ACADEMIA International Journal for Social Sciences
Volume 4, Issue 3, 2025 ISSN-L (Online): 3006-6638

Determination of Health Beliefs, Self-Efficacy and Cancer Fatalism in Young Female University Students Practicing Breast Self-Examination

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Received: 09-04-2025 **Revised:** 10-05-2025 **Accepted:** 15-06-2025 **Published:** 11-07-2025

ABSTRACT

The current study aimed to examine the determination of health beliefs, self-efficacy, and cancer fatalism in young female university students.This study involved 800 female students which were taken from different departments of University of Gujrat by using convenient sampling technique. Health belief model scale, self-efficacy scale, and cancer fatalism scale were used for data collection. Obtained data were analyzed by using Pearson Product Moment Correlation Coefficient, Moderation analysis, and Independent Sample t-test.Results indicated that health beliefs and self-efficacy negatively correlated with cancer fatalism. Self-efficacy moderates the relationship between health beliefs and cancer fatalism. Moreover, significant differences exist in health beliefs of young female university students practicing breast self-examination. The results showed the large effect size. This study recommends that universities/colleges should arrange training programs for breast self-examination and programs for increasing self-efficacy which foster practice of breast self-examination in young female students.

Keywords: *health beliefs, self-efficacy, cancer fatalism, young female students*

INTRODUCTION

According to National Cancer Institute, breast cancer is an abnormal growth of breast tissues arising from its ducts and lobules. (1) Breast cancer is prevalent in all countries across the globe however it is more common in South Asian Countries. (2) There are 1 million cases of breast cancer every year and 60% of the cases coming from developing countries, including Pakistan. (3,4) Regionally, Pakistan represents the most significant breast cancer rates in Asia. (5)

For women breast cancer is one of the critical health concerns as one in eight women in their life span are threatened with this condition. (6) According to American Cancer Society one in eight women younger than forty-five and two in three women ages fifty-five or older will develop invasive breast cancer in their lifetime. [1] Estimates reveal that one in 10 Pakistani women could develop breast cancer at some point in their life. (7) To improve breast cancer outcomes and survival, early diagnosis and screening practices are crucial. (8,9) Although multiple factors such as culture, family support, awareness regarding disease, health beliefs, self-efficacy, disease risk perception, and other psychological as well as social factors have an

influence on screening behaviors. [10,8,11] Evidence suggested that healthy behaviors i.e. practicing cancer screening according to suggested guidelines can substantially reduce the individual risk of developing cancer. [12]

According to American Cancer Society, breast cancer screening means that individuals examine themselves for any changes developing in their breast as it is useful in early diagnosis of breast cancer. This practice helps in decreasing the incidence of mortality in breast cancer patients today. Formerly ACS, recommendations were that women should practice breast self-examination monthly as well as clinical breast examination every one to three years commencing at the age of 20. At 40-years of age women should have a screening mammography every 1 to 2 years in addition to the protocol mentioned above. [1]

According to National Cancer Institute, examination of breast to check for any changes such as any mass or lump is referred to breast self-examination. [1] Different studies reported that routine breast self-examination (BSE) helps in achieving early detection of breast cancer especially in developing countries where other resources to early diagnosis are scarce. BSE is a simple non-invasive yet effective method best suited for populations where there are inadequate health care resources. As an additional advantage breast self-examination does not need any health practitioner's assistance. It empowers women to be more efficient for their own good health. [13] Formerly, breast self-examination was heavily recommended as a way of diagnosing breast cancer at an early stage. However according to American Cancer Society, women are no longer recommended to perform breast self-examination on monthly basis. They do strongly encourage that the women should be conscious and alert of any physical changes occurring in their breast i.e., appearance and feel. [1]

In order to study, breast self-examination and other breast cancer detection behaviors; health belief model (HBM) has been widely used as a theoretical framework. Dewi and the colleagues reported that health belief model was first applied by Champion to study the beliefs of women about breast cancer and its screening practices comprising of breast self-examination and mammography. Health belief model states that individuals will opt for screening practices or controlling the conditions of illness if they consider themselves as vulnerable to the condition, if they think that the illness could have dire consequences, if they believe that the recommended management prescribed to them would be valuable in decreasing their susceptibility or severity of the illness and if they belief that the benefits to taking the action outweigh the anticipated barriers and risks. [14]

