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Knowledge and attitudes towards cervical cancer and screening among migrant women: a qualitative study in Portugal

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ABSTRACT

Background: Although cervical cancer screening (CCS) has proven effective in reducing the mortality burden of CC, low screening rates have been registered worldwide, including in migrants. This study explores the perceptions of migrant women, health care professionals and community workers regarding migrant women's knowledge and attitudes about CC and screening and how these influence CCS uptake.

Methods: A qualitative study was conducted through seven focus groups with 23 migrant women, 12 healthcare professionals and 10 community workers. Data were analysed through a deductive content analysis approach.

Results: A lack of knowledge and negative attitudes towards screening among migrants were discussed as important factors leading to a lower CCS uptake. For participants, many migrant women are unaware of the disease and CCS. Feelings of uneasiness related to screening and reservation from their husbands toward consultations underly negative attitudes towards CCS. Disparities in migrant women uptake of CCS rooted on sociocultural factors were highlighted, with women from African origin and older tending to engage less. Health professionals were identified as preferred source of information, nevertheless difficulties in delivering information on sensitive topics were reported by professionals. Additionally, participants agreed that peers and social networks may play a role in promoting screening among communities.

Conclusions: Health professionals and community actors are paramount to promote CCS among migrant women, specially through culturally-adapted awareness interventions and health-promoting activities engaging local communities and social networks of women. Training on cross-cultural communication skills of health professionals may contribute for improving migrant women's knowledge and uptake of CCS.

Keywords: preventive medicine; qualitative research; public health; sexual medicine

STRENGTHS AND LIMITATIONS OF THIS STUDY

- A qualitative approach was used to understand migrant women’s knowledge and attitudes towards cervical cancer and screening, which may help to identify effective strategies to promote screening uptake among underserved populations.
- This focus groups study allowed to gain insights from the perspectives of diverse stakeholders, including migrant women, healthcare professionals and community workers, providing a comprehensive view of the issue, which is not common in published literature.
- Some focus groups were conducted in virtual setting which may have limited group dynamics.
- Other nationalities of migrants living in Portugal (e.g. from European countries) and more socially excluded groups (e.g. with low education) were missing, therefore important inputs may lack.

INTRODUCTION

Cervical cancer screening (CCS) is an efficient preventive measure to reduce mortality due to CC (1), with many countries developing screening programs and awareness campaigns targeting women (2). Nevertheless, inequities in access to early diagnosis still prevail.

In Portugal, CCS is performed for free, opportunistically in public healthcare services, or through population-based screening programs, where women are invited to be screened in the primary healthcare centre where they are registered (3). Yet, CCS uptake remains insufficient, with remarkable disparities in coverage and uptake across different geographic regions, socioeconomic groups, affecting socially vulnerable populations, including migrant women (MW) (4,5). In Portugal, around 16,7% of MW do not participate in national population-based CCS programs, compared to 12,8% of native-born women (4).

Multiple underlying factors and barriers for low CCS uptake among MW have been described, including economic, cultural, religious, geographical, and linguistical (6). Individual knowledge and attitudes towards CC and screening have also been shown to influence participation in CCS (6–8). Understanding MW’s knowledge and attitudes towards CC and screening may help to identify effective strategies to promote CCS uptake. Additionally, the perceptions of healthcare professionals (HCP) and community workers (CW) that interact with MW are also important to tackle existing inequities.

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Obtaining the perspectives of all these stakeholders can contribute to comprehensively understand what MW know about CC and screening, how they feel about getting screened and how those psychosocial aspects influence their screening uptake.

This study aimed to explore the perceptions of MW, HCP and CW regarding MW's knowledge and attitudes about CC and screening and understand how these aspects influence CCS uptake.

METHODS

Study design

Qualitative study conducted with MW, HCP and CW using focus groups (9). This paper follows the consolidated criteria for reporting qualitative research (COREQ) guidelines (10).

Participants

MW were included based on the following criteria: being 25-64 years old; being born in Brazil, Portuguese-speaking African countries, East European or South Asian countries; not having been screened for CC in the last 5 years; and not having undergone a hysterectomy. HCP included doctors or nurses with previous experience in CCS clinical practice. CW were included based on their working experience with migrant communities.

Migrant associations and non-governmental organizations doing outreach work with migrant communities collaborated in the study by disseminating it within their social network and recruiting eligible women to participate. CW were also invited through the collaborating community organizations. HCP were recruited from healthcare units located in areas with a high density of migrant populations.

Setting

Focus groups with HCP and CW were conducted through the online videoconference platform Zoom, while those with MW were held in person in community-based organizations.

Data collection

Data was collected through seven focus groups conducted between July 2020 and November 2021 - two with MW (n=23), three with HCP (n=12) and two with CW (n=10). A semi-structured topic guide was developed based on literature and covered

perceptions about MW’s knowledge and attitudes towards CC and screening, sources of information, CCS attendance and strategies to promote CCS uptake. Discussions were conducted by a moderator and co-moderator. All participants gave their informed consent, including to audio-record the sessions.

Patient and public involvement

No patients were involved in this study.

