the importance of CC screening. And if I keep postponing it, I might face even worse results in the future […]. The video intervention made me aware and made me think more seriously about the topic.’’*

- Women of Turkish origin, 28-39 y/o

*2c. Intention to participate in CC screening after the video intervention*

Many participants reported that, because of the video intervention, they are more likely to participate in CC screening. For several participants, the availability of the self-sampling test served as a motivating factor, as it was perceived to be less invasive and more convenient. For some women who had not previously participated in CC screening, the video intervention ultimately convinced them to participate, particularly after learning about the reliability of the self-sampling test. A participant of Syrian origin mentioned that through the videos she discovered that she would receive more invitations in the future and that this gives her the opportunity to consider participating next time.

*"And I heard that you also get an invitation again after 5 years, so I am planning to definitely do it."*

- Women of Syrian origin, 28-39 y/o

There were also some, mainly first-generation, participants that preferred testing at the GP for more certainty. Some participants mentioned to remain undecided regarding participation, but indicated that they were taking the topic more seriously. However, also a few participants indicated that the video intervention did not influence their decision-making process and that their intention whether to participate remained unchanged. For example, some women mentioned to still decide not to participate, for example due to past (traumatic) experiences.

*''It is still difficult to participate for me. My trauma is not something that just disappears. […] Even though I know that it does not take long, the whole process around it feels so overwhelming for me that I still have not been able to step over it.''*

- Women of Moroccan origin, 40-49 y/o

Theme 3: Perceptions and needs for information prior to the video intervention

Participants mentioned that, prior to the video intervention, information on the practical, cultural, religious, and emotional aspects were highly relevant to them. For example, they addressed the norms and values related to virginity, fertility, and sexual activity. They also mentioned stigma regarding cancer and reported that sex-related topics are taboo, leaving them undiscussed and perpetuating a lack of awareness on the subject.

*''Yes, I think it is because of shame. People are always afraid of the word 'cancer', no matter where in the body it is. Some do not want to think about the difficult times their family or friends went through because of this disease. For example, I used to only want to hear happy and positive stories from people, but that is not always possible. You need to hear both sides to really understand what it is like.''*

- Women of Syrian origin, 40-49 y/o

Participants indicated a preference for receiving the information via family members, friends, or healthcare professionals. They indicated to have had a need for more information prior to the video intervention, particularly about the self-sampling test, transmission of HPV, and risk factors. For example, participants indicated that prior knowledge regarding the linkage between HPV and CC was lacking before the video intervention. Some women also mentioned that they had the assumption that CC is a hereditary condition and, in the absence of a family history, assumed they are not at risk. Furthermore, it was noted that some women attended gynecological care and underwent examinations without fully understanding what it involved.

Some participants explained that the Dutch language brochures were not accessible to individuals with limited language proficiency. For some participants, the information letter was confusing and overwhelming as it induced fear. However, other participants indicated appreciation for the clarity and brevity of the invitation letter. They indicated the invitation letter to be appealing and appreciated the opportunity for getting screened, as they were seeing it as a sign that their health is taken seriously.

Theme 4: Factors influencing information seeking behavior and decision-making before viewing the videos

Most participants of Syrian origin indicated that they heard about CC screening for the first time when they received their invitation in the Netherlands. This is because, as they mentioned, a population-based CC screening program does not exist in Syria. According to them, this applies to most recently arrived immigrants in the Netherlands. In general, many participants indicated that CC was considered as a private matter, and therefore avoided discussing it with others. However, some mentioned that they frequently ask others about their experiences of having the test done at the GP, which motivated them to seek for further information.

