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Factors Influencing Cervical Cancer Screening in Women Referring to the Therapeutic Centers of Tehran: A Cross-sectional Analysis

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Abstract

Cervical cancer is the second most common cancer in women; screening intervals are the basis of early diagnosis. Moreover, this study was conducted in Tehran, considering the importance of cervical cancer screening for diagnosing this cancer and the lack of sufficient information about the factors related to cervical cancer screening in women. However, this paper studies the extent of screening behaviors and factors influencing it in cervical cancer. This descriptive and analytical paper established the target population of 384 women of different ages who refer to healthcare centers in Tehran. The purpose of data collection was based on the researcher's questionnaire based on the studies and data of the patients registered in Shariati Medical Center in Tehran, whose reliability was confirmed by the test (Cronbach's Alpha= 0.7).

Furthermore, data was analyzed by SPSS and Smart PLS. This paper reveals that six factors influence the direct effect of cervical cancer screening. However, the factors include personal hygiene, psychological, pap smear test screening, colposcopy screening, social factors, and Health Care Utilization—the existing observation aimed to assess the influence of risk factors of cervical cancers. Accordingly, most cervical cancers may be diagnosed with previous knowledge of threat factors. Identification of excessive–risk populations and beginning early screening are influential in the early recognition of cervical cancers.

Keywords: *Cervical Cancer, Screening, Human Papilloma Virus, Risk Factors*

1. Introduction

Following ovarian and uterine cancer, cervical cancer is the third most prevalent malignancy in women in the United States and Iran, respectively (Do et al., 2001). According to the American Cancer Society, there are approx. 12,340 new instances of invasive cervical cancer were identified and reported in 2013 (Ferlay et al., 2019). Furthermore, the estimated death toll is 4030, and there are no precise statistics on the incidence and death of cervical cancer in Iran despite international reports on different domains of cervical cancer screening, diagnosis, and therapy due to the absence of a cancer registry network in that country. According to the Cancer Institute's cancer registration report, cervical cancer occurs in roughly 6-7% of 1,000 individuals. Risks for cervical cancer: starting sexual intercourse at a young age, having sexual partners, smoking, infection background with human papillomavirus, multiparity immune system, number of pregnancies and multiple births, repeated infections with sexually transmitted diseases (Behtash & Karimizarchi, 2006)

The human papillomavirus (HPV) is a recognized risk factor for developing cervical cancer. However, studies found that HPV primarily contributes to cervical cancer. Herpes simplex virus type 2 infection, perinatal exposure to Diethylstilbestrol (DES), and a background of intraepithelial neoplasia are all risk factors (Begassat & Kovess, 2005). One of the rare cancers that may be rapidly identified before malignancy develops is cervical cancer.

Additionally, the Pap smear test's cytological results are frequently used to diagnose. Dysplasia is a temporary stage in the pathophysiology of cervical cancer, making early detection and treatment crucial. Furthermore, invasive cervical cancer is also considered a cancer that may be prevented. Early detection and treatment during this period shall likely stop invasive cervical cancers since pre-cancer brought on

by HPV infection or other factors takes several years to develop(Gholamveisy, Homayooni, et al., 2023).

Pap smears

The smear test is one of the cheapest and most efficient ways to test for diseases and cervical cancer. The only way to discover lesions without a pap smear test is through a biopsy during colposcopy. However, since not all women in a society may be examined for these conditions, the clinic is called to perform these diagnostic procedures. It is time-consuming and costly and requires high expertise. This study aimed to determine the influence of cervical cancer screening behaviors and investigate the rate of performing these tests among women referring to health-treatment centers in Tehran.

Background

Description of cervical cancer

Malignancy in the cervix's tissue is known as cervical cancer. Moreover, the third most frequent malignancy of the female genital system is cervical cancer. Cervical cancer is more prevalent than breast cancer in underdeveloped nations. Women who have never engaged in sexual activity are less likely to develop cervical cancer, which is more common in sexually active women. According to Johnson et al. (2019), cervical cancer is now identified as a sexually transmitted disease. In general, cervical cancer is highly hazardous and may be fatal. The World Health Organization estimates that malignant tumors account for 25% of women's deaths, with cervical cancer accounting for 18% of these fatalities (Anttila and Ronco, 2009). This type of cancer involves spreading malignant cells to adjacent tissues and organs.

