KNOWLEDGE, ATTITUDE AND PRACTICE OF CERVICAL CANCER SCREENING AMONG FEMALE RESIDENTS IN SOUTHERN VIETNAM

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ABSTRACT: The primary aim of this study was to investigate the knowledge, practices and attitude of female residents towards cervical cancer screening. The research context was southern Vietnam. From a methodological perspective, the study collected data via semi-structured interviews with participants selected through simple random sampling. This study established that in southern Vietnam, women with higher levels of education exhibited greater understanding and knowledge of the importance of cervical cancer screening tests. Also, income was found to determine the women's educational level, with those who were employed having greater financial resources and hence more able to seek preventive care services, including cervical cancer screening unexceptional. It is also worth noting that this study found that in southern Vietnam, barriers to access are evident. In particular, most of the women had no regular healthcare providers, and this challenge implied they were less likely to receive Pap tests, findings that concurred with most of the literature. This study identified a need for healthcare authorities to ensure women have access to physicians offering routine healthcare. Overall, there is a need for intervention programmes in southern Vietnam to address misconceptions and lack of knowledge about preventive care.
Keywords: Attitude, Cervical, Female, Knowledge, Practice, Vietnam.

INTRODUCTION

The increasing attention to cervical cancer continues to be attributed to adverse outcomes, such as the increase in health care costs and higher mortality rates. In the context of Vietnam, it has been observed that the number of deaths associated with cervical cancer surpasses breast cancer or car accidents [1]. Recent statistics indicate that cervical cancer accounts for 44,000 to 98,000 deaths annually [2,3]. From an economic perspective, cervical cancer is responsible for a healthcare expenditure of about $6-29 billion [4]. These costs occur at the national, state and local levels [5]. These costs help with compensation for adverse effects associated with cervical cancer [6]. Other negative consequences related to cervical cancer include an increase in hospital stays and the length of avoidable hospitalisation or rehospitalisation. Thus, it is worth inferring that cervical cancer stretches beyond its emergence as a significant cause of death and associated comorbidity to increase the annual expenditure in Vietnam's healthcare system. This study sought to establish the knowledge, attitude and practices of female residents regarding cervical cancer. In particular, insights were gained from the context of southern Vietnam. It is also noteworthy that Reason's accident causation model, which holds that individual or employee factors account for the emergence of accidents rather than the situations at hand, was

used as a theoretical framework to gain information regarding the topic of investigation, leading to more informed inferences.

Three broad categories of factors shape cervical cancer screening programme participation [7]. These categories include knowledge-based, personal and contextual factors. This study was important in several ways. For example, an understanding of current trends in cervical cancer screening among residents and other healthcare practitioners in Vietnam would help predict the future of patient safety in the region. Thus, the results can help establish lasting solutions for some perceived challenges concerning increased cervical cancer screening programme participation. Cervical cancer has been found to account for increased healthcare expenditure at the state and national levels [8]. Therefore, the current study is important because it informed the design and implementation of solutions while seeking to regulate avoidable expenditures that Vietnam's healthcare authorities explained as trickle-down effects associated with cervical cancer among female residents in the southern zone. From the perspective of the accident causation model, this study was important in several ways. For example, the model attributes healthcare problems to the environment in which health care services occur. Thus, this study was important because the findings were expected to concur with the model's theoretical assumptions or reject the assumptions. If some or all of the results agreed with Reason's specifications, the study would be deemed relevant because the findings were likely to suggest that causes and trends regarding cervical cancer in Vietnam could be associated with the conditions in which the country's health care services occur, rather than factors occurring on the part of the female residents. However, in situations where some or all results might reject the theoretical assumptions in the accident causation model, the study's findings imply that in Vietnam, mixed outcomes regarding major factors drive the incidence and prevalence of cervical cancer, as well as women's willingness to participate in a cervical cancer screening programme.