Participation in CC screening prior to the video intervention was varying among the participants. Some indicated to have participated before, while others had never due to fear, misunderstanding, or because they indicated they had never received the invitation letter. Additionally, some participants based their intention to participate on feelings of responsibility related to motherhood and family roles. A few participants mentioned that they

received their invitation letter during pregnancy, and therefore did not participate. Others stated that they do not participate because they do not prioritize their own health but that of their children and partner. Some participants with prior participation in CC screening indicated that previous good test results led to a lower risk perception. They assumed that, because they had received good test results in the past, participation in subsequent CC screening rounds was not necessary. Some women indicated that being aware of the CC screening participation rate was an important factor in their decision-making:

''*If the percentage of women doing the screening is very low, I think: 'Why?' Maybe I do not need to go either then.*''

- Women of Moroccan origin, 28-39 y/o

Theme 5: Suggestions for communication practices

During the interviews, participants were also asked for suggestions and recommendations regarding the implementation of the video intervention. They provided feedback that is described according to the following two subthemes: 5a. New questions raised after the video intervention, and 5b. Suggestions for the implementation of the video intervention

*5a. New questions raised after the video intervention*

Although some participants indicated that the video intervention did not give them new information, others learned important facts, like the link between HPV and CC, the existence of the self-sampling test, and the purpose of CC screening. Among those who indicated to have learned new information, there were some participants that indicated that the video intervention raised new questions. For example, participants indicated a preference to include more reassuring information regarding the treatment options, the hospital process, and other practical details after early diagnosis of CC. The women also expressed a need for more detailed information regarding the procedures involved during the test at the GP. Additional practical information regarding when to expect the next invitation is also desirable, according to the participants. Furthermore, some participants indicated a need for information on how to request a new screening test or appointment if an invitation letter was missed. Others noted a lack of information regarding the process following the test. They wanted to know how long they would have to wait and how they would receive their results. The women also expressed a desire for information about the symptoms of the disease, beyond the scope of the test. Another topic that raised more questions after the video intervention was regarding hygiene. For example, some women mentioned that she found information circulating on social media regarding the link between hygiene, HPV-infections, and the use of certain creams on intimidate body parts.

''*Lately, I have seen a lot of women on social media recommending to use certain products or creams on your intimidate areas to keep yourself clean. But I am not sure if that is true. It would be helpful if the GP could give some information regarding hygiene.*''

- Women of Moroccan origin, 50-59 y/o

Many participants mentioned the need for more information regarding HPV-transmission, other CC prevention methods, and recognition of CC-related symptoms. One woman suggested that some information addressed in the videos regarding HPV-transmission should be made more explicit. She specifically noted that it should be emphasized more that HPV can also be transmitted through non-penetrative intimate contact, and that condom use does not fully eliminate the risk of HPV-transmission. Participants felt that the role of men in HPV-transmission also required more attention in the videos. For example, some women questioned the necessity of repeated testing when in a monogamous relationship, as this might reflects concerns regarding the possibility of

a partner's infidelity. Furthermore, an unmarried participant who had never participated before was still uncertain about the relevance of screening for women who are not (yet) sexually active or not (yet) married:

*''The only thing I missed…, also in the video intervention […], since you can only get HPV through sexual contact. But then she [referring to the GP in the video intervention] also says:*
*'Even if you're not sexually active, it's still good to get tested.'*
*So I really missed the explanation for that. Should I do it or not […]? Why should I do it if I am not at risk of HPV? I did not clearly understand that.''*

- Women of Turkish origin, 28-39 y/o

*5b. Suggestions for the implementation of the video intervention.*

Participants suggested community-based venues such as mosques, community centers, community-specific foundations and organizations, and schools as ideal locations for sharing the video intervention with women of Turkish, Moroccan, and Syrian origin. Furthermore, participants also proposed public institutional spaces such as GP waiting rooms, hospitals, physiotherapist, workplaces, and municipal offices, as information provided there is often taken more seriously. For recently arrived immigrants, participants recommended distribution of the video intervention via municipalities, civic integration courses, and language classes. To increase public engagement, one participant suggested to launch a national campaign. Others recommended receiving CC screening information and the invitation letter directly from their GP or via text message from their GP, as this would make the information feel more personal and trustworthy. However, participants indicated that the most effective communication strategy remains interpersonal contact via their own social network.