Additionally, cancer cells may break out from a malignant tumor and enter the circulation or lymphatic system, which is how they travel from the original or significant tumor to create other tumors in other organs (Ngoma, 2006). Furthermore, cervical cancer is a treatable condition likely to be prevented or treated early to lower mortality rates.(Akbari & Gholamveisy, 2023b) Regular screening is recognized as the most effective method of reducing the prevalence of cervical cancer and related mortality (Moore, 2006).

Cervical cancer screening definition

A procedure known as the cytological examination 1 (cytology), often known as the Pap smear test, is performed to screen tests for cervical cancer. This test is applied to find precancerous lesions, which may help with the early detection and prevention of invasive malignancy. In the past, the disease was employed since it offered the potential for a more successful course of treatment (Pirzon et al., 2013). Moreover, this test is conducted on a large group of individuals who appear to be in good health so that those with positive or unusual results may be sent to the physician for evaluation and treatment. (Bedell et al., 2020). However, this test is recommended annually in Iran for all married women aged 20 to 65. Screening intervals increase if the results are regular and annual pelvic examinations with the physician's opinion for three consecutive years (Bouvard et al., 2021). Introducing Pap smear screening to women reduces cancer by 60-90% in less than three years and morbidity and mortality. According to a study conducted in Tehran, a single Pap smear test A negative may reduce the risk of cancer by 45%, and nine negative Pap smear tests in a lifetime lessen the risk of the disease by 99%. Furthermore, the results showed that not performing regular screening is associated with 2 or 6 times increase in the risk of developing cervical cancer.

Influencing Factors

Table 1: Factors Influencing in cervical cancer screening

factors	name	Authors
Personal hygiene	Proper hygiene practices can reduce the chances of getting infected with the virus. However, it might not be able to prevent cancer completely, which means maintaining good sexual hygiene along with keeping the vaginal area clean. During intercourse, women should insist that their partner wear a condom. However, total protection from HPV cannot be obtained by using a condom. However, if some warts and lesions are not covered by the condom and any part of the woman comes in contact with them, it may spread the infection, and ultimately **cancer treatment** shall be required.	(Kashyap et al., 2019; Thakur et al., 2015) (Dianti & Isfandiari, 2017)
Psychological	Fear of screening test; lack of trust in healthcare services; emotional discomfort about the screening test	

Pap smear test	The Pap smear test is among the most effective and least expensive tests to screen for diseases and cervical cancer. In the absence of a Pap smear test, the lesions can only be detected by biopsy during colposcopy examination, but since all the women of a community cannot be taken to the clinic for biopsy and colposcopy examination, and since the diagnosis methods In addition to being time-consuming and expensive, the need They have high expertise, so the Pap smear test has been proposed and approved as a screening method for cervical cancer in women of different communities.	(Sachan et al., 2018) (Ackerson et al., 2008)
Colposcopy	Colposcopy is a simple diagnostic procedure performed by a gynecologist for cervical examination. As follows, the physician shall use a device called a colposcope to examine cervical cells for cervical cancer.	(Xue et al., 2020)
Social factors	Education, Residence, and Marital status	(Kashyap et al., 2019; Thakur et al., 2015) (Dianti & Isfandiari, 2017)
Referring healthcare services	Health facility	(Kashyap et al., 2019; Thakur et al., 2015)

2. Literature Review

A paper, "Risk Factors of Cervical Cancer: A Case-Control Study, (Kashyap et al., 0219)" aims to study cervical cancer risk factors. Cervical cancer may be recognized if risk factors are known beforehand. Early screening and identifying high-risk populations are demonstrated to be helpful in the early detection of cervical cancer.

An article on systematic (Marques et al., 2020) researchers study the variables affecting FHWs in Nigeria's cervical cancer screening (CCS) practice. This study showed that CCS among FHWs in Nigeria is influenced by a complex interplay of socioeconomic, structural, and personal factors. Therefore, lowering the prevalence of cervical cancer in Nigeria requires the implementation of comprehensive interventions that address both health system factors—such as screening costs and infrastructure—and individual factors—such as perceptions of low risk and anticipation of favorable outcomes—affecting FHWs.