This study was also relevant because it was found to improve patient satisfaction in southern Vietnam while reducing the incidence of avoidable re-hospitalisation. By unearthing the knowledge, attitude and practices of female residents towards cervical cancer, the study contributed to the reduction of cervical cancer in the region (through advocacy for screening programme participation and early intervention). Hence, healthcare practitioners and providers or authorities were likely to benefit from the study by understanding region-specific causes of cervical cancer and strategies that could be used to curb the incidence and prevalence of cervical cancer. Overall, some contributions included reductions in cervical cancer via policy recommendations and reduced healthcare expenditures in Vietnam by unearthing the causes of cervical cancer and feasible solutions to improve cervical cancer treatment.

METHODS

Population and sample

Population

In particular, the study sought to collect data from female residents and organisations that offer healthcare services in southern Vietnam between April and August 2017. Specifically, the participants were expected to live in the region and also served the selected firms or healthcare organisations for a significant period. This criterion helps to collect data from a veteran population capable of discerning issues surrounding a subject under investigation [9]. In this study, the criterion of selecting participants was used to improve validity and reliability of the results, to which they could be related or generalised to the rest of the population living in southern Vietnam. The implication was that the study excluded healthcare organisations and residents who had not served or lived in the area for a significant period.

Sample

From the perspective of sampling, this study adopted a simple random sampling technique. Simple random sampling is advantageous because it rejects possibilities of researcher bias, which is associated with other procedures like representative sampling, that is determined by the participants' level of expertise [10]. Regarding the research design, the qualitative study utilised a descriptive case study technique and focused on selected healthcare companies to gain crucial insights. It is further notable that the data collection method entailed the use of semi-structured interviews. Interviews are insightful because they lead to research continuity by opening new subject areas, having paved the way for the evolution of new subject areas as the interviewing process progresses [11].

Research Questions

In Vietnam, as noted in previous documentation, cervical cancer is one of the leading causes of mortality and morbidity. Research on patient safety relative to the dominance of cervical cancer is critical. Therefore, the current study's central research question focused on the practices, attitude and knowledge regarding cervical cancer among female residents in southern Vietnam. This question aimed to identify environmental and human factors accounting for cervical cancer prevalence as well as some of the challenges facing healthcare providers and communities in the selected region. Also, the question sought to establish recent trends in cervical cancer and compare the results to previous statistical outcomes before formulating recommendations that could assure patient safety in Vietnam's near and far future. The question was further motivated by the alarming rate of reported cervical cancer, an outcome that prompted the examination of trends regarding specific causes and establishment of targeted solutions specific to the geographical, socioeconomic and demographic characteristics of the research setting.

One specific research question was, 'What are some of the challenges that Vietnam's healthcare system faces while addressing cervical cancer in the southern region?' This question should identify possible barriers to early intervention while seeking to combat cervical cancer in the region. Furthermore, the question aimed to predict lasting solutions whose formulation and implementation might reverse the trend of cervical cancer among women living in southern Vietnam. Another research question was, 'How do community and environmental factors emerge as predictors of cervical cancer among those living in southern Vietnam?' This question strived to identify early warning signs and embrace early intervention initiatives that could help to avoid adverse events and their associated effects on patient health and safety. Furthermore, the motivation for this question was the need to sensitise relevant healthcare authorities about the importance of internal and external factors, including those external to healthcare organisations, while seeking to identify the causes and possible solutions for cervical cancer, with southern Vietnam as the focus.

Assumptions, limitations and Delimitations

Assumptions

One assumption of this study is that selected participants will provide honest responses and not compromise the validity and reliability of the results. Also, this study assumed that all participants selected were aware of cervical cancer, causes of the disease, current trends in cervical cancer among female residents living in southern Vietnam and other feasible solutions specific to the study setting. This study assumed that selected participants did not have a vested interest in the subject being investigated because the crisis could lead participants to provide misleading responses.

Limitations and Delimitations

In this study, data collection was achieved with a descriptive case study: specifically, the use of semi-structured interviews in a qualitative study. Such a research design is prone to researcher bias via interference and intervention during interviews, especially when the interview questions are unclear. The eventuality is that outcome validity and reliability are likely to be compromised by a limited number of participants, a secondary effect associated with resource limitations [9]. Qualitative studies have also been documented to be prone to resource and time constraints, an outcome used to support the use of fewer participants [10]. The multicultural nature of southern Vietnam further implied that the results were prone to social desirability bias, especially if the interviewees exhibited high cultural differences.