The most modern health belief model postulates following components which are [15]: perceived susceptibility: perceived susceptibility is a subjective expression of one's belief about the chance of acquiring a disease or condition; perceived severity: perceived severity expresses how a person views the seriousness of the disease and its consequences. The consequences may include pain, death, and disability which can affect the social role of the affected individuals; perceived benefits: perceived benefits are directly related to an individual's positive attitude regarding screening behaviors. It is a perception of the benefit of new behaviors or actions associated with a specific health outcome. It explains the way an individual will benefit from screening and will be willing to undergo further investigations to improve health outcomes; perceived barriers: perceived barrier are related to an individual's negative attitude regarding screening behavior. It refers to the hurdles in implying the prescribed health actions. It is linked to the belief about psychological and physical costs of practicing new health actions and behaviors. Some hurdles could include pain, danger, cost, time commitment and inconvenience; cues to action: cue to actions can be defined as range of measurements taken to encourage awareness in society about prevention and treatment of health related problems. These measurements include mass media campaigns, reminders, and social circle engagement regarding disease prevention; and self- efficacy: confidence in one's ability to practice healthy. If an individual thought that new healthy behavior is positive but it will be beyond his capacity to perform it; then the individual will not practice the healthy behavior. [11,16] Umeh and Rogan-Gibson (2001) stated that fear of not being able to perform breast self-examination is

one of the reasons of not practicing breast self-examination. Thus, if a person believes that the new healthy behavior is helpful or positive; but he/she is incapable to perform it then the individual cannot do it. [11]

According to Powe, cancer fatalism acts as a psychosocial barrier as it affects the breast cancer screening practices in women. [17,18] Fatalism creates hindrance in screening of cancer. [19] Cancer fatalism shows the belief of many people that if they are diagnosed with cancer, death is inevitable. [20] Individuals having belief in fatalism think that all the events are bound to happen and that they have no control to change the future outcomes. [9,21,22] Brooks and colleagues reported that the concept of cancer fatalism was most marked in individuals with lower qualification and less income, older population, women, and minority groups (ethnic and racial). All these mentioned factors affected the decisions of individuals to be a part of cancer screening. [1]

Rationale of the Present Study:

Pakistan stands on top in Asian countries with high rate of breast cancer. It has now become widespread amongst women in Pakistan. [23] According to Sohail and Aslam, one out of 9 women are affected by breast cancer. [24] There are numerous risk factors associated to be fall victim of breast cancer like malnutrition, poor diagnosis, lifestyle and poverty. Breast are a symbol of pride and shyness which should be covered all the times among Pakistani Women. It is considered a disgrace or shame to amenably address any breast associated apprehensions among female family members generally and with male members particularly. Therefore, breast cancer has fallen into socially undesirable disease category. It is also believed that women are reluctant to conduct breast self-examination, either due to lack of awareness and/or cultural issues. [25]

Disturbingly, research suggested that Pakistani women only looked for medical assistance when their sarcoma had reached to advanced or serious stage because of the incapability of screening in the beginning. [26,27,28] This may lead to physiological, psychological and societal suffering faced by women due to stigmas attached to this disease. [29] Therefore, early diagnosis and screening programs can reduce the mortality rate by one third. [30] One of the simplest methods in screening is monthly breast self-examination. Trained health care workers can teach the women about breast self-examination and how to perform it every month. [23] As women are reluctant to conduct breast self-examination, either due to lack of awareness and/or cultural issues. [25]

The present study was important in its essence that it is targeting the most vulnerable problem in Pakistan among young female university students. Although several studies have been conducted in Pakistan on breast cancer but all of them were carried out with different objective/purposes. But, this study examined how health beliefs, self-efficacy, and cancer fatalism were correlated in young females practicing breast self-examination. Although screening and early detection programs may help in decreasing the incidence of breast cancer as well as they may also assist in improving the prognosis and management outcomes which might consequently lead to lower mortality rates. This would in turn also help on economical level in reducing the cost of advanced breast cancer treatments. The findings of this study would help academicians and other stake holder to organize the breast cancer awareness training programs in educational institutes as well as on a community level at large to properly educate our females about the importance and health significance of breast self-examination.

Objectives of the Present Study

- To investigate the relationship between health beliefs, self-efficacy and cancer fatalism in young female university students practicing breast self-examination.
- To examine the moderating role of self-efficacy in health beliefs and cancer fatalism in young female university students practicing breast self-examination.

- There are likely to be differences in health beliefs of natural sciences and social sciences young female university students practicing breast self-examination.

Materials and Method

Study design

In this study correlational research design was used to examine the relationship among the variables under investigation.

Settings

The sample was recruited from different departments of Faculty of Natural Sciences and Faculty of Social Sciences of University of Gujrat using purposive sampling (recruited only those students who are practicing self-breast examination) from Jan-2022 to April 2022.

Participants

A sample of 800 female university students was drawn from different departments of University of Gujrat. The sample was approached through convenient sampling technique. Young female students with the age range of 19 to 26 years, studying in University of Gujrat served as the inclusion criteria. After seeking permission of institutional authorities and Departmental Research Review Committee, the participants were approached in their respective faculties by the researcher. Participants were briefed about the research objectives and their written informed consent was taken prior to data collection.

Measures of Research

Following measures were used in this research.

Demographic Sheet

Demographic questionnaire is used to collect participant's information regarding age, department, socioeconomic status, residential area etc.

Health Belief Model Scale

This scale was introduced by Champion (1999) to measure the health belief related to breast cancer screening. [31] It consists of 51 items distributed in 8 sub-scales, scores ranging from 1-5 using the Likert scale. In the current study, the overall Cronbach's reliability was found to be .99.

