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Barriers to cervical cancer screening among immigrant Yemeni women in Malaysia

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Abstract

Background Cervical cancer is preventable cancer through pap test screening. Despite the benefits of cervical cancer screening, immigrant women have markedly lower use of Pap smear testing. Hence, this study aims to determine the barriers to cervical cancer screening among Yemeni female immigrants in Malaysia and the factors related to these barriers.

Methods A cross-sectional survey was carried out among immigrant Yemeni women staying in Selangor and Kuala Lumpur, Malaysia. Data were collected using a validated modified Arabic version of the Cervical Cancer Awareness Measure (Cervical CAM). Descriptive and inferential analyses were utilized. Adjusted binary logistic regression was performed to find out the factors that increase the probability of facing barriers to the Pap test.

Results A total of 370 questionnaires were collected. Cognitive barriers were the highest recognized type of barrier to undertaking the Pap test among study participants (74.9%) followed by emotional barriers (13%). Unemployed women were significantly less likely than employed to report an emotional barrier to the Pap test (OR = 0.17, 95% CI: 0.03–0.95). Higher educated women (OR = 3.11, CI: 1.02–9.48) and those still studying (OR = 3.11, CI: 1.02–9.48) were significantly more likely to report practical barriers. Regarding the cognitive barriers, women with tertiary education were significantly less likely than those with primary education to have cognitive barriers (OR = 0.41, CI: 0.19–0.90).

Conclusion access to health services among immigrant women, including screening for cervical cancer, is a complex issue involving a wide range of barriers. Cognitive barriers associated with sexual activity and the absence of symptoms are the main reason for the decision to not undergo cervical cancer screening. To address this, we recommend adopting a comprehensive approach that integrates education, community engagement, accessibility, and cultural sensitivity to promote the uptake of cervical cancer screening within the Yemeni immigrant community.

Keywords Cervical cancer, Screening, Pap test, Barriers

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Introduction

Cervical cancer is one of the most preventable cancers today, yet it is the fourth most common cancer in women. In 2018, about 570,000 women were diagnosed with cervical cancer worldwide, causing 311,000 deaths among women. It is the most commonly diagnosed cancer in 23 countries and the leading cause of cancer death in 36 countries [1].

The majority of cervical cancer cases are caused by Human papillomavirus (HPV). HPV infection is usually asymptomatic and resolves spontaneously, however, asymptomatic women will be at high risk of developing cervical cancer. Screening of these women will help in the detection of the cancer at its early stages thus they will have early treatment which in turn will reduce the morbidity and mortality due to cervical cancer [2]. Screening programs using Papanicolaou (Pap) smear have achieved apparent success in reducing cervical cancer incidence and mortality as evidenced by the extreme effectiveness in developed countries.

On the contrary, in developing countries, cervical screening programs failed to decrease the incidence and mortality of the disease due to the low cervical cancer screening rates. A review of 52 population-based surveys from 28 sub-Saharan African countries found that cervical cancer screening rates have remained stagnant over the past two decades [3]. Numerous studies suggested several factors that may explain the low cervical cancer screening rates. These factors may include a lack of knowledge and awareness of Pap smear indications and benefits, pain, misconceptions about cervical cancer, and undervaluation of own health needs versus those of the family [4, 5]. Systematic reviews indicate that the most commonly reported barriers were lack of information about cervical cancer and its treatment, fear of the screening procedure or outcome, residing in a remote or rural area, limited health infrastructure, embarrassment, lack of time, and lack of family support [6, 7].

These factors were found to be associated with the low rate of cervical screening in the general female population, however among immigrant women, in addition to the previous factors, other factors may hinder participation in screening. Several studies conducted in various countries indicated that immigrant women are less likely to have been screened for cervical cancer than non-immigrants [8–11].

In Yemen, according to the report of the International Agency for Research on Cancer, cervical cancer ranks as the 13th leading cause of female cancer with 8.5 million women at risk of cervical cancer, annually 170 women will be diagnosed with cervical cancer and 115 women will die because of this cancer [12]. These numbers would be higher but obscured by the war situation in the country. A 4-year retrospective study of female genital tract malignancies conducted in Aden found that cervical cancer is the second Gynaecological cancer after ovarian cancer [13].