A study sought to determine the variables influencing women aged 14 to 30 who use cervical cancer screening services at *Orussi Health Centre III*, Erussi Sub-County, Nebbi District, West Nile, Uganda (Omito & Extension, 2023). Moreover, a cross-sectional study with 338 randomly chosen participants ranging in age from A survey of individuals aged 14 to 30 was performed at Orussi Health Centre III in Uganda's West Nile region's Erussi sub-county. The results showed that the predictive factors for the uptake of cervical cancer screening among women between the ages of 14 and 30 at Orussi Health Centre III, Erussi Sub-County, Nebbi District, West Nile, Uganda, were marital status, knowledge, perceived barriers, and having a regular healthcare provider. However, the appropriate authorities should develop and implement specific awareness campaigns to boost consumption. Studies conducted in several countries worldwide (Nigeria, Saudi Arabia, Kenya) revealed that few individuals undergo the Pap smear test, even if women know its importance (11–12). In North and East African nations, the absence of policy and financial support for this activity is the most significant barrier to the national organization for cervical cancer screening. However, the lack of knowledge about cancer, uterine walls, religious, social, and cultural issues, as well as regional and economic concerns, are other factors discouraging women from getting Pap screenings.

3. Materials And Methods

This cross-sectional-descriptive study was conducted on 384 women referred to the health-treatment centers of Tehran city who had health records in the Shariati health treatment center. Moreover, the data collection instrument was a questionnaire prepared by the researcher. Concerning the research objectives, the questionnaire was collected based on the information available in the books and articles and the guidelines of managed care 33 of the Ministry of Health regarding cervical cancer screening.

This paper employs one of the first statistical techniques, confirmatory factor analysis, which reflects the measurement model and examines the link between latent variables (main variables) and observed variables (questionnaire items). For model implantation, we use *Smart PLS* and *SPSS* (Gholamveisy, Homayooni, & Sekhavat, 2023; Gholamveisy, Momen, et al., 2023; Hasanali & Gholamveisy, 2023).

3. Results and Discussion

Table 2. Descriptive statistics

variable	Indicator	Frequency	Percent
AGE	20-30	92	24.0
	30-40	91	23.7
	40-50	114	29.7
	>50	87	22.7
education	Illiterate	190	49.5
	Educated	194	50.5
Residence	Rural	195	50.8
	urban	189	49.2
Bath background	Yes	184	47.9
	No	200	52.1
Bath during menstruation	yes	183	47.7
	No	201	52.3
Material used during menstruation	Old cloth	194	50.5
	Sanitary pad	190	49.5
Wash the genital area after sexual intercourse	yes	181	47.1
	No	203	52.9
Health facility	Yes	185	48.2
	No	199	51.8
Visiting intervals for Pap smear	Once every six months	77	20.1
	Once every year	74	19.3
	Once every two years	71	18.5
	Once every three years	85	22.1
	More	77	20.1
The time interval from the first Pap smear Sex	Three years and less	197	51.3
	Above three years	187	48.7
Pap smear frequency	1-2	121	31.5
	3-4	129	33.6
	Five and more	134	34.9
How to apply for a pap smear	regular	187	48.7
	unregular	197	51.3
apparent cervical infection background	Yes	180	46.9
	NO	204	53.1
Cancer Background	Yes	198	51.6
	NO	186	48.4
genital warts background	Yes	187	48.7
	NO	197	51.3
Frequent curettage and cautery (C&C)	Yes	210	54.7
	NO	174	45.3
Fear of screening test	Yes	185	48.2
	NO	199	51.8
Lack of trust in healthcare services	Yes	208	54.2
	NO	176	45.8
Emotional discomfort about the screening test	Yes	210	54.7
	NO	174	45.3

Data Inferential analysis

Validation of measurement models (confirmatory factor analysis)

One of the earliest statistical techniques, confirmatory factor analysis (CFA), examines the link between latent variables (main variables) and variables (questionnaire items) and is applied to describe the measurement model (Burn, 1994). The two types of factor analysis are confirmatory factor analysis and

exploratory factor analysis. In exploratory factor analysis, the fundamental premise is that each variable may be related to each factor. The purpose, however, is to understand the underlying structure of a reasonably large set of variables. In other words, the researcher using this method has no initial theories. The fundamental premise of confirmatory factor analysis is that each component is associated with a particular collection of variables.

Moreover, the researcher must have various preconceived notions about the number of factors in the model before conducting the confirmatory factor analysis. However, they may additionally include expectations based on the relationships between the variables and factors in the study. We calculated the following values to assess the validity of the measurement models. The measurement model is appropriate and advantageous if the conditions in Table 3 are satisfied.