Despite these limitations, the study employed several strategies to counter these issues. For instance, the interview questions were designed to avoid the interference and intervention of the researcher, which could have led interviewees to follow certain directions of response, hence demonstrating bias. Also, the study employed simple random sampling to avoid possibilities of social desirability bias accruing from the dominance of participants with high cultural differences. In addition, the study assured neutrality by eliminating subjective terms that could have led to the collection of biased data. Overall, the prediction was that the study was well placed to collect and analyse data in its original form while seeking to prove benefits for Vietnam's healthcare system.

Theoretical framework – insights from reason's accident causation model

Adverse events form many healthcare problems that have been widely researched [11]. Specific factors for predicting adverse events include complication or disability, injury and patient harm. These adverse events are

unintended and do not arise from patient illnesses [12]. Instead, these events arise from healthcare management. In clinical settings, most scholars concur that adverse events account for about one-third of patient hospitalisations [13,14] whereas about 13% of these patients are likely to suffer permanent disabilities and another 20% are likely to die [15]. Therefore, it is essential to gain insights from a theoretical perspective regarding the trends and causes of cervical cancer where specifications might be used in the context of southern Vietnam and in turn, formulate lasting solutions for adversities like cervical cancer after considering factors that include the communities' practices, attitude and knowledge about cervical cancer.

The current state of clinical care is dominated by the use of technology in team-based and complicated healthcare settings [16]. The pattern that emerges is that different factors shape the incidence of adverse events as well as the quality of care. As such, analysing these concepts and elements must stretch beyond human error and simplistic conceptions as well as blame and fault. Whether expert or novice, humans are unlikely to make mistakes or cause harm deliberately [11]. Instead, their actions or decisions are dependent on the data available in the environment and at the time when they work. In response to an increasing trend in preventable errors, psychologists and researchers have established conceptual and theoretical models that can analyse error causation. These theoretical frameworks are worth acknowledging because they provide room for the linkage of outcomes to the current body of knowledge as well as facilitate adverse event examination [11]. Any failure to link a study to the existing knowledge or theory yields a situation in which findings occur in isolation from related contributions, leading to an unclear theoretical significance of the investigation [16]. Thus, patient safety research has not been left behind because pressure has arisen from the need to link the findings surrounding adverse events with the existing body of knowledge and theoretical content. In particular, the accident causation model is a renowned theoretical model, and its application in this study was deemed appropriate due to the need to unearth specific causes of cervical cancer and their implications for the knowledge, practices and attitude of communities living in southern Vietnam.

The accident causation model indicates that environments, such as hospitals, constitute complex systems. Therefore, multiple layers or barriers exist to prevent health conditions. From the healthcare perspective, the layers entail clinical guidelines, protocols and hospital policies [14]. It was observed that the respective safety barriers have random weaknesses or holes and upon their alignment, patients face adverse events. These adverse events are called *active failures*, while the barriers or holes are called *latent conditions*. The accident causation model further posits that the failure to respond to community healthcare needs is likely to occur in two ways. First, the fault may arise when adequate plans are in place, but there is no implementation of actions that follow the manner in which they are right. Second, steps may be implemented as planned, but flaws compromise the original plan. The eventuality is that failures emerge in two forms: either as violations or as errors. Violations constitute instances in which clinicians consciously ignore correct behaviour, one example being clinical guidelines. However, errors entail the failure of specific action sequences to meet intended goals [11]. Therefore, the model was seen as appropriate for this study because it helped achieve in-depth analysis regarding some causes of cervical cancer and their predictors in southern Vietnam, including a recommendation of feasible solutions and actions linked to early interventions.

The causes of accidents can be categorised into three broad categories: unsafe acts, local workplace and organisational or system aspects. Thus, the model did not link the error to the humans in charge of health care situations. Instead, the model associated the emergence of adversities, such as cervical cancer, with an environment where individuals seek to complete tasks and accomplish the roles expected of them. The nature of the environment (not the practitioners charged with healthcare delivery) that accounts for cervical cancer in southern Vietnam was worth examining, followed by discussions to determine whether the findings would concur with the accident causation model.