In Malaysia, cervical cancer screening is available in all government health facilities since 1995 (Ministry of Health Malaysia, 2004). Despite this fact, immigrant women continue to be under-screened. Studies among immigrant women in Malaysia showed that low rates of cervical screening related to lack of knowledge on cervical cancer and the Pap smear test, lack of awareness of the availability of screening services, fear of the procedure, embarrassment, and pain are the most important reasons [4, 14].

Since the devastating war began in Yemen in 2015, millions of people have been displaced to different parts of the world; Malaysia is one of these destinations. Hence, this paper aims to determine the prevalence of cervical cancer screening and the barriers to cervical cancer screening among Yemeni female immigrants in Malaysia and the factors related to these barriers.

Methods

Study setting and data collection

Many Yemeni people have migrated to Malaysia since the conflict in Yemen in 2015. According to the Yemeni Embassy in Kuala Lumpur-2019, there are 7742 Yemeni individuals aged 18 years and above are currently in Malaysia, where 7124 (92%) are between 18 and 50 years old. Therefore, a cross-sectional survey was carried out from 1 April 2019 to 31 June 2019 among immigrant Yemeni women staying in Selangor and Kuala Lumpur, Malaysia. A face-to-face interview with a semi-structured questionnaire was used for data collection. A simple random sampling method was used for selecting the study participants from the registry of women 18 years old and above which was provided by the Yemen embassy. However, using that registry leads to a very low response rate (15%). For that, in order to obtain the required sample size, we visited the locations with a high number of Yemeni residents and met the women in the condominium's prayer rooms and asked for their consent to participate conveniently in this research. We included those aged between 18 and 65 years old, who consented to participate in this study. An information sheet was provided to participants before the data collection.

We focused solely on Yemeni immigrants in our study because when we attempted to include individuals from other nationalities, the embassies of those countries declined to provide contact details for their citizens, making it difficult to reach them. On the other hand, as the principal researchers are Yemeni, they were able to gain support from the Yemeni embassy and effectively approach participants in areas with a high concentration of Yemeni residents, which they were familiar with.

Sample size calculation

Open Epi programme version 3.01 was used for sample size calculation based on the assumption that 50% of participants are aware of at least one cervical cancer symptom or risk factor with a 95% confidence interval and an 80% power, as per the main objective of this project [15]. The calculated sample size was 367. However, by counting for a 20% non-response rate, the total sample size became 441.

Study tool

This research was carried out using a validated modified Arabic version of the Cervical Cancer Awareness Measure (Cervical CAM) [16]. Cancer Awareness Measure evaluates awareness and knowledge about cervical cancer warning signs/symptoms and help-seeking barriers. Data on the awareness and knowledge about cervical cancer warning signs/symptoms was published in 2023 [15]. The CAM questionnaire was developed by the Health Behaviour Research Centre at University College London (UCL), in collaboration with the UK Department of Health Cancer Team and The Eve Appeal, with funding from The Eve Appeal [17]. The questionnaire was pretested among 20 Yemeni women to ensure the simplicity and clarity of the study tool.

The explanatory variables in this study comprised of socio-demographic factors of the women and their husbands, namely age, marital status (single, married and divorced/widowed/separated), level of education (no formal education, primary and secondary, post-secondary, and others; still studying), employment (employed, unemployed, and others; which include retired, still studying, and disabled), and monthly income. Income and age were collected as an open-ended question then they were classified. Finally, the cancer history of the woman herself was grouped into two categories (yes and no).

Data on knowledge and practice of cervical cancer screening were collected using the following questions: "As far as you are aware, is there screening test which can early detect cervical cancer?? And "Have you ever practiced the Pap smear test?" [16].

Barriers are the reasons that prevent women from doing Pap test. They were categorized into 'practical', 'emotional' and 'cognitive' barriers. Each type of barrier has three items. The items from the practical domain were 'no approval from husband', 'no time to get the test' and 'too expensive'. The items from the emotional domain were 'embarrassing', 'painful' and 'being worried about the test result'. However, the items from the cognitive domain were 'have never been sexually active', 'not more sexually active', and 'do not have any symptoms'. The answer options to these questions were 'Yes', 'No" and 'Don't know'. Responses were analyzed individually, as a domain and in terms of total scores. One point was awarded for each 'yes' answer and each 'no' or 'don't know' answer was scored as zero. Relevant item scores were summed and averaged for each domain.