Table 3. Conditions for establishing reliability and convergent validity

indicator	Limit	Reference
Reliability	• Composite reliability and Cronbach's alpha should be above 0.7.	)Jozef, et al 2016(
Convergent validity	• Factor loadings should be significant (t>1.96) • CR>AVE • AVE>0.5 • Rho_A>0/7	
Divergent validity	• AVE>MSV	
Model fit indices	• GOF>0/36 • SRMR<0/1	

*AVE: Average variance Extracted, CR: Construct Reliability, MSV: Maximum Shared Squared variance, GOF; Goodness of fit

Table 4. The results of factor loadings of observable variables

Items	Original Sample (O)	(STDEV)	T Statistics (|O/STDEV|)	P Values
BDM <- Personal hygiene	0.705	0.056	12.487	0.000
BH <- Personal hygiene	0.721	0.054	13.375	0.000
CCS <- cervical cancer screening	0.667	0.070	9.470	0.000
EDAS <- Psychological	0.820	0.028	29.102	0.000
FST <- Psychological	0.855	0.025	34.651	0.000
HF <- refereeing healthcare services	1.000	0.000		
HGW <- colposcopy	0.841	0.033	25.553	0.000
HOCI <- colposcopy	0.780	0.045	17.290	0.000
LTHS <- Psychological	0.756	0.043	17.600	0.000
MS <- Social factors	0.767	0.036	21.198	0.000
MUDM <- Personal hygiene	0.732	0.038	19.338	0.000
PSF <- Pap smear test	0.617	0.061	10.089	0.000
RCCC <- colposcopy	0.883	0.025	34.865	0.000
TIFFPSS <- Pap smear test	0.882	0.024	37.497	0.000
VIPS <- Pap smear test	0.890	0.024	37.816	0.000
WGAASI <- Personal hygiene	0.778	0.027	29.156	0.000
age <- Social factors	0.754	0.049	15.410	0.000
education <- Social factors	0.803	0.059	13.655	0.000

Findings show that the measurement model is homogeneous, and the factor load values are acceptable because all item factor load values are more than 0.4.

The significance of the T-statistic values analysis revealed that all reported t-statistic values were more significant than 2.58, indicating 99% confidence in the association between the items and the relevant variable.

Table 5. Cronbach's alpha and composite reliability

	Cronbach's Alpha	rho_A	Composite Reliability
Personal hygiene	0.716	0.719	0.824
Psychological	0.739	0.744	0.852
Pap smear test	0.717	0.755	0.845
Colposcopy	0.782	0.784	0.874
Social factors	0.668	0.670	0.818

Refereeing healthcare services	1.000	1.000	1.000
cervical cancer screening	0.818	0.824	0.865

The values of these indices for all latent variables are more significant than 0.7, as shown by the analysis of Cronbach's alpha coefficients and composite reliability in Table 5 (Hensler et al., 2011; Heyer, 2017). As a result, the reliability of the measurement tools was confirmed using these two indices.

Validity of measurement techniques

Comparable validity

The convergent validity measures how well the latent variable is explained by its observable variables (Barkley et al., 1995). However, an appropriate result for the extracted average variance is 0.5, which indicates that the observable variables account for at least 50% of the variance of the latent variable(Gholamveisy et al.).

Table 6. Mean-variance extracted

	Average Variance Extracted (AVE)
Personal hygiene	0.539
Psychological	0.658
Pap smear test	0.650
Colposcopy	0.698
Social factors	0.600
refereeing healthcare services	1.000
cervical cancer screening	0.479

All variables had values more than 0.5, as shown in Table 6 from examining the extracted variance values of the latent variables. Based on this, it may be claimed that the extracted average variance was applied to confirm the convergent validity of the measurement tools(Gholamveisy & Heidari).

Test Fornell-Larker: This criterion states that a latent variable must have more excellent dispersion among its observables than other latent variables. As a result, each latent variable's extracted root mean must be higher than the latent variable's highest correlation with other latent variables (Fornell and Larcker, 1981).