Data Analysis

Focus groups were audio-recorded, transcribed verbatim and anonymised. Data analysis was conducted using a deductive content analysis approach (11). A codebook with themes, subthemes, and codes was developed. Each transcript was analysed separately. The text segments were categorized into the codes defined using a text processor. Two researchers coded the transcripts and validated the codification. Relevant quotes were translated from Portuguese into English.

RESULTS

All MW were ≥25 years old, more than half had completed high school and ten had participated previously in CCS (Table 1). Most women were from São Tomé and Príncipe (n=10), followed by Nepal (n=3), Cape Verde (n=2) and India (n=2). HCP were all doctors, aged 25-45 years, mostly females, and two thirds had 6-15 years of experience with CCS. CW were mostly women ≥25 years old.

Table 1. Characteristics of migrant women, healthcare professionals and community workers included in the study.

CHARACTERISTICS	MIGRANT WOMEN (N=23)	HEALTHCARE PROFESSIONALS (N=12)	COMMUNITY WORKERS (N=10)
AGE			
<25 years	0	0	1
25-45 years	12	12	5
>45 years	11	0	2
Missing	0	0	2
SEX			
Female	23	9	9
Male	0	3	1
EDUCATION LEVEL			
None	4		
Elementary School	1		
Middle School	3		
High School	3	NA	NA
Higher Education	9		
Missing	3		

COUNTRY OF ORIGIN			
São Tomé and Príncipe	10		
Nepal	3		
Cape Verde	2	NA	NA
India	2		
Angola	1		
Missing	5		
HAVING EVER BEEN SCREENED FOR CERVICAL CANCER			
Yes	9		
No	10	NA	NA
Does Not Know	2		
Missing	2		
YEARS OF EXPERIENCE WITH HARD-TO-REACH GROUPS			
<6 years			2
6-15 years	NA	NA	2
Missing			6
PROFESSIONAL OCCUPATION			
Sociocultural Mediator			2
Psychologist			1
Social Worker	NA	NA	2
Other			5
CATEGORY OF HEALTHCARE WORK			
Physician/Doctor		12	
Nurse	NA	0	NA
Other		0	
YEARS OF EXPERIENCE WITH CERVICAL CANCER SCREENING			
2-5 years		3	
6-15 years	NA	8	NA
Missing		1	

Legend: NA – Not applicable

Knowledge about CC and screening

MW were generally unaware of what CC was or how it evolves. They tended to identify CC as a transmissible disease that resulted from minor deformations associated with polyp growth, which was identified as a major risk factor: *“It starts with polyps (...) can cause internal and external bleeding”* (MW-FG1-P6). While some MW correctly associated CC with a viral infection and highlighted its asymptomatic development, others confused it with breast cancer: *“It’s like breast cancer, no? Oh Sorry! (...) It’s nearby the bladder”* (MW-FG2-P16).

The perception of a low level of knowledge about CC that emerged from focus groups with MW was somehow confirmed by HCP and CW: *“There is a lack of literacy among women regarding what cervical cancer is, when it can be detected, from what age, and why”* (CW-FG1-P3).

When asked about CCS, almost a half of MW reported having ever been screened, some expressed it is a method that reassures women about their health status, and a few

described the procedure: *"It's this deeper smear that is collected, in which the doctor uses the speculum and collects the fluid from there. It probably brings up something that helps to elucidate, right? Whether it could evolve into cancer in the uterus. No (...) in the cervix"* (MW-FG1-P7).

All HCP considered that MW do not have enough information about CCS. MW, HCP and CW agreed that many MW neither recognise the purpose nor benefits of screening: *"Most of them probably do not have enough information"* (CW-FG2-P6); *"They become very confused about what they are going to do"* (HCP-FG3-P1); *"Not everyone is informed"* (MW-FG2-P43).

The role of knowledge was remarkably perceived by MW, HCP and CW as paramount to CCS adherence, as women's low level of knowledge of the disease and relevance of CCS would lead them to underrate the importance of early diagnosis: *"If they are not informed (...) they won't pursue it, but if they have the information, they will undoubtedly be more receptive"* (MW-FG2-P43); *"If I don't know what the benefits [of screening] are, I won't go"* (HCP-FG2-P2).

Several MW and HCP reported that information regarding CC and screening is primarily conveyed by health professionals. Those participants specified paediatricians, gynaecologists, and family planning doctors as key sources of information: *"There is the family planning consultation"* (HCP-FG3-P1). Another valuable source of information identified by HCP was MW's social networks and trustworthy circle of people: *"They may discuss with neighbours, acquaintances (...) being the primary source of information"* (HCP-FG3-P2). To a lesser extent, the internet was mentioned by HCP as a source used by MW.

Attitudes towards CCS

Women in general expressed feelings of uneasiness, discomfort, and fear with the CCS procedure, in line with some HCP and CW opinions: *"I think that, for start, this is an extremely invasive appointment (...). We know that we must go, but we avoid going there. I know that I must go there and that it's extremely unpleasant"* (MW-FG1-P14).