Statistical analysis

Data was analyzed using the Statistical Package for Social Sciences 23 (SPSS 23). Descriptive statistical analysis was utilized to determine the socio-demographic characteristics of study participants. Means and standard deviation for numerical variables and frequency and percentage for categorical data were reported. In addition, simple binary logistic regression was done to find out the factors associated with different types of barriers. Furthermore, adjusted binary logistic regression was performed to identify the determinants of the different types of barriers to Pap test. A p-value of <0.05 was considered statistically significant.

Results

Socio-demographic characteristics

Table 1 shows the socio-demographic characteristics of the study respondents and their spouses. The mean age of the study respondents was 32.09 ± 8.44 years. Most of the study participants were married (64.9%), had >3 children (63.6%), and had a post-secondary level of education (52.4%). Moreover, a high percentage of respondents were studying or retired (48.1%) and only a small percentage of the respondents were employed (16.2%). In regards to the employed participants, the women were categorized into professional and managerial (11.6%), and skilled, semi-skilled and unskilled (7.2%). Concerning the income of the employed women, only a few of them disclosed their income (14.5%) and most of them had a low income of less than MYR2000 per month (9.5%), while 5.1% had a middle level of income of MYR2000–4500 per month and none were making a high income.

Concerning the sociodemographic features of the husbands, just a small percentage (0.8%) had other qualifications, and 79.5% had completed post-secondary education, compared to 19.7% who had not completed any formal education beyond primary or secondary school. In terms of the husband's work, the majority worked either full- or part-time (45.7%), while the unemployment rate was 11.4% and the group of "others," which included retired people and students, was 8.6%. In terms of occupation, 20% of the spouses worked as professionals or managers, while the remaining 27% were skilled, semi-skilled, or unskilled.

The spouses' earnings were classified as low (less than MYR2000), intermediate (between MYR2000 and 4000), and high (more than MYR4500), with 24.6%, 12.7%, and 7.0% falling into each of these groups, respectively. In reference to the female participants' personal cancer

Table 1 Socio-demographic characteristics of study participants

Socio-demographics	*N*	%	Mean (± SD)
Age (years)			32.09(± 8.44)
Marital status (*n* = 370)			
Single	109	29.4	
Married	240	64.9	
Divorced/widow	21	5.7	
Women's education Level (*n* = 370)			
Primary	66	17.8	
Secondary	110	29.7	
Tertiary	194	52.4	
Women's income Level (MYR) (*n* = 54)			
< 2000	35	9.5	
2000–4500	19	5.1	
Women's occupation Status (*n* = 370)			
Employed	60	16.2	
Unemployed	132	35.7	
Others (still studying, retired, others)	178	48.1	
No. of children (*n* = 261)			
<3	166	63.6	
≥3	95	36.4	
Husband Education Level (*n* = 244)			
Primary	29	11.9	
Secondary	47	19.2	
Tertiary	168	68.9	
Husband income Level (MYR) (*n* = 164)			
< 2000	91	24.6	
2000–4500	47	12.7	
> 4500	26	7.0	
Husband occupation Status (243)			
Employed	169	69.5	
Unemployed	42	17.3	
Others (still studding, retired, others)	32	13.2	
History of Cancer (*n* = 361)			
Yes	4	1.1	
No/ I don't know	366	98.9	

Table 2 Knowledge and practice of the cervical cancer screening (*n* = 370)

Variable	*n*	%
Awareness of cervical cancer screening test		
Yes	250	67.6
No	37	10.0
I don't know	83	22.4
Practised the pap smear test		
Yes	36	9.7
No	323	87.3
I don't know	11	3.0

history, 0.8% of them reported having a history of the disease, whereas they reported that their spouses (0.5%), relatives (33.0%), and peers (26.7%) had all had cancer.

In regard to knowledge and practice of Pap smear test, 250 (67.6%) of study participants were aware of cervical cancer screening test, however, only 36 (9.7%) of them practised the Pap smear test (Table 2).