Table 7. Fornell-Larker test

	Personal hygiene	Psycho logical	Pap smear test	colpo scopy	Social factors	refereeing healthcare services	cervical cancer screening
Personal hygiene	0.734						
Psychological	0.673	0.811					
Pap smear test	0.712	0.713	0.806				
Colposcopy	0.619	0.756	0.739	0.836			
Social factors	0.697	0.541	0.571	0.472	0.775		
refereeing healthcare services	0.594	0.432	0.427	0.386	0.417	1.000	
cervical cancer screening	0.614	0.681	0.622	0.617	0.624	0.632	0.692

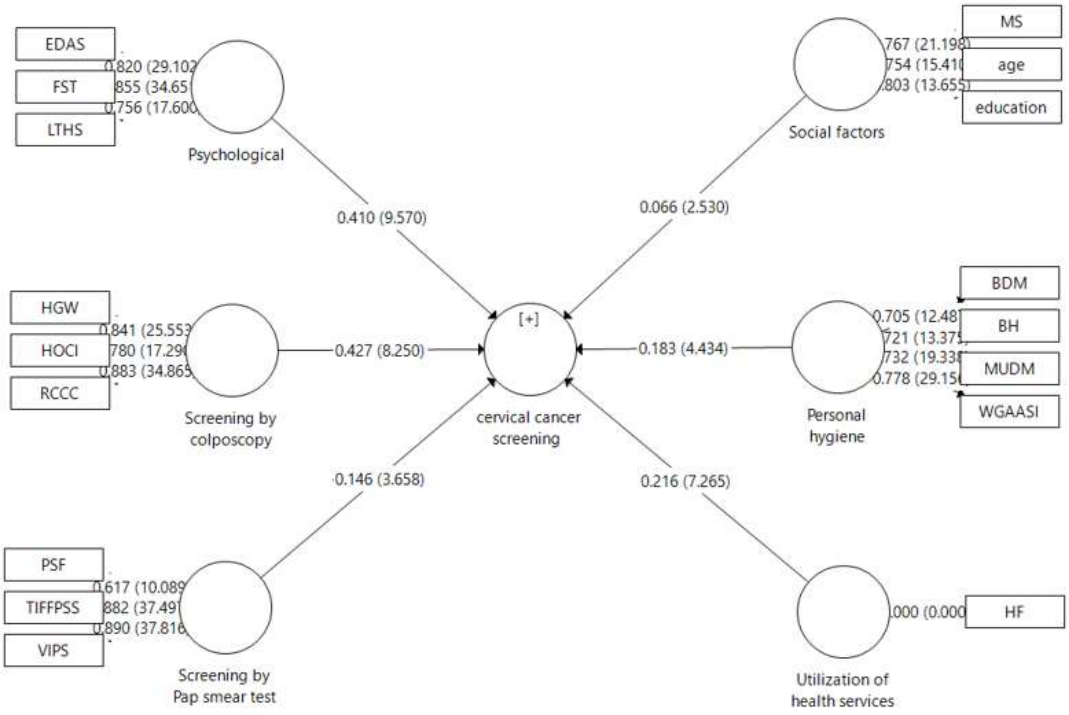
As Table 7 shows, the extracted root mean of each latent variable is greater than the latent variable's most significant correlation with other latent variables. The Fornell-Larker test was utilized to validate the measurement model's divergent validity as more critical than the latent variable's most remarkable correlation with other latent variables. Subsequently, the Fornell-Larker test was applied to validate the measurement model's divergent validity.

A structural model tests

Given that all constructs have the necessary validity and reliability, as determined by the first-order factor analysis of the measurement of endogenous and exogenous variables, this section tests the overall structure of the conceptual model of the research to find whether the theoretical relationships between the variables hold. Moreover, when the conceptual framework was being developed, the researcher

considered whether the facts supported it. Concerning whether data is confirmed. Accordingly, the following are considered:

1. The parameters connected to the communication channels between the latent variables' signs (positive and negative) indicate if the estimated parameters have supported the proposed relationships.
2. The estimated parameter value reveals the predicted associations' strength. The calculated parameters, in this case, must be important. In other words, the t-value's absolute value must be higher than 1.96.
3. The multiple correlations square show the variation of each internal (dependent) latent variable explained by the exterior (independent) latent variables. The explanatory power of the variance increases with the squared value of various correlations.(Gholamiangonabadi et al., 2019)
4. Significance of path coefficients (beta): The importance of route coefficients is one of the metrics for validating relationships in the structural model. The magnitude and direction of the model's beta coefficient are essential factors in determining the importance of the complementary path's coefficients. However, the association or hypothesis is validated if the measured value exceeds the confidence level's minimal statistic. The deal is compared to the minimal t statistic of 1.64, 1.96, and 2.58, respectively, at the significance levels of 90%, 95%, and 99%.