MW and CW highlighted that many women felt a negative attitude toward CCS due to their husbands' reservation with regards to consulting a gynaecologist and family planning: *"In our community, there are men who won't let their wife go to family planning appointments. (...) Some men think that a woman who is going to family planning appointments wants to avoid getting pregnant (...). And those who don't have access to*

family planning appointments, will not have this information [about the importance of screening]" (MW-FG1-P16).

Different attitudes towards CCS were identified across MW according with their country of origin. From HCP view, women from Latin America and Eastern Europe have generally a proactive attitude towards healthcare interventions, which is perceived to be associated with higher screening attendance among these groups: *"Migrant populations from Brazil, (...) they are more informed about screening and have a concept that they should go to the gynaecologist"* (HCP-FG1-P1). In contrast, some HCP noted that women originally from African cultural background often do not seek screening spontaneously.

Age also emerged as playing a role in women's attitudes toward screening. Some CW mentioned that CCS is not a priority, particularly among older women, and some feel resistance to exposing their body to a younger health professional: *"It's more difficult for elder women to be observed by younger ones"* (CW-FG2-P1). For a HCP, younger women usually have a higher degree of education and are more conscious about the importance of health care, thus show less resistance towards CCS.

Bridging the gap

MW expressed the need for prior explanation about the CCS, especially in terms of the procedure by HCP. This was felt as important to address questions and fears and facilitate acceptance of the CCS: *"It's necessary to explain the whole mechanism [of CCS] so that people feel comfortable taking care of their bodies"* (MW-FG1-P1). However, HCP admitted struggling to explain to MW what CC is and the relevance of screening in the absence of symptoms. According to HCP, main reasons for this are that many of these topics are taboo and there is low availability of resources, including time, to undertake health promotion activities. CW agreed that information is scarcely provided outside healthcare settings, suggesting a lack of investment in health education: *"Information [about screening] is centralized (...) we only have contact when we go to healthcare centres"* (CW-FG1-P3).

As a result, MW advocated for a greater investment in sexual education from an early age and suggested that *"There should be (...) teams (...) of medical students who visit schools to provide information in a more personal way"* (MW-FG1-P7). MW also mentioned the role of information campaigns targeting adults; for that, understanding the

rationale for the resistance and motivations to participate in CCS was considered crucial for well-designed health-promoting campaigns: “*We have to call them, and we have to have a meeting with them so they can also speak what’s going in their mind, so we get to know why they are not going, why they are feeling shy*” (MW-FG2-P4). This idea was somehow supported by HCP who mentioned that the development of tailored awareness campaigns would be beneficial to provide women with the knowledge required to attend CCS. One HCP specifically suggested that informative flyers should be translated into different languages to reach different migrant groups.

A summary of the main findings is illustrated in Figure 1.

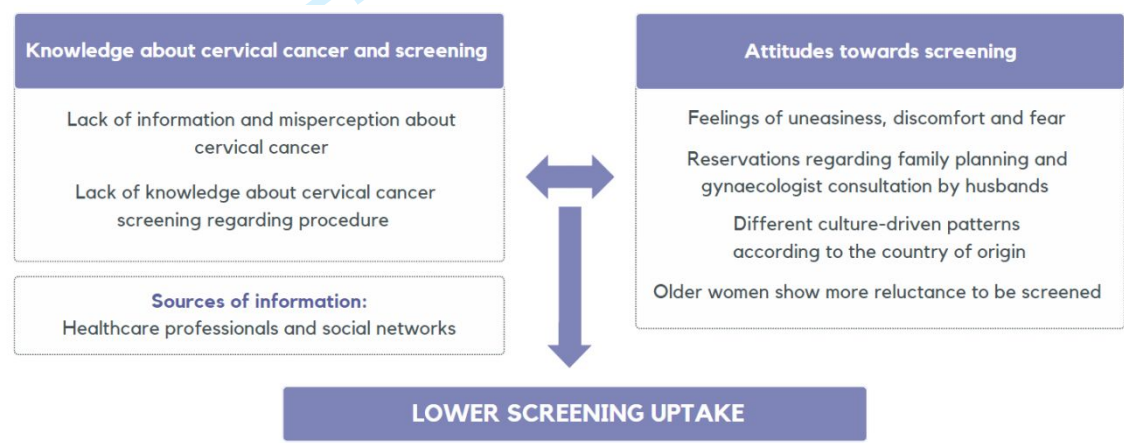


Figure 1. Main results of the study. CW: Community workers. HCP: Healthcare professionals. MW: Migrant women.

DISCUSSION

CC is the 4th most frequent cancer and one of the deadliest among women globally, including in Portugal (12). Although CC is highly preventable through regular screening, inequities in CCS uptake persist. We provided an overview of the perspectives of MW, HCP, and CW on knowledge and attitudes about CC and screening among migrants living in Portugal, and its influence on CCS uptake.

Underlying all participants’ discourses was the idea that MW have a low level of knowledge about CC and screening, that translates into a lower uptake of CCS. Low level of knowledge on CC may lead women to undervalue the disease and screening, increasing the risk of postponed diagnosis, delayed treatment, and the probability of poor outcomes (13). This knowledge gap may be related to language difficulties, ineffective interpersonal communication, cultural differences, among others (6,14,15).