Table 3 Barriers of cervical cancer screening among study participants (*n* = 370)

Type of barrier	*n* (%) *
Emotional barriers	48 (13%)
Being worried about the test result	17 (35.4%)
Embarrassing	19 (39.6%)
Painful	12 (25%)
Practical barriers	45(12.2%)
No time to do the test	23 (51.2%)
Too expensive	13 (28.8%)
No approval from husband	9 (20%)
Cognitive barriers	277(74.9%)
I have never been sexually active	100 (36.1%)
I am no longer sexually active	12 (4.3%)
I do not have any symptoms	165 (59.6%)

*Those who answer "Yes" have a barrier

Table 3 shows that Cognitive barriers were the highest recognized type of barrier to Pap test among study participants (74.9%) followed by an emotional barrier (13%). For instance, 44.6% of participants claimed that 'they don't have any symptoms' and 27% 'have never been sexually active'. The main type of emotional barrier (5.1%) was 'embarrassing' and the main practical barrier (6.2%) was 'no time to get the test' (Table 3). The cognitive barriers were the most frequently stated obstacles to having a Pap test.

Table 4 shows the association between the socio-demographic factors and the type of barriers. The age of women, their occupational status and education level, as well as their husbands' income were found to be statistically significantly associated with different types of barriers (p-value < 0.05). However, all variables with p-value < 0.3 in univariate analysis were included in the final logit model.

Table 5 shows that three factors were included in adjusted binary logistic regression for emotional barrier namely age, woman's occupation status and husband's income. Unemployed women were significantly less likely than employed to report an emotional barrier to Pap test (OR = 0.17, 95% CI: 0.03–0.95). Though the findings were not significant in relation to age and income level. In addition, women with tertiary education were significantly more likely than those with primary education to report the practical barrier (OR = 3.11, CI: 1.02–9.48). In addition, other groups including those still studying were significantly more likely than employed women to report practical barriers (OR = 4.11, CI: 1.3–12.5).

Regarding cognitive barrier, women with tertiary education were significantly less likely than those with primary education to have a cognitive barrier (OR = 0.41, CI: 0.19–0.90). (Table 5)

Table 4 Simple logistic regression for the factors associated with barriers to cervical cancer screening among study participants

Socio-demographics	Having an emotional barrier			Having a practical barrier			Having a cognitive barrier		
	COR	CI	*p*	COR	CI	*p*	COR	CI	*p*
Age (years)	1.02	0.98–1.05	0.266	1.03	0.99–1.07	0.054	0.967	0.941–0.995	0.021*
Marital status									
Single (ref)	1	1	1	1	1	1	1		1
Married	1.21	0.61–2.41	0.570	0.97	0.48–1.96	0.944	0.89	0.53–1.52	0.693
Divorced/widow	0.36	0.04–2.98	0.350	1.73	0.50–5.96	0.380	1.00	0.33-3.00	0.997
Women education Level									
Primary (ref.)	1	1	1	1	1	1	1		1
Secondary	1.45	0.53-4.00	0.464	2.07	0.64–6.66	0.219	0.54	0.24–1.22	0.142
Tertiary	1.68	0.66–4.27	0.270	2.61	0.88–7.75	0.083	0.44	0.21–0.92	0.030
Women's income Level (MYR)									
< 2000	3.00	0.32–27.76	0.333	0.50	0.09–2.76	0.427	0.900	0.232–3.493	0.879
2000–4500(ref.)	1	1	1	1	1	1	1		1
Women occupation Status									
Employed (ref.)	1	1	1	1	1	1	1		1
Unemployed	0.32	0.12–0.83	0.020*	0.90	0.26–3.12	0.872	2.25	1.03–4.89	0.040*
Others (still studying, retired, others)	0.83	0.38–1.79	0.638	3.18	1.07–9.40	0.036*	0.63	0.33–1.23	0.185
No. of children									
≥3 (ref.)	1	1	1	1	1	1	1		1
<3	1.05	0.54–2.02	0.876	0.83	0.43–1.60	0.581	1.08	0.64–1.83	0.758
Husband Education Level									
Primary (ref.)	1	1	1	1	1	1	1		1
Secondary	1.02	0.38–2.72	0.955	0.67	0.20–2.23	0.516	1.66	0.63–4.38	0.303
Tertiary	0.69	0.28–1.67	0.412	0.80	0.29–2.13	0.656	1.17	0.52–2.62	0.691
Husband income Level (MYR)									
< 2000	0.70	0.22–2.18	0.539	0.60	0.17–2.14	0.435	1.66	0.64–4.24	0.290
2000–4500	0.28	0.06–1.31	0.108	0.80	0.20–3.15	0.756	2.23	0.75–6.62	0.147
> 4500 (ref.)	1	1	1	1	1	1	1		1
Husband occupation Status									
Employed (ref.)	1	1	1	1	1	1	1		1
Unemployed	1.33	0.59-3.00	0.480	1.43	0.61–3.33	0.402	0.64	0.32–1.28	0.217
Others (still studying, retired, others)	0.79	0.28–2.21	0.658	1.47	0.57–3.74	0.417	0.89	0.40–1.95	0.779