The accident causation model supports the need to focus on situations or conditions that include the performance of healthcare service delivery and predictors of errors or accidents. This model refers to these conditions as 'vulnerable system syndrome', in which clusters of pathologies make systems liable for the occurrence of adversity. These pathologies include various aspects, such as the decision to pursue key performance indicators blindly, denying the presence of system errors, and blaming individuals for adverse events [14]. Therefore, the model is relevant because it focuses on the environment and conditions under which healthcare delivery occurs, rather than the persons charged with service delivery. In particular, the model acknowledges a link between the occurrence of accidents and specific triggers responsible for long-term failures in system designs, including staff workloads and staffing levels.

Similarly, the model is insightful because it acknowledges the occurrence of accidents as being linked to long chains of events. The implication is that accidents arise from the infrastructure surrounding the organisation (including the managerial level), rather than a deliberate cause. It is further notable that the accident causation model recognises five additional components of accident situations. These components include missing defences, such as the absence of trigger alarms, unsafe acts, or embracing poor habits that may have worked in the past but do not apply to the current situation (psychological precursors). Other elements include general failures, such as inadequate time and management decisions that involve staff reduction [14]. Therefore, the model was worth applying in the case of cervical cancer in southern Vietnam to discern whether complementary factors or components of accident scenarios shaped the practices, attitude, and knowledge of communities regarding cervical cancer as well as aid in establishing possible solutions that could be implementable. Given that this study focused on the subject of cervical cancer among female residents in southern Vietnam, the accident causation model guided the data collection and analysis.

RESULTS

Demographic information

One question concerning the participants' demographic data addressed gender. Eighty-six interview results were returned for analysis and interpretation. Given that 150 participants had initially been selected for participation, it was evident that 57.33% of the participants offered their interview responses. At a 95% confidence level and $P<0.05$, it is worth acknowledging that the findings obtained from the study were statistically significant because the number of responses received was adequate, evidenced by the relatively high response rate.
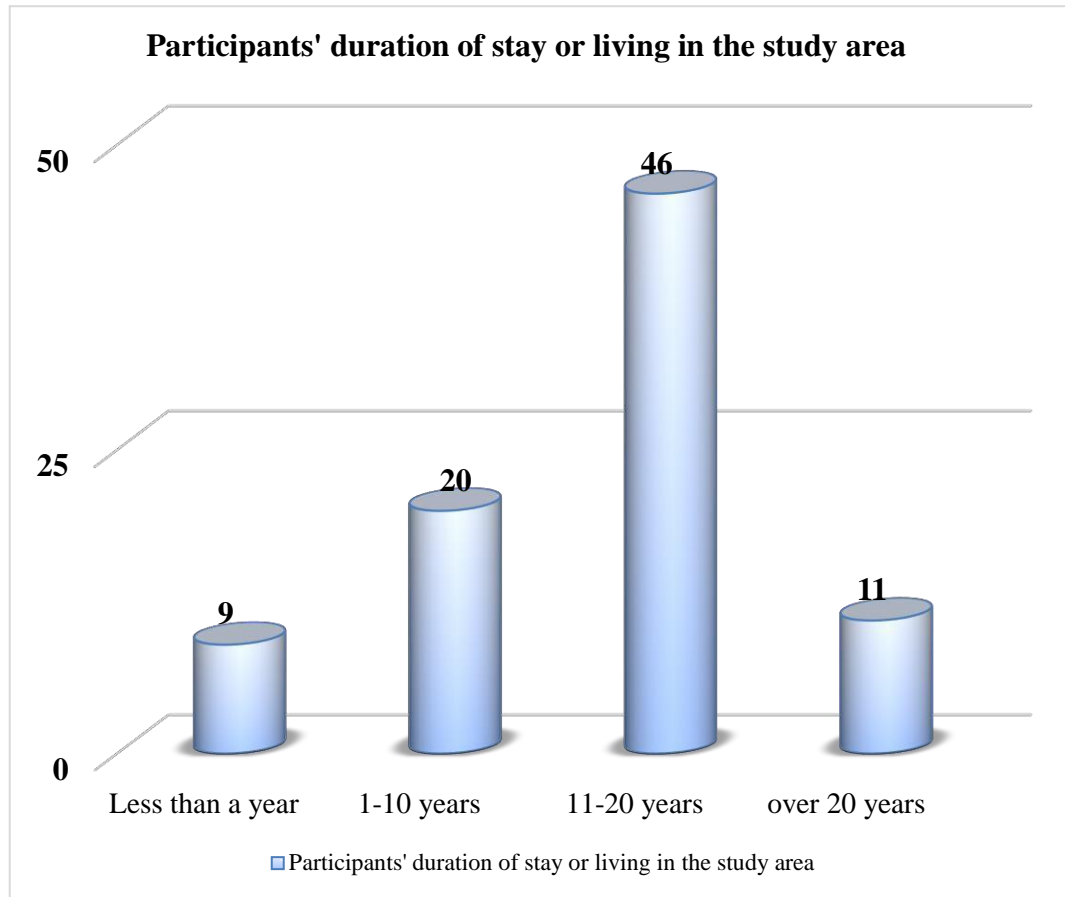
Age of the participants