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Lack of knowledge by MW and low uptake of CCS was raised as a concern by HCP that participated in the study. Doctors seem to be the key actors in providing information about screening to MW, as observed in other studies (16,17). However, HCP tended to engage less than needed in health promotion activities, given the sensitiveness of the topic and the lack of resources, including time. On the other hand, MW seeking information among peers and social networks indicates the important role that community actors have in strengthening communities' knowledge on the matter.

Previous studies point to an alarmingly low level of knowledge on CCS among MW (18). Surprisingly, in our study, most MW were aware of CCS, with almost half of them having been screened and some being able to describe the procedure. However, women mentioned the need for further information and confessed that MW are generally less informed and willing to be screened, which might be partially explained by the profile of the participants included: high educational level and recruited through organizations that work with migrants, thus with more access to services and information. Another explanation might be related with the Portuguese National Health Service and legal framework on migration that offers free access to sexual and reproductive health services.

Nevertheless, HCP and CW tended to perceive low adherence to CCS by MW, which they attributed to a greater extent to lack of knowledge on CC and negative attitudes toward screening, rooted in sociocultural factors. Previous studies report that women from South and Central America, where preventive healthcare is promoted, have a higher CCS uptake (19). In contrast, other groups of women, as from African origin, seem to be less aware of screening, only up-taking when invited by the doctor (17,19,20). Indeed, cultural background and social norms may influence preventive health behaviours (14,21). Other reasons for low CCS uptake are structural barriers in accessing healthcare services in host country, lack of culturally and linguistically appropriate information, psychosocial factors, such as shame related to gynaecological exams, or low health literacy (6).

The perception that women's knowledge and attitudes toward CC and screening is key for CCS attendance was consensual among participants, leveraging the importance health literacy for health decision making (16,22,23). Among the strategies discussed in the focus groups to increase MW's knowledge, the role of HCP and the provision of informative services was highlighted by all participants. HCP stated that they struggle to explain women the importance of screening, whereas women expressed they would appreciate prior explanation of the CCS procedure to help address questions and fears.

These findings show that efforts to improve cross-cultural communication skills of HCP may be promising (17,22). Supportive educational training may include communication techniques for improving cultural competency in delivering sensitive information, considering the diverse characteristics of migrant patients (17,22).

The development of tailored interventions with culturally-adapted information about CC and screening and the investment in sexual education could raise awareness among communities (24). These strategies could provide information in a more engaging way, fostering the discussion about CCS, and therefore should be explored as a potential alternative for informing migrant communities.

This study gathered the perspectives from different key informants, providing a more comprehensive view of the issue, which is not common in published literature. Nevertheless, conducting some focus groups in virtual setting may have limited group dynamics. Also, other nationalities of migrants living in Portugal (e.g. from European countries) and more socially excluded groups were missing, therefore important inputs may lack.

This study reinforces that knowledge and attitudes are perceived determinants of CCS behaviour among MW. Developing tailored health promotion activities is important to increase CCS uptake in this group. Further research is needed to understand which strategies are most effective to increase health literacy and improve CCS uptake among migrants.

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Data Availability statement: All data relevant to the study are included in the article. Selected anonymized qualitative data from the focus groups can be made available upon reasonable request to the last author.

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Knowledge and attitudes towards cervical cancer and screening among migrant women: a qualitative study in Portugal

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ABSTRACT

Objective: To explore the perceptions of migrant women, healthcare professionals and community workers regarding migrant women's knowledge and attitudes about CC and screening and how these influence CCS uptake.

Design: Qualitative study with seven focus groups, using a semi-structured guide.

Setting: Five focus groups were conducted online and two in community associations in Lisbon, Portugal.

Participants: This study included 23 migrant women, 12 healthcare professionals and 10 community workers.

Results: A lack of knowledge and negative attitudes towards screening among migrants were discussed as important factors leading to a lower CCS uptake. For participants, many migrant women are unaware of the disease and CCS. Feelings of uneasiness related to screening and reservation from their husbands toward consultations underly negative attitudes towards CCS. Disparities in migrant women uptake of CCS rooted on sociocultural factors were highlighted, with women from African origin and older tending to engage less. Healthcare professionals were identified as preferred source of information, nevertheless difficulties in delivering information on sensitive topics were reported by professionals. Additionally, participants agreed that peers and social networks may play a role in promoting screening among communities.

Conclusions: Healthcare professionals and community actors are paramount to promote CCS among migrant women, especially through culturally-adapted awareness interventions and health-promoting activities engaging local communities and social networks of women. Training on cross-cultural communication skills of healthcare professionals may contribute for improving migrant women's knowledge and uptake of CCS.

Keywords: preventive medicine; qualitative research; public health; sexual medicine

STRENGTHS AND LIMITATIONS OF THIS STUDY

- A qualitative approach was used to understand migrant women’s knowledge and attitudes towards cervical cancer and screening, which may help to identify effective strategies to promote screening uptake among underserved populations.
- This focus groups study allowed to gain insights from the perspectives of diverse stakeholders, including migrant women, healthcare professionals and community workers, contributing to a comprehensive view of the issue.
- Some focus groups were conducted in virtual setting which may have limited group dynamics.
- Other nationalities of migrants living in Portugal (e.g. from European countries) and more socially excluded groups (e.g. with low education) were missing, therefore important inputs may lack.