The path coefficient diagram in Figure 1 looks at each independent variable's impact on the dependent variable and its path coefficient. The route coefficient has a value between -1 and 1. The stronger the correlation between the independent and dependent variables, the more positive this value is.

The level to which the independent variables explain the variance of the dependent variable is shown by the coefficient of determination. Particular researchers prefer to apply a different index, namely the Calibration of Adjustment Coefficient since the coefficient of decision holds the drawback of overestimating the model's success rate and neglecting to account for the number of independent variables and sample size. Therefore, researchers prefer to use another index called the adjusted coefficient of determination (Saroukhani, 2003). Table 8 presents the results of determination coefficients.(Akbari & Gholamveisy, 2023a)

Table 8. The coefficient of determination

	R Square	R Square Adjusted
cervical cancer screening	0.945	0.944

The adjusted determination coefficient of cervical cancer screening is 0.945, which indicates that research variables influence 94% of changes in cervical cancer screening; however, the rest are factors that are not considered in the model. Another criterion is to examine the structural model of the effect size. Cohen (1988) values of 0.02, 0.15, and more than 0.35 are evaluated as weak, medium, and strong, respectively.(Heidari & Gholamveisy)

Table 9: Effect size

	cervical cancer screening
Personal hygiene	0.180
Psychological	1.054
Pap smear test	0.129
Colposcopy	1.158
Social factors	0.040
refereeing healthcare services	0.549

This value was given for all strong effects, according to the analysis of the effect size values in Table 9, the findings of which were revealed.

Another criterion to evaluate the structural model is model predictive power, often known as shared redundancy. The index evaluates how well the structural model may make insightful predictions. The Q2, the most well-known and famous metric for assessing this capacity, requires the model to forecast the indicators of the reflected endogenous current variable. Moreover, the positive results suggest that the structural model is of adequate quality (Henseler et al., 2009). The model's capability to predict endogenous latent variables has values of 0.02, 0.15, and 0.35, introduced as weak, medium, and strong values for this index, respectively (Hensler et al., 2009).

Table 10. The predictive power of the model

	SSO	SSE	Q^2 (=1-SSE/SSO)
Personal hygiene	1,024.000	1,024.000	
Psychological	768.000	768.000	
Pap smear test	768.000	768.000	
Colposcopy	768.000	768.000	
Social factors	768.000	768.000	
refereeing healthcare services	256.000	256.000	
cervical cancer screening	1,792.000	1,052.045	0.413

The results demonstrated that the robust model's reported predictive power was reported.

The structural equation

There is no generic index to look at the entire model when analyzing a model using a variance-oriented approach utilizing tools like Smart PLS. Unlike the covariance-based technique, no index measures the model as a whole. However, it was noted in numerous studies that an indicator termed GOF was proposed by Tenenhaus et al.

Table 11. Overall model fitting results

	R^2	**$\sqrt{R^2}$**	**AVE**	**$\sqrt{AVE}$**	**GOF**
Personal hygiene			0.539		
Psychological			0.658		
Pap smear test			0.65		
Colposcopy		0.945	0.698	0.645	0.609
Social factors			0.6		
Refereeing healthcare services			1		
cervical cancer screening	0.945		0.479		
TOTAL					0.074

Therefore, the whole model's proper fit is validated based on the value found for GOF, which is 0.609, equivalent to the value proposed by Wetzles et al. (2009), or 0.36, which indicates the model's strength.(Gholamiangonabadi et al., 2019)

The ideal value for the standardized residual mean square's square root is 0.1 or less, according to the results, which showed that its reported value was 0.074—a favorable number—the model's proper fit is therefore validated.

Table 12. Summary of hypothesis results

	Original Sample (O)	T Statistics (|O/STDEV|)	P Values
Personal hygiene -> cervical cancer screening	0.183	4.434	0.000
Psychological -> cervical cancer screening	0.410	9.570	0.000
Pap smear test -> cervical cancer screening	0.146	3.658	0.000
Colposcopy -> cervical cancer screening	0.427	8.250	0.000
Social factors -> cervical cancer screening	0.066	2.530	0.012
Healthcare services -> cervical cancer screening	0.216	7.265	0.000

4. Conclusion

This paper aims to identify influence factors of Cervical Cancer in women referred to healthcare centers in Tehran, *Shariati Hospital*. These factors include personal hygiene, psychological, Pap smear test, colposcopy, social factors, referring to healthcare, and cervical cancer screening, which show significant association with preventing cervical cancer. In this study, confirmatory factor analysis is used in Smart PLS; in other words, the researcher has no initial theory in this method. Moreover. in confirmatory factor analysis, the basic assumption is that each factor is related to a specific subset of variables.