The participants' ages were also recorded to determine whether this factor was likely to affect the patterns of response to questions seeking to achieve specific objectives. Notably, the study strived to collect data from individuals aged 20 to 39 years, implying that the majority were likely to be youth and possibly in the working group. Mixed outcomes were obtained regarding this variable. In the four broad age categories, most of the respondents were aged between 30 and 34. Of the individuals in this range, 32 participants accounted for 37.21% of the responses received. The 20-39 age group was followed by those aged 35-39 years. The latter group had 27 members return their questionnaires for analysis, accounting for 31.40% of the participants. Additionally, there were 15 participants in the 20-24 age group, while 12 participants were in the 25-29 age group. Members of these age categories represented 17.44% and 13.95% of the responses, respectively.

As illustrated in the subsection that follows, the number of participants belonging to these broad age categories was similar to the percentages obtained about how long they had lived or stayed in southern Vietnam. The implication is that most of the participants in the first age brackets were likely to have stayed in the region for a longer period. The figure below represents the participants' age brackets.

Age of the participants

Duration of living or staying
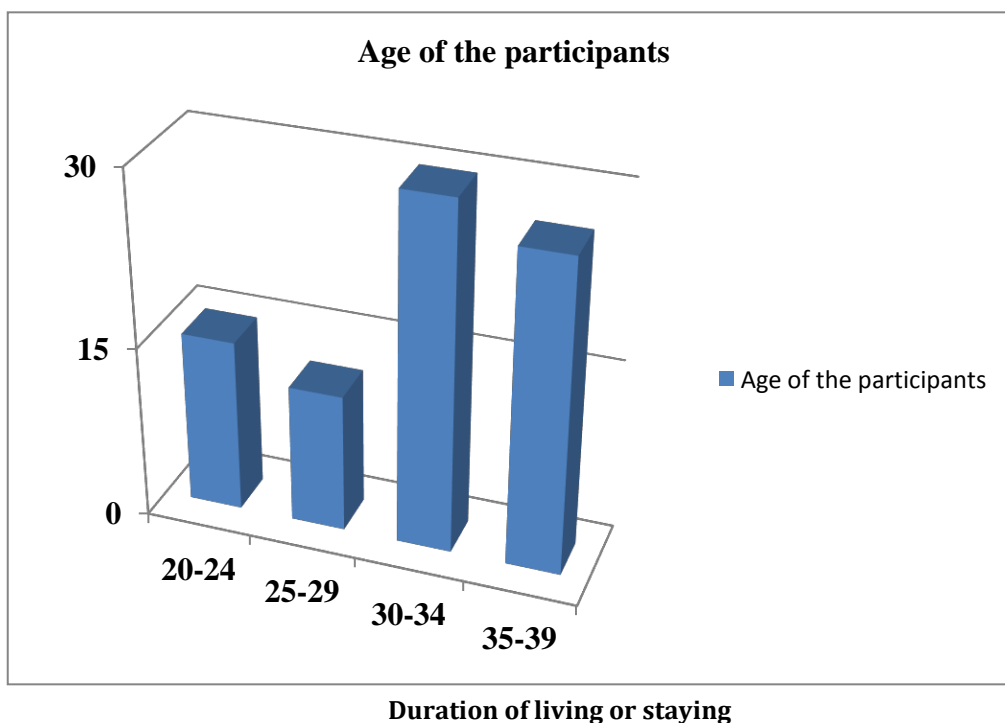
Another aspect of the participants' demographic or background data involved the length of stay in the research area. A significant number of participants had stayed in the area for 11-20 years. This category comprised 46 respondents (53.49%). That group was followed by those who had stayed in the area for 1-10 years, representing 23.26% of the responses received. Those who had stayed in southern Vietnam for over 20 years numbered 11, while those who had lived in the area for less than one year accounted for nine respondents. The latter two categories of respondents reflected 12.79% and 10.47% of the participants, respectively.