INTRODUCTION

Cervical cancer remains one of the most common cancers among women globally. In Portugal, it is the 3rd most common and deadliest cancer occurring in women aged between 15-64 years old, accounting for 484 new cases and 203 deaths in 2020 (1). Cervical cancer screening (CCS) is an efficient preventive measure to reduce mortality due to CC (2), with many countries developing screening programs and awareness campaigns targeting women (3). Nevertheless, inequities in access to early diagnosis still prevail.

In Portugal, CCS is performed for free, opportunistically in public healthcare services, or through population-based screening programs, where women are invited to be screened in the primary healthcare centre where they are registered (4). Yet, CCS uptake remains insufficient, with remarkable disparities in coverage and uptake across different geographic regions, socioeconomic groups, affecting socially vulnerable populations, including migrant women (MW) (5,6). Portugal has long been the host country of many migrants, who account for 7,6% of total population (7). The most common nationalities include those from Portuguese-speaking countries (e.g. Cape Verde, Angolan, Guinea Bissau, São Tomé and Príncipe), with Indian, Nepali and Chinese nationalities on the rise (7). Estimates indicate that 16,7% of MW do not participate in national population-based CCS programs, compared to 12,8% of native-born women (5).

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Multiple underlying factors and barriers for low CCS uptake among MW have been described, including economic, cultural, religious, geographical, and linguistical (8). Individual knowledge and attitudes towards CC and screening have also been shown to influence participation in CCS (8-10). Understanding MW's knowledge and attitudes towards CC and screening may help to identify effective strategies to promote CCS uptake. Additionally, the perceptions of healthcare professionals (HCP) and community workers (CW) that interact with MW are also important to tackle existing inequities. Obtaining the perspectives of all these stakeholders can contribute to comprehensively understand what MW know about CC and screening, how they feel about getting screened and how those psychosocial aspects influence their screening uptake.

This study aimed to explore the perceptions of MW, HCP and CW regarding MW's knowledge and attitudes about CC and screening and understand how these aspects influence CCS uptake.

METHODS

Study design

This phenomenology qualitative study used focus groups, an appropriate technique to explore the variety of perspectives, opinions, and experiences of a group regarding a topic (11). This paper follows the consolidated criteria for reporting qualitative research (COREQ) guidelines (12). The study was approved by the Ethics Committee for Health of the Regional Health Administration of Lisbon and Tagus Valley (Reference: 8431/CES/2019).

Participants

Participants were MW, HCP and CW. MW were included based on the following criteria: being 25-64 years old; being born in Brazil, Portuguese-speaking African countries, East European or South Asian countries; not having been screened for CC in the last 5 years; and not having undergone a hysterectomy. HCP included doctors or nurses with previous experience in CCS clinical practice. CW were included based on their working experience with migrant communities.

Participants were purposively recruited via email/telephone. Migrant associations and non-governmental organizations doing outreach work with migrant communities collaborated by disseminating the study within their social network and recruiting eligible women to participate, regardless of their level of knowledge or awareness on CCS. CW

were also invited through the collaborating community organizations. HCP were recruited from healthcare units located in areas with a high density of migrant populations.

Setting

Focus groups with HCP and CW were conducted through the online videoconference platform Zoom, while those with MW were held in person in community-based organizations.

Data collection

Data was collected through seven focus groups conducted between July 2020 and November 2021 - two with MW (ten and thirteen participants respectively), three with HCP (two focus groups with three participants each and one focus group with six participants) and two with CW (five participants each). The HCP and CW groups were relatively homogenous. One group of MW included women from São Tomé and Príncipe and another group included women from other Portuguese-speaking African countries and South Asian countries. All migrant participants, including Asian women, were moderately fluent in Portuguese.

A semi-structured topic guide was developed based on literature and covered perceptions about MW's knowledge and attitudes towards CC and screening, sources of information, CCS attendance and strategies to promote CCS uptake.

Focus group discussions were conducted by a moderator and co-moderator (AG and PM), who were both females, Portuguese and experienced in using focus groups methods in research with migrants.

All focus groups were conducted in Portuguese. Prior to each session, the moderator introduced the team and the project, describing its goals and procedures. All participants gave their informed consent, including to audio-record the sessions. Focus groups lasted between 1h30-2h. Focus groups with MW were set to be longer to provide the opportunity for all women to share their perspectives. Data collection was concluded when saturation of themes was reached.

Patient and public involvement

No patients (i.e. women diagnosed with CC) were involved in this study. Migrant associations and non-governmental organizations, which included professionals with migrant background, were consulted about the semi-structured guide besides collaborating in the study dissemination and participants recruitment.