In addition to sharing the video intervention on the RIVM websites, medical websites, or through the CC screening invitation letter, the most widely recommended strategy was to use social media platforms. For example YouTube, Instagram, and Facebook, with Snapchat specifically suggested to reach younger audiences. Participants of Turkish origin proposed using professional or medical Instagram accounts, as this is also more common in Turkey. However, some participants expressed skepticism about the credibility of social media platforms and questioned their suitability for conveying such a serious health message. As an alternative, they recommended placing the video intervention on a reliable, official website such as the RIVM website, ideally accompanied by a Frequently-Asked-Questions (FAQ-)section to address common questions and concerns regarding CC. Several participants mentioned that making the videos available in multiple languages would reach a larger audience.

One participant of Syrian origin, who works with Eritrean refugee women, stressed the importance of paying extra attention to refugee women who have experienced sexual violence. According to her, this subject will be even more sensitive for them.

*"We work with quite a lot of Eritrean women who have actually been through a lot. Some of them, for example, have been raped or have experienced other traumatic events on their way here. So yes, for these women, I think it is particularly important that they understand the main goal of the CC screening program."*

- Women of Syrian origin, 28-39 y/o

# Discussion

This study evaluated a culturally sensitive video intervention designed to support IDM regarding CC screening among women of Turkish, Moroccan, and Syrian origin. By using the ODSF framework, this study explored how the video intervention was perceived and how it influenced the decision-making process. Furthermore, this study provided insights into options for implementation of the video intervention. The video intervention seems to be supportive by sparking curiosity, reflection, and encouraging further information seeking behavior on this topic.

**Reflection on the video intervention in relation to previous studies**

Overall, the video intervention was well-received and supported women of Turkish, Moroccan, and Syrian origin in their decision-making regarding CC screening. Our findings are in line with the positive results of previous studies that tested culturally tailored videos for improving cancer screening knowledge and attitudes among specific ethnic minority groups, namely colorectal cancer screening decision aids for American Indians and African American patients (24, 25), CC screening interventions for refugee women and Latinas (26, 27), and a scoping review regarding digital tools supporting IDM among underserved populations for cancer screening (28). In particular, our participants highly valued the inclusion of narratives from experts-by-experience with a similar cultural or religious background, as these contributed to greater recognizability and helped them address risk perceptions. Beyond supporting individual decision-making, the videos also appeared to stimulate conversations about CC screening within women's social networks, which may further contribute normalizing the topic and reducing stigma. Our findings are similar to studies among Latina and Muslim immigrant populations, which have shown a preference for female relatives over males in providing health-related advise, particularly on intimate topics such as CC screening (12, 29-32). This supports the idea that culturally tailored communication, particularly when it includes narratives from individuals with a similar cultural background, can improve understanding and emotional comfort, especially in immigrant populations (18, 33, 34). The suggestions and recommendations for implementation of the video intervention were in line with findings of our previously conducted study regarding the informational needs and preferences of women of Turkish, Moroccan, and Syrian origin (14), as well as the focus group study with stakeholders (16).

Highlighting the limitations of a 'one size fits all' approach in health communication practices, several participants reported remaining informational needs after viewing the video intervention. For example, some women still had questions regarding the practical, emotional, cultural, and religious aspects of CC screening, such as sexual behavior, virginity, and fertility. The video intervention appeared to prompt women to share more about their own, sometimes traumatic, experiences related to these aspects. This suggests that, although a video intervention may not be a suitable format to fully discuss such sensitive and complex aspects in a nuanced way in the context of CC screening, it can still play a supporting role in addressing these aspects during women's decision-making process. Previous studies have suggested that the use of narratives may lead to negative emotions such as fear or personal distress (18), but participants in this study did not report such adverse effects and mentioned that they highly appreciated the narratives. Other topics that raised more questions by the participants were the seriousness of disease progression, the available treatment options after CC diagnosis, the role of hygiene in HPV-infections, men's role in HPV transmission, and other measures to prevent developing CC. This may also reflect underlying fears and stigma associated with cancer and its consequences among the general public (35-37). This suggests that these concerns and subsequent information needs may not be limited to women of Turkish, Moroccan, and Syrian origin, but could be relevant to women more broadly, regardless of cultural background. Consequently, such issues may require more explicit attention in communication around CC screening in general, and incorporating additional information and narratives from experts-by-experience might also support decision-making among other under-screened populations. Importantly, the need for clarification on these additional questions may not only reflect informational needs, but also underlying emotional needs. This is in line with previous studies highlighting the importance of addressing both informational and emotional aspects in communication practices regarding CC screening (14, 15, 38).