Furthermore, the age of the patients reveals that individuals between 40 and 45 years old have the highest frequency of cervical cancer risk and shows that the frequency of testing decreases with age. Borras indicates that the Pap smear rate decreases with age (Borras et al., 1999); those who had not undergone this test were younger (Yi, 1994). He additionally showed that women over 40 were less likely to perform Pap smear tests. This study showed no significance from the statistical difference between the test performance and women's employment. Consequently, women have comparatively less knowledge about cervical cancer, as they are illiterate.

H1: The effect of factor Personal hygiene on cervical cancer screening has a direct effect, and in the study of (Kashyap et al., 2019), it is additionally one of the main factors in the growth of uterine cancer, and it is consistent with those of present study. The finding reveals that no longer maintaining personal hygiene and increased use of old clothes during menstruation are risk factors for cervical cancer.

H2, which states that the factors of psychological hold a direct effect on cervical screening, is consistent with the study of (Kashyap et al., 2019)

H3 is the factor of screening by Pap smear test's direct effect on cervical screening. In the present study, the intervals between surveying to perform the Pap smear test in most individuals were five years and above. However, one study's average pap smear interval was one year (Dim et al., 2009). Moreover, in another study, the intervals of performing pap smears were every four months in 33% of women and yearly in 34.1% of women, which was not consistent with the results of the present study (Barroso et al., 2011). Therefore, the intervals of doing pap smears in the subjects are different. However, the lack of agreement may be caused by the lack of knowledge of the people themselves, inappropriate culture, and lack of effort by the staff and health care workers about the importance of making pap smears and the recommendation.

H4: the factor of screening by colposcopy holds a direct effect on cervical cancer screening.

Physicians usually use colposcopy to diagnose cervical cancer, genital warts, and vaginal cancer .In the present, HOCI and genital warts are additional factors that may contribute to improving cervical cancer. These statistics are comparable to those of (Chichareon et al., 1998).

H5: the factor of Health Care Utilization has a direct effect on cervical cancer screening.

Participants who never availed of healthcare services had a fourfold increased risk of cervical cancer.

H6: Social factors direct effect of cervical cancer screening. Lack of knowledge about screening for cervical cancer.

The finding corresponds to an observation conducted on Malaysian women aged 21 to 56 to examine information and awareness of preventing and screening for most cervix cancers. The look showed that women lacked attention to cervix carcinoma and the Papanicolaou smear. Many women did not know the means of an extraordinary cervical smear and the requirement for early

detection of cervical cancers. Moreover, proper analysis and early treatment are imperative to stop the development of most cancers. However, there is a requirement to make the general populace aware of the threat factors of cervical cancer. The proper screening must be performed to prevent the improvement of cancer rights campaigns, and packages must be organized in rural regions toward the identical stop.

References:

Ackerson, K., Pohl, J., & Low, L. K. (2008). Personal influencing factors associated with pap smear testing and cervical cancer. *Policy, Politics, & Nursing Practice*, *9*(1), 50-60.

Akbari, N., & Gholamveisy, S. (2023a). Commercialization of the saffron brand and the key problems arising from International law via mixed method. *Remittances Review*, *8*(4).

Akbari, N., & Gholamveisy, S. (2023b). Factors Affecting Damage Mitigation In Oil And Gas Transportation To Satisfying Performance Of Stakeholder. *Journal of Namibian Studies: History Politics Culture*, *36*, 376-399.

Barroso, M. F., Gomes, K., & Andrade, J. X. (2011). Frequency of Pap smear testing in young women with an obstetric history in Teresina, Piauí, Brazil. *Revista Panamericana de Salud Publica= Pan American Journal of Public Health*, *29*(3), 162-168.

Behtash, N., & Karimizarchi, M. (2006). Cervical cancer: The preventive role of HPV vaccine. *Tehran University of Medical Sciences Journal*, *64*(12), 1-8.

Borras, J., Guillen, M., Sanchez, V., Junca, S., & Vicente, R. (1999). Educational level, voluntary private health insurance and opportunistic cancer screening among women in Catalonia (Spain). *European journal of cancer prevention*, 427-434.