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Data Analysis

Focus groups were audio-recorded, transcribed verbatim and anonymised. Written notes were also taken during the sessions. Data analysis was conducted using a deductive content analysis approach (13). A codebook with themes and subthemes was developed (See Supplementary Material) outlining the core dimensions of “Knowledge about cervical cancer and screening”, “Attitudes towards screening”, and “Bridging the gap”, within which the main codes were defined and drawn from the data. Each transcript was analysed separately. The text segments were categorized into the codes defined using a text processor. Two researchers (AG and PM) coded the transcripts and validated the codification. Relevant quotes that illustrated the diversity of emerged subthemes were translated from Portuguese into English.

RESULTS

All MW were ≥ 25 years old, more than half had completed high school and ten had participated previously in CCS (Table 1). Most women were from São Tomé and Príncipe ($n=10$), followed by Nepal ($n=3$), Cape Verde ($n=2$) and India ($n=2$). HCP were all doctors, aged 25–45 years, mostly females, and two thirds had 6–15 years of experience with CCS. CW were mostly women ≥ 25 years old.

Table 1. Characteristics of migrant women, healthcare professionals and community workers included in the study.

CHARACTERISTICS	MIGRANT WOMEN (N=23)	HEALTHCARE PROFESSIONALS (N=12)	COMMUNITY WORKERS (N=10)
AGE			
<25 years	0	0	1
25–45 years	12	12	5
>45 years	11	0	2
Missing	0	0	2
SEX			
Female	23	9	9
Male	0	3	1
EDUCATION LEVEL			
None	4		
Elementary School	1		
Middle School	3	NA	NA
High School	3		
Higher Education	9		
Missing	3		
COUNTRY OF ORIGIN			
São Tomé and Príncipe	10		
Nepal	3		
Cape Verde	2	NA	NA
India	2		
Angola	1		

Missing	5		
HAVING EVER BEEN SCREENED FOR CERVICAL CANCER			
Yes	9		
No	10	NA	NA
Does Not Know	2		
Missing	2		
YEARS OF EXPERIENCE WITH UNDERSERVED GROUPS			
<6 years			2
6-15 years	NA	NA	2
Missing			6
PROFESSIONAL OCCUPATION			
Sociocultural Mediator			2
Psychologist			1
Social Worker	NA	NA	2
Other			5
CATEGORY OF HEALTHCARE WORK			
Physician/Doctor		12	
Nurse	NA	0	NA
Other		0	
YEARS OF EXPERIENCE WITH CERVICAL CANCER SCREENING			
2-5 years		3	
6-15 years	NA	8	NA
Missing		1	

Legend: NA – Not applicable

Knowledge about CC and screening

MW were generally unaware of what CC was or how it evolves. They tended to identify CC as a transmissible disease that resulted from minor deformations associated with polyp growth, which was identified as a major risk factor: *“It starts with polyps (...) can cause internal and external bleeding”* (MW-FG1-P6). While some MW correctly associated CC with a viral infection and highlighted its asymptomatic development, others confused it with breast cancer: *“It’s like breast cancer, no? Oh Sorry! (...) It’s nearby the bladder”* (MW-FG2-P16).

The perception of a low level of knowledge about CC that emerged from focus groups with MW was somehow confirmed by HCP and CW: *“There is a lack of literacy among women regarding what cervical cancer is, when it can be detected, from what age, and why”* (CW-FG1-P3).

When asked about CCS, almost a half of MW reported having ever been screened, some expressed it is a method that reassures women about their health status, and a few described the procedure: *“It’s this deeper smear that is collected, in which the doctor uses the speculum and collects the fluid from there. It probably brings up something that helps to elucidate, right? Whether it could evolve into cancer in the uterus. No (...) in the cervix”* (MW-FG1-P7).

All HCP considered that MW do not have enough information about CCS. MW, HCP and CW agreed that many MW neither recognise the purpose nor benefits of screening: *"Most of them probably do not have enough information" (CW-FG2-P6); "They become very confused about what they are going to do" (HCP-FG3-P1); "Not everyone is informed" (MW-FG2-P43).*

The role of knowledge was remarkably perceived by MW, HCP and CW as paramount to CCS adherence, as women's low level of knowledge of the disease and relevance of CCS would lead them to underrate the importance of early diagnosis: *"If they are not informed (...) they won't pursue it, but if they have the information, they will undoubtedly be more receptive" (MW-FG2-P43); "If I don't know what the benefits [of screening] are, I won't go" (HCP-FG2-P2).*

Several MW and HCP reported that information regarding CC and screening is primarily conveyed by healthcare professionals. Those participants specified paediatricians, gynaecologists, and family planning doctors as key sources of information: *"There is the family planning consultation" (HCP-FG3-P1).* Another valuable source of information identified by HCP was MW's social networks and trustworthy circle of people: *"They may discuss with neighbours, acquaintances (...) being the primary source of information" (HCP-FG3-P2).* To a lesser extent, the internet was mentioned by HCP as a source used by MW.