As highlighted in the subsection above, most individuals who stayed in the area for a long period were in the age bracket of 30-34 years. It is also imperative to note that most of the participants whose questionnaires were returned for purposes of analysis had stayed in the research area for a significant period. The participants who had stayed in the area for 11-20 years comprised 46 individuals. Therefore, it was inferred that the study's results were obtained from an experienced population that had stayed in the area for a long time, contributing to the possible reliability and validity of the data obtained. The figure below shows these demographic features.

Participants' duration of stay or living in the study area

Participants' duration of stay or living in the study area

Participants' knowledge about cervical cancer screening

The majority of the interviewees were married. These participants accounted for 74.1% of the responses obtained. Of these, 30.6% stated that they were in polygamous marriages. From the perspective of the participants' educational background, it was established that the majority had attained secondary education (55.1%), which was their highest level. Thus, only 9.1% of the participants were found to have attained tertiary education. Most of the interviewees were semi-skilled. The latter group accounted for 71.8% of the responses received.

Regarding the specific objective about the participants' knowledge of cervical cancer screening in the selected context of southern Vietnam, this study established that a significant number of female residents had heard about cancer screening programmes (97.1%). However, only 13.8% of the interviewees had heard about cervical cancer screening. It was also evident that 91% of the female residents interviewed did not know some of the risk factors associated with cervical cancer. For the few who knew about cervical cancer's risk factors, some parameters that included the use of tobacco (0.78%), human papilloma virus infection (2.1%), multiple sex partners (2.3%) and early age at first sex (3.7%). Also, those who knew about cervical cancer highlighted some of the signs and symptoms they perceived to be associated with this health condition. Major symptoms that were mentioned included vaginal bleeding after intercourse (0.8%), heavy vaginal bleeding (1.8%), and foul-smelling vaginal discharge (5.7%). Notably, the majority of the female residents who were interviewed did not understand issues regarding HPV immunisation (97.4%), cervical cancer screening (91.1%) or the symptoms of cervical cancer (91.8%).

Female residents' attitude towards cervical cancer screening

Another investigated parameter involved the attitudes of southern Vietnamese female residents towards cervical cancer screening. The motivation behind this variable was to predict some early interventions and how they could be tailored to respond to the health needs and perceptions of the target population. From the results, most of the interviewees perceived themselves as not being susceptible to cervical cancer (65.3%). The most common reason cited by most of these interviewees entailed spiritual protection (61.7%). Despite this perception, the interview results revealed that most of the participants (89.9%) were willing to undergo cervical cancer screening. However, it was noted that most of the residents stated that they would support and undergo the cervical cancer screening exercise only after their spouses provided consent. Regarding recommendations to friends or relatives to receive immunisation for HPV, the majority of respondents were willing to support this programme (94.8%). For those who were unwilling to be immunised against HPV, some reasons that were cited included possible encouragement of promiscuity, adverse health effects and possible sexually transmitted infections.