Women in a previous study indicated not to feel confident about their ability to properly use the self-sampling test. However, after seeing the self-sampling test, most women indicated that these feelings of self-efficacy often fade away (29). This is in line with the results of our current study, as participants mentioned that the demonstration of the self-test in the video intervention, motivated them to participate in the CC screening.

According to the Amsterdam IDM scale (19), the presence of some unanswered questions does not necessarily mean an uninformed decision, particularly since the video intervention still motivates participants to seek additional information. In fact, this active form of information-seeking behavior may represent a more empowered and engaged form of decision-making.. Participants in this study indicated barriers for information seeking behavior for CC screening prior to the video intervention consisting of emotional obstacles (e.g., fear and trauma), practical challenges (e.g. language difficulties), and cultural and religious factors (e.g. shame, taboo, concerns regarding virginity, intimacy, fertility, and the gender of the GP). Similar patterns have been seen in other studies among (immigrant) women, where fear and language barriers stopped them from looking for information regarding cancer screening services (38-40).

**Strengths & limitations**

One of the strengths of this study is that it offers valuable insights on how to tailor health communication strategies to the needs of women of Turkish, Moroccan, and Syrian origin. By focusing on decision-making rather than solely on participation rates, this study used a more holistic approach to evaluating health promoting video interventions. The involvement of multiple interviewers in both the data collection and analysis enhanced the trustworthiness and credibility of the findings. Additionally, the number of interviews conducted contributed to data saturation, thereby enriching the diversity and depth of perspectives included in the analysis. The sample also represented a range of ages and included both first- and second-generation immigrant women. This further strengthened the breadth and applicability of the findings. Another strength is that the interviews were held at the preferred location of the participants. This created a safe space and built trust to openly discuss their reflections on the video intervention.

Nevertheless, the study also has some limitations. For example, the geographical diversity of the sample seemed limited with most participants residing in urban areas. However, most non-European immigrants in the Netherlands, such as individuals originating from Middle Eastern and North-African countries, are also living in urban areas (41). Moreover, recall bias, particularly regarding their perceptions, information needs, and information-seeking behavior prior to the video intervention, may have influenced participants' answers. Since the video intervention was evaluated via an online questionnaire, it was not possible to control the setting in which the participants were being exposed to the video intervention. This may have influenced their experiences, as it could be that they were distracted while viewing the videos. Additionally, participants' awareness to the interviewer being affiliated with a governmental institution (namely the RIVM) may have led to a response bias, potentially leading to more socially desirable answers by downplaying negative feedback (42). Furthermore, individuals who are generally more critical towards the government may have been less likely to participate in research conducted by a governmental institution. As a result, the perspectives of these individuals may be underrepresented in our findings, potentially limiting the generalizability of the results. Finally, given the sensitive nature of CC screening, some participants may not have felt completely comfortable sharing their thoughts openly, potentially affecting the depth and richness of the data collection. However, multiple participants openly talked about their traumatic experiences (e.g. childbirth, gynecological procedures) during the interview.