Bouvard, V., Wentzensen, N., Mackie, A., Berkhof, J., Brotherton, J., Giorgi-Rossi, P., Kupets, R., Smith, R., Arrossi, S., & Bendahhou, K. (2021). The IARC perspective on cervical cancer screening. *New England Journal of Medicine*, *385*(20), 1908-1918.

Chichareon, S., Herrero, R., Munoz, N., Bosch, F. X., Jacobs, M. V., Deacon, J., Santamaria, M., Chongsuvivatwong, V., Meijer, C. J., & Walboomers, J. M. (1998). Risk factors for cervical cancer in Thailand: a case-control study. *JNCI: Journal of the National Cancer Institute*, *90*(1), 50-57.

Dianti, N. R., & Isfandiari, M. A. (2017). Perbandingan risiko ca serviks berdasarkan personal hygiene pada wanita usia subur di yayasan kanker wisnuwardhana surabaya. *Jurnal Promkes*, *4*(1), 82-91.

Dim, C. C., Ekwe, E., Madubuko, T., Dim, N. R., & Ezegwui, H. U. (2009). Improved awareness of Pap smear may not affect its use in Nigeria: a case study of female medical practitioners in Enugu, southeastern Nigeria. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, *103*(8), 852-854.

Gholamiangonabadi, D., Shahrabi, J., Hosseinioun, S. M., Nakhodchi, S., & Gholamveisy, S. (2019). Customer Churn Prediction Using a New Criterion and Data Mining; A Case Study of Iranian Banking Industry. Proceedings of the International Conference on Industrial Engineering and Operations Management,

Gholamveisy, S., & Heidari, H. Designing a Hybrid MCDM Model for Risk Management of Supply Chain.

Gholamveisy, S., Homayooni, S., & Sekhavat, M. (2023). International Journal of Applied Sciences: Current and Future Research Trends (IJASCFRT) The Impact of Social Networks on E-Commerce.

Gholamveisy, S., Homayooni, S., Sekhavat, M., & Bazrgary, R. (2023). A Hybrid GRA-VIKOR Approach for Prioritization of Sales Management Outsourcing Risks (Case: energy company). *Remittances Review*, *8*(4).

Gholamveisy, S., Momen, A., Hatami, M., Sekhavat, M., & Homayooni, S. (2023). The effect of perceived social media marketing activities on brand loyalty. *Apuntes Universitarios*, *13*(3), 105-118.

Gholamveisy, S., Sekhavat, M., & Homayooni, S. The impact of perceived Commercial intelligence on financial performance about the mediating role of Brand value and creativity in Tehran Regional Water Company.

Hasanali, M., & Gholamveisy, S. (2023). The influence of Digital and Social Media Marketing on brand loyalty with The mediating role of brand awareness and brand attitude Case: Merooj company. *Remittances Review*, *8*(4).

Heidari, H., & Gholamveisy, S. A systematic review of construction material caused by demolition: A global Perspective.

Kashyap, N., Krishnan, N., Kaur, S., & Ghai, S. (2019). Risk factors of cervical cancer: a case-control study. *Asia-Pacific journal of oncology nursing*, *6*(3), 308-314.

Marques, P., Nunes, M., Antunes, M. d. L., Heleno, B., & Dias, S. (2020). Factors associated with cervical cancer screening participation among migrant women in Europe: a scoping review. *International journal for equity in health*, *19*, 1-15.

Omito, A., & Extension, K. P. (2023). Factors Affecting the Uptake of Cervical Cancer Screening Service among Women Aged 14-30 Years, Attending Maternal and Child Health Care. *4*, 10-18.

Sachan, P. L., Singh, M., Patel, M. L., & Sachan, R. (2018). A study on cervical cancer screening using pap smear test and clinical correlation. *Asia-Pacific journal of oncology nursing*, *5*(3), 337-341.

Thakur, A., Gupta, B., Gupta, A., & Chauhan, R. (2015). Risk factors for cancer cervix among rural women of a hilly state: a case-control study. *Indian journal of public health*, *59*(1), 45-48.

Xue, P., Ng, M. T. A., & Qiao, Y. (2020). The challenges of colposcopy for cervical cancer screening in LMICs and solutions by artificial intelligence. *BMC medicine*, *18*, 1-7.

Yi, J. K. (1994). Factors associated with cervical cancer screening behavior among Vietnamese women. *Journal of Community Health*, *19*(3), 189-200