Practices of southern Vietnam's female residents regarding cervical cancer screening

When asked about cervical cancer screening programmes, very few participants indicated that they had been screened at some time in their life (3.1%). Whereas some women had done a visual inspection with acetic acid at outreach events, others had done Pap smears in tertiary institutions. For the few interviewees who chose cervical cancer screening, reasons cited to engage in the programme included test subsidisation and requests by health workers. For the majority of the interviewees who stated they had not received cervical cancer screening, some reasons cited included the absence of requests by health workers (3.6%), lack of symptoms (16.9%) and not being aware of screening (92.4%).

DISCUSSION

From the results documented above, this study established that in southern Vietnam, there is low awareness of cervical cancer screening. Even for the female residents who had heard about HPV immunisation and cervical cancer screening programmes, resource constraint accounted for poor knowledge about cervical cancer prevention and other health issues. Our results concurred with results reported in other geographical areas [17,18], who established that only 4.3% and 5.9% of the participants exhibited high knowledge levels about cervical cancer screening, respectively. A similar investigation reported that only 7.6% of the female residents exhibited high levels of knowledge about cervical cancer screening, whereas most women unaware of the programme came from low-income family backgrounds. Therefore, this study inferred that in southern Vietnam, the low awareness of cervical cancer screening is attributed to low income levels among the majority of the residents, an outcome that points to the need for intervention by the national government and the entire healthcare system, including a focus on healthcare cost subsidisation.

While the incidence and prevalence of cervical cancer among Vietnamese women, especially in the southern region, are significantly high, this study identified a persistently low rate of Pap screening. Some barriers or challenges facing the women who were interviewed included system barriers and socioeconomic and cultural factors operating at the family level. Another trend that emerged regarding the knowledge of the participants about cervical cancer screening included geographic differences. This problem was compounded by low-level education among the women; language obstacles were evident, and proved to be critical obstacles for an increase in cervical cancer screening tests.

An additional attribute that emerged in this study was the role of age in understanding the rate of cervical cancer screening. For example, the current study revealed that the majority of younger women in southern Vietnam were less likely to undergo Pap smear tests compared to their older counterparts in the same region. As such, the study gave insight into the criticality of tailoring programme interventions so the parameter of age was also considered. A central factor observed to account for the low uptake of cervical cancer screening among younger women entailed the role of culture. In particular, it was evident that cultural norms advocated conservative views regarding unmarried individuals' engagement in sex, having perceived premarital sexual behaviours as generally unacceptable for younger women. Thus, most of the younger women were less likely to have undergone cervical cancer screening, as community stigma was linked to a decision that implied sexual promiscuity among the individuals seeking screening services.

Apart from the role of age, other factors that were found to shape the knowledge, practices, and attitudes of southern Vietnamese women towards cervical cancer screening included the presence or absence of health insurance, physician recommendation, access to a physician, employment, English proficiency and level of

education. For individuals who emerged superior in relation to these variables, this study established that these women were more likely to undergo (or have undergone) Pap screening, findings that concurred with those established in the majority of previous investigations [20,21].

CONCLUSION

In summary, this study established that in southern Vietnam, women with higher levels of education exhibited greater understanding and knowledge of the importance of cervical cancer screening tests. Also, income was found to determine the women's educational level, with those who were employed found to have greater financial resources and hence better placed to seek preventive care services. It is also worth noting that this study found access barriers were evident in southern Vietnam. In particular, most of the women did not have regular healthcare providers, and this challenge implied that they were less likely to undergo Pap tests, findings that concur with most of the previous literature. This study pointed to the need for relevant healthcare authorities to ensure that women have regular access to physicians offering routine healthcare to improve quality of care. Overall, there is a need for intervention programmes in southern Vietnam to address misconceptions and lack of knowledge about preventive care. Other barriers that are worth addressing include access issues and language difficulties, especially due to the multicultural nature of the region (and the low level of education reported by most of the women who were interviewed). Educational materials should also be linguistically appropriate and culturally tailored so that they are relevant and well navigated to overcome access barriers. Also, there is a need for community partnerships in southern Vietnam to ensure that essential resources and infrastructure are provided, eventually facilitating broad implementations of health promotion programmes, especially those geared towards improving the rates of cervical cancer screening programmes.

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CONFLICTS OF INTERESTS

The authors have no conflicts of interests to declare.

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