**Implications for future practice and research**

The study's findings show that the video intervention is well-received by the participants, and plays a valuable role in supporting decision-making among women of Turkish, Moroccan, and Syrian origin. Video interventions can be used by healthcare professionals and policymakers to tailor communication strategies regarding CC screening to the needs of immigrant women. For example, the videos can be presented in waiting rooms or

actively be shared via flyers with QR codes or direct messages via SMS or email (43). The videos can also be distributed to recently arrived immigrants through municipalities, integration programs, or language classes. It is recommended to provide interventions in multiple languages to overcome language barriers. Regarding the implementation of video interventions, sharing through trusted and accessible local channels, such as community centers, mosques, women's networks, and targeted social media platforms is warranted. These approaches can help to increase the impact of health communication practices. Additionally, the video intervention appeared to raise further questions regarding the steps following detection of an HPV-infection and/or early diagnosis of CC. This can be helpful for healthcare professionals to build on these questions during consultation hours. However, future interventions should carefully balance the amount and type of information provided, ensuring clarity and neutrality while adequately respecting women's autonomy in IDM and avoiding unintended persuasion (44).

Since participants indicated that they still had remaining questions regarding the practical, emotional, cultural, and religious aspects of CC screening, this study underscores the need for further research into how to adequately address these aspects in communication practices regarding CC prevention programs. Given that these aspects are complex and sensitive, they require a nuanced, culturally informed approach, ideally developed in close collaboration with the target population. Future studies should explore which formats and communication channels are most suitable and effective for discussing topics such as sexual behavior, virginity, and fertility with women of Turkish, Moroccan, and Syrian origin. In our study, the video intervention supported women in discussing these themes and sharing their own experiences, suggesting that such video interventions may serve as a useful starting point for reflection and discussion on these topics, rather than fully resolving all informational needs.

**Conclusion**

Overall, the culturally sensitive video intervention was well-received and positively influenced decision-making regarding CC screening among women of Turkish, Moroccan, and Syrian origin. The video intervention helped participants to start conversations with their social environment (partner, friends, family), prompting them to think more deeply, and ask questions regarding CC and CC screening. By providing a space for dialogue and reflection, the video intervention represents a meaningful step forward for women of Turkish, Moroccan, and Syrian origin, among whom these topics are often surrounded by stigma and taboos.

Policymakers and healthcare professionals should consider the implementation of culturally sensitive video interventions and ensure their availability in multiple languages. Sharing these materials through trusted channels may further improve their reach and engagement. Additionally, future research should investigate how this video intervention should be implemented and evaluated on a larger scale. It is also recommended to explore how such video interventions can be adapted to other underserved populations (e.g. women with limited health literacy, women who experience a language barrier, women with a lowered socio-economical position, and women with other migration backgrounds), as well as for use in communication practices regarding other cancer screening or vaccination programs.

# Abbreviations

| | | |
|---|---|---|
| **CC** | - | Cervical cancer |
| **GP** | - | General practitioner |
| **HPV** | - | Human Papillomavirus |
| **IDM** | - | Informed Decision Making |
| **ODSF** | - | Ottawa Decision Support Framework |
| **RIVM** | - | National Institute for Public Health and the Environment (''Rijksinstituut voor Volksgezondheid en Milieu'' in Dutch) |

# Declarations


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## AUTHORS' CONTRIBUTIONS

TV, NH, and RGW conceived and designed the study. TV conducted the interviews, and TV and KK analyzed the interviews. TV wrote the first draft of the manuscript. NH, RGW, MLS, KK, RC, and AT provided critical revisions on the interview guide. All authors read, revised, and approved the final manuscript.

## CONFLICTS OF INTEREST STATEMENT

None declared.

## DATA AVAILABILITY STATEMENT

The datasets generated and analyzed during this study are not publicly available due to privacy reasons.


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## GENERATIVE AI USE STATEMENT

The authors declare the use of the generative AI (GAI): ChatGPT 4.1 in the writing process. The following tasks were delegated to GAI tools under full human supervision: literature search and systematization, proofreading and editing, and reformatting.

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## Supplementary Files

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- Supplementarymaterials1contentvideointervention.docx
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