*Significant at $p < 0.05$

Note: History of Cancer was not included as the number of participants in the "yes" group is 4 which distorts the results

Table 5 Adjusted logistic regression for determinants of the barriers to cervical screening among study participants

Socio-demographics	Having an emotional barrier			Having a practical barrier			Having a cognitive barrier		
	AOR	CI	*p*	AOR	CI	*p*	AOR	CI	*p*
Age (years)	0.98	0.92–1.04	0.519	1.01	0.97–1.06	0.480	0.99	0.96–1.02	0.670
Women education Level									
Primary (ref.)	1	1	1	1	1	1	1		1
Secondary	-	-	-	1.82	0.56–5.97	0.318	0.63	0.27–1.44	0.275
Tertiary				3.11	1.02–9.48	0.046*	0.41	0.19–0.90	0.027*
Women occupation Status									
Employed (ref.)	1	1	1	1	1	1	1		1
Unemployed	0.17	0.03–0.95	0.045*	1.23	0.34–4.44	0.742	1.79	0.79–4.03	0.157
Others	0.95	0.27–3.34	0.938	4.11	1.35–12.53	0.013*	0.51	0.25–1.03	0.064
Husband income Level (MYR)									
< 2000	0.53	0.15–1.78	0.309	-	-	-	-	-	-
2000–4500	0.23	0.04–1.12	0.070						
> 4500 (ref)	1	1	1	1	1	1	1		1

Discussion

This study revealed a substantial discrepancy in cervical cancer screening rates among immigrant women in Malaysia. Despite the high knowledge level of Pap test (67.6%), merely 9.7% of Yemeni women underwent screening, a notable difference compared to 24% among Iraqi immigrants [4] and 27.2% among African immigrants [14]. This observed low rate of cervical cancer screening can be attributed to various factors, as uncovered by the study.

The primary reasons for the low rate of cervical cancer screening were predominantly cognitive, including factors such as the absence of symptoms, sexual inactivity and no longer being sexually active. The absence of symptoms was the main reason barriers for nonparticipation in cervical cancer screening. Several systematic reviews reported that the absence of symptoms is a very common reason for not doing cervical screening, particularly among immigrant women (Ferdous et al., 2018, Devarapalli et al., 2018). In a mixed-method study conducted in Ethiopia, the majority of participants expressed the belief that cervical screening is unnecessary when there are no symptoms [18]. Cultural factors, lack of awareness, and competing priorities in daily life may contribute to this perspective, as preventive screenings may not be prioritized without evident symptoms.

Another barrier identified is related to sexual activity, many participants reported that they didn't do cervical cancer screening because they had never been sexually active. Cultural and religious factors, particularly within the context of Islam, can contribute to a reluctance to participate in cervical cancer screening. Notably, religion emerges as a significant barrier for unmarried Muslim women [19]. The hesitance among Muslim women is often rooted in concerns related to modesty and privacy. Various qualitative studies, consistently report that unmarried Muslim women exhibit hesitancy towards undergoing cervical cancer screening [18, 20, 21].

Practical barriers, such as time constraints related to family or work commitments and financial considerations, contribute significantly to the low rates of cervical cancer screening. This observation aligns with findings from earlier research studies [22, 23].

Husband approval to conduct the test is a barrier among some barriers, in a systematic review, 33% of studies reported that women need their husbands' permission to undergo cervical cancer screening this may be because the husband will pay the cost or they don't their wives to be seen by male doctors [23, 24].

The study additionally pinpointed emotional barriers influencing the uptake of cervical cancer screening, including concerns related to pain and embarrassment. This finding aligns with previous research studies [26–28]. The fear of experiencing pain may stem from misconceptions about the discomfort associated with the screening process. Simultaneously, the apprehension regarding embarrassment contributes to individuals avoiding or delaying their participation in the screening.

Worrying about results was another emotional factor identified by this study. This concern is influenced by the potential societal judgment associated with a positive result, the psychological distress of awaiting results, and the fear of undergoing invasive medical procedures or treatments if abnormalities are detected. Additionally, a systematic review indicated that women may worry about negative reactions from their husbands if the results are positive [24].