Attitudes towards CCS

Women in general expressed feelings of uneasiness, discomfort, and fear with the CCS procedure, in line with some HCP and CW opinions: *"I think that, for start, this is an extremely invasive appointment (...). We know that we must go, but we avoid going there. I know that I must go there and that it's extremely unpleasant" (MW-FG1-P14).*

MW and CW highlighted that many women felt a negative attitude toward CCS due to their husbands' reservation with regards to consulting a gynaecologist and family planning: *"In our community, there are men who won't let their wife go to family planning appointments. (...) Some men think that a woman who is going to family planning appointments wants to avoid getting pregnant (...). And those who don't have access to family planning appointments, will not have this information [about the importance of screening]" (MW-FG1-P16).*

Different attitudes towards CCS were identified across MW according with their country of origin. From HCP view, women from Latin America and Eastern Europe have generally

a proactive attitude towards healthcare interventions, which is perceived to be associated with higher screening attendance among these groups: *“Migrant populations from Brazil, (...) they are more informed about screening and have a concept that they should go to the gynaecologist” (HCP-FG1-P1)*. In contrast, some HCP noted that women originally from African cultural background often do not seek screening spontaneously.

Age also emerged as playing a role in women’s attitudes toward screening. Some CW mentioned that CCS is not a priority, particularly among older women, and some feel resistance to exposing their body to a younger healthcare professional: *“It’s more difficult for elder women to be observed by younger ones” (CW-FG2-P1)*. For a HCP, younger women usually have a higher degree of education and are more conscious about the importance of health care, thus show less resistance towards CCS.

Bridging the gap

MW expressed the need for prior explanation about the CCS, especially in terms of the procedure by HCP. This was felt as important to address questions and fears and facilitate acceptance of the CCS: *“It’s necessary to explain the whole mechanism [of CCS] so that people feel comfortable taking care of their bodies” (MW-FG1-P1)*. However, HCP admitted struggling to explain to MW what CC is and the relevance of screening in the absence of symptoms. According to HCP, main reasons for this are that many of these topics are taboo and there is low availability of resources, including time, to undertake health promotion activities. CW agreed that information is scarcely provided outside healthcare settings, suggesting a lack of investment in health education: *“Information [about screening] is centralized (...) we only have contact when we go to healthcare centres” (CW-FG1-P3)*.

As a result, MW advocated for a greater investment in sexual education from an early age and suggested that *“There should be (...) teams (...) of medical students who visit schools to provide information in a more personal way” (MW-FG1-P7)*. MW also mentioned the role of information campaigns targeting adults; for that, understanding the rationale for the resistance and motivations to participate in CCS was considered crucial for well-designed health-promoting campaigns: *“We have to call them, and we have to have a meeting with them so they can also speak what’s going in their mind, so we get*

1
2
3 *to know why they are not going, why they are feeling shy” (MW-FG2-P4).* This idea was
4
5 somehow supported by HCP who mentioned that the development of tailored awareness
6
7 campaigns would be beneficial to provide women with the knowledge required to attend
8
9 CCS. One HCP specifically suggested that informative flyers should be translated into
10
11 different languages to reach different migrant groups.

12
13 A summary of the main findings is illustrated in **Error! Reference source not found..**

14 15 16 17 **DISCUSSION**

18
19 CC is the 4th most frequent cancer and one of the deadliest among women globally,
20
21 including in Portugal (14). Although CC is highly preventable through regular screening,
22
23 inequities in CCS uptake persist. We provided an overview of the perspectives of MW,
24
25 HCP, and CW on knowledge and attitudes about CC and screening among migrants
26
27 living in Portugal, and its influence on CCS uptake.

28
29 Underlying all participants' discourses was the idea that MW have a low level of
30
31 knowledge about CC and screening, that translates into a lower uptake of CCS. Low
32
33 level of knowledge on CC may lead women to undervalue the disease and screening,
34
35 increasing the risk of postponed diagnosis, delayed treatment, and the probability of poor
36
37 outcomes (15). This knowledge gap may be related to language difficulties, ineffective
38
39 interpersonal communication, cultural differences, among others (8,16,17).

40
41 Lack of knowledge by MW and low uptake of CCS was raised as a concern by HCP that
42
43 participated in the study. Doctors seem to be the key actors in providing information
44
45 about screening to MW, as observed in two studies conducted in Scandinavia, one
46
47 focusing on the perspective of migrant women (18) and other on the perspective of HCP
48
49 (19). However, HCP tended to engage less than needed in health promotion activities,
50
51 given the sensitiveness of the topic and the lack of resources, including time. On the
52
53 other hand, MW seeking information among peers and social networks indicates the
54
55 important role that community actors have in strengthening communities' knowledge on
56
57 the matter.

58
59 A previous study conducted in the United States of America points out an alarmingly low
60
level of knowledge on CCS among MW (20). Surprisingly, in our study, most MW were
aware of CCS, with almost half of them having been screened and some being able to
describe the procedure. However, women mentioned the need for further information
and confessed that MW are generally less informed and willing to be screened, which

might be partially explained by the profile of the participants included: high educational level and recruited through organizations that work with migrants, thus with more access to services and information. Another explanation might be related to the Portuguese National Health Service and legal framework on migration that offers free access to sexual and reproductive health services.