Previous studies concur that education and employment play a significant role in influencing cervical cancer screening rates [25, 28]. While some studies indicate no substantial association between employment and feelings of embarrassment or fear of test results (Akinlotan et al., 2017), our study unveils that employed women are more prone to reporting emotional barriers to cervical cancer screening. This trend may be attributed to employed women's concerns about safeguarding the privacy of their health matters or apprehensions about potential career implications arising from taking time off for screening or addressing health issues.

our results are consistent with a prior study (Afsah and Kaneko, 2023) demonstrating that highly educated women are more prone to facing practical barriers. This phenomenon can be explained by the fact that highly educated women often juggle multiple roles encompassing work, family, and community involvement. Conversely, highly educated women are less likely to report cognitive barriers. This can be attributed to their adeptness in navigating health information effectively, rendering factors like non-sexual activity, no longer being sexually active, or the absence of symptoms less concerning in the context of Pap smear screenings.

Some of the barriers identified in this study, such as pain, embarrassment, and modesty, particularly among Muslim women, can be addressed through alternative methods like HPV self-collection tests, urine-based HPV testing, or non-speculum sampling. HPV self-collection tests enable individuals to collect their own vaginal samples, which are expected to increase cervical cancer screening rates and support the goal of reaching 70% global screening coverage by 2030 [29]. Urinary HPV testing is another suitable option for women reluctant to undergo a cervical smear, as urine self-sampling offers a non-invasive, simple alternative to Pap smears that does not require specialized consultation [30]. Additionally, vulvovaginal atrophy in older women can cause discomfort and make cervical access difficult. A randomized controlled trial suggested that non-speculum sampling

could serve as an alternative for cervical cancer screening and may help increase screening rates [31].

Worthy to mention that Malaysia does not have a specific national policy exclusively for cervical cancer screening targeting immigrants. However, Malaysia's healthcare system includes general screening programs for cervical cancer as part of its efforts to reduce the burden of cancer in the population, and these services may be accessible to legal immigrants but it's not free.

The strength of this research is that it considered the minority immigrant women, and explored the health-seeking barriers to Pap test which can assist in improving the access to healthcare for the under-studied population. However, it has also some limitations. Our study is constrained by the cross-sectional design, preventing the measurement of the actual association between sociodemographic characteristics and the barriers to cervical cancer screening. Furthermore, the reliance on self-reported screening participation introduces potential challenges associated with memory and reporting biases. Other barriers could be included in the study. Despite these limitations, the findings of this study lay the groundwork for future research endeavours.

Conclusion

This is the first study to provide insight into the barriers to cervical screening among Yemeni immigrant women. Our findings highlight that among Yemeni immigrant women in Malaysia, cognitive barriers associated with sexual activity and the absence of symptoms are the main reason for the decision to not undergo cervical cancer screening. To address this, we recommend adopting a comprehensive approach that integrates education, community engagement, accessibility, and cultural sensitivity. Mobile health (mHealth) solutions can play a vital role in enhancing health screening rates among Yemeni immigrant women in Malaysia and globally. For instance, creating or promoting mobile apps that deliver health education in Arabic can empower women, particularly those who avoid visiting clinics due to time constraints, fear, or discomfort, especially when they are asymptomatic. By offering telemedicine services through mobile apps, women can consult with healthcare providers about the importance of screenings and receive guidance on where and how to access them. Additionally, integrating mHealth with local healthcare systems can connect users to nearby clinics, help them find female healthcare providers, mobile screening units, or facilities with Arabic-speaking staff, thus reducing barriers to care. By implementing these strategies, we can effectively overcome cognitive barriers and promote the uptake of cervical cancer screening within the Yemeni immigrant community.

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Author contributions
Conceptualization, MA & EB; Data collection: EB, Introduction: NAA, methodology: EB, WMA, BTA; Results: DR, SN, MA, Discussion: NAA, RAS. All authors have read and agreed to the published version of the manuscript.

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Data availability
The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate
All methods in this study were carried out following relevant guidelines and regulations. Ethical approval was obtained from the ethics committee of the Research Management Centre at MAHSA University (RMC/EC54/2019). Informed written consent was obtained from respondents after the objectives of the study were explained.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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