Nevertheless, HCP and CW tended to perceive low adherence to CCS by MW, which they attributed to a greater extent to lack of knowledge on CC and negative attitudes toward screening, rooted in sociocultural factors, as described in other European studies with diverse migrant groups (21,22). A previous study report that women from South and Central America, where preventive healthcare is promoted, have a higher CCS uptake (23). In contrast, other groups of women, as from African origin, seem to be less aware of screening, only up-taking when invited by the doctor, as suggested in other studies on CCS attendance among migrant women (19,23,24). Indeed, cultural background and social norms may influence preventive health behaviours (16,25). Other reasons for low CCS uptake are structural barriers in accessing healthcare services in host country, lack of culturally and linguistically appropriate information, psychosocial factors, such as shame related to gynaecological exams, or low health literacy (8).

The perception that women's knowledge and attitudes toward CC and screening is key for CCS attendance was consensual among participants, leveraging the importance health literacy for health decision making (18,22,26). Among the strategies discussed in the focus groups to increase MW's knowledge, the role of HCP and the provision of informative services was highlighted by all participants. HCP stated that they struggle to explain women the importance of screening, whereas women expressed they would appreciate prior explanation of the CCS procedure to help address questions and fears. These findings show that efforts to improve cross-cultural communication skills of HCP may be promising, which were also highlighted in previous studies with migrants in the European context (19,22). Supportive educational training may include communication techniques for improving cultural competency in delivering sensitive information, considering the diverse characteristics of migrant patients (19,22).

The development of tailored interventions with culturally-adapted information about CC and screening and the investment in sexual education could raise awareness among communities (27). These strategies could provide information in a more engaging way, fostering the discussion about CCS, and therefore should be explored as a potential alternative for informing migrant communities.

LIMITATIONS

This study gathered the perspectives from different key informants, providing a more comprehensive view of the issue. Nevertheless, the limitations of this study must be acknowledged. Focus groups with MW had a large number of participants (ten and thirteen), which might limit the opportunity of all women to express their views. To overcome this, the focus groups with MW were longer to guarantee every woman had a chance to share their perspectives, and indeed all participants vigorously contributed to the discussion. Some migrants were underrepresented in the focus groups (e.g. from European countries, with low education), which might bias the results of this study towards higher represented migrants. Two focus groups with HCP included a small number of participants (three each). This resulted from difficulty in recruiting HCP during the pandemic crisis and several dropouts among those who initially accepted to participate in the study. However, theoretical saturation was reached in focus groups with HCP, similarly to focus groups with MW and CW. Some of the focus groups were conducted in virtual setting which creates a different dynamic for that observed in focus groups conducted in person and this should be accounted for while considering the results of this study.

CONCLUSION

This study reinforces that knowledge and attitudes are perceived determinants of CCS behaviour among MW. Developing tailored health promotion activities is important to increase CCS uptake in this group. Further research is needed to understand which strategies are most effective to increase health literacy and improve CCS uptake among migrants.

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Contributors: S.D. and A.G. conceived and designed the study. A.G. and P.M. conducted the guides preparation, data collection and analysis. J.S. assisted in the data analysis and wrote the first draft of the manuscript. All authors contributed to the interpretation of data. A.G. and P.M commented on initial versions of the manuscript. I.F. and S.D. revised critically the manuscript for important intellectual content and

contributed to the final version of the paper. All authors read and approved the final manuscript.

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Data Availability statement: All data relevant to the study are included in the article. Selected anonymized qualitative data from the focus groups can be made available upon reasonable request to the last author.

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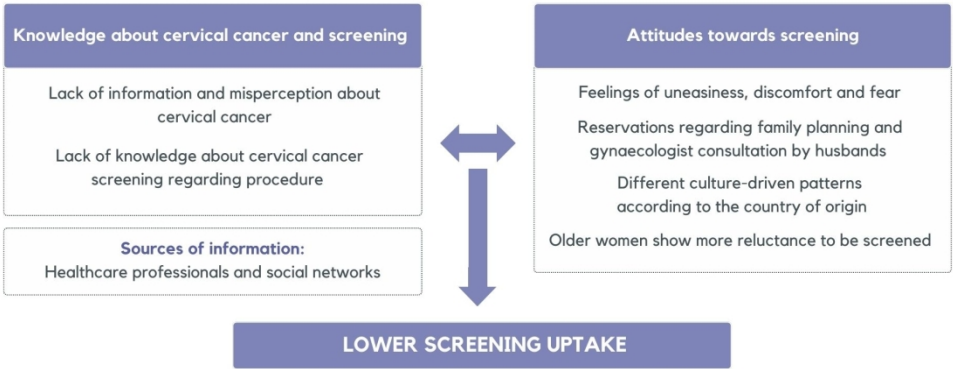
Figure legends:

- Figure 1. Main results of the study. CW: Community workers. HCP: Healthcare professionals. MW: Migrant women.

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Main results of the study. CW: Community workers. HCP: Healthcare professionals. MW: Migrant women.

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Supplementary Material: Description of the dimensions and categories of analysis

Dimensions	Categories
"Knowledge about cervical cancer and screening"	Knowledge about cervical cancer Knowledge about cervical cancer screening Sources of information about cervical cancer screening
"Attitudes towards screening"	Perception about cervical cancer screening Cultural factors influencing screening uptake Socioeconomic factors influencing screening uptake
"Bridging the gap"	Strategies to increase screening uptake