Self-Efficacy

This scale measured the individual's self-efficacy. This scale was introduced by the Schwarzer and Jerusalem in 1995. It consisted of 10 items, total scores ranged from 10 to 40. [32] More the score, the better the self-efficacy level. In the present study the overall Cronbach's reliability was found to be .96.

Cancer Fatalism

This scale was used to assess the participant's level of cancer fatalism. It is introduced by Powe in 1995, comprised of 15 items with the response category of "Yes" or "No". Score 1 for the "Yes" option and score 0 for "No" option. [33] In the present study, the reliability was found to be .98.

Ethical Considerations

Prior to the beginning of the study, it was scrutinized at two steps for approval. Firstly, Department Research and Review Committee (DRRC), Department of Psychology, University of Gujrat gauged all the ethical as well as procedural aspects of the research, and then Advanced Studies and Research Board (ASRB) of University of Gujrat reviewed and approved the study vide notification number UOG/ASRB/Psychology/13/18631. American Psychological Association guidelines as well as

Declaration of Helsinki (1975) were followed during the entire process of the research. Written informed consent was taken and participants were ensured that they may leave the research at any time. Moreover, they were also guaranteed of the privacy and confidentiality of the information. Subsequently, data were analyzed for calculating study results.

RESULTS

The present study was carried out to examine the relationship between health beliefs, self-efficacy, and cancer fatalism in young female university students practicing breast self-examination. Further, moderating role of self-efficacy between health beliefs and cancer fatalism was assessed. In addition to this, differences in health beliefs of natural sciences and social sciences young female university students practicing breast self-examination were also inspected. To achieve the objectives of this study Pearson Product Moment Correlation Co-efficient, moderation analysis, and independent sample t-test were run. The findings are discussed below:

Table 1

Demographic Characteristics of Young Female University Students Practicing Breast Self-Examination (N=800)

Variables	Category	*f*	*p*	Mean	SD
Family History of Breast cancer					
	No	658.00	82.29		
	Yes	142.00	17.71		
Faculties					
	Natural Sciences	380.00	47.43		
	Social Sciences	420.00	52.57		
Breast screening in last 6 Months					
	No	576.00	72.00		
	Yes	224.00	28.00		
Status					
	Married	160.00	19.71		
	Unmarried	640.00	80.29		
System					
	Nuclear	412.00	51.43		
	Joint	388.00	48.57		
Area					
	Urban	408.00	50.86		
	Rural	392.00	49.14		
Age				22.49	2.08

Table 1 showed the demographic characteristics of female students (Mean age = 22.49, SD = 2.08) studying in different departments of two different faculties. i.e. Natural Sciences and Social Sciences**.** There were approximately 18% females having family history of breast cancer, whereas, only 28% female had done breast examination in the past 6 months.

Figure 1

Correlation between Health Beliefs, Self-Efficacy and Cancer Fatalism in Young Female University Students Practicing Breast Self-Examination (N=800)

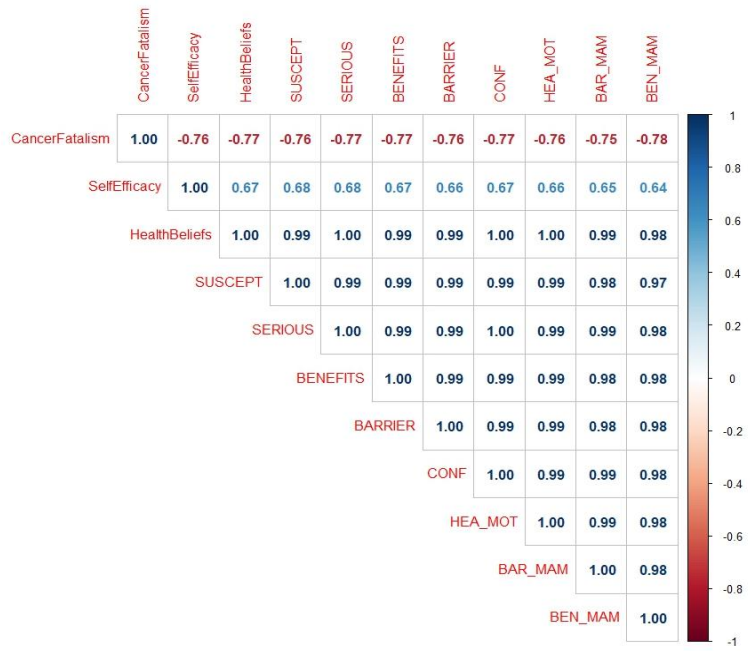

Figure 1 presented that health beliefs including its subscales and self-efficacy have a significant negative relationship with cancer fatalism in young female university students practicing breast self-examination.

Table 2

Moderating Role of Self-Efficacy between Health Beliefs and Cancer Fatalism in Young Female University Students Practicing Breast Self-Examination (N=800)

Variables	*Estimates*	*SE*	95% CI *LL*	*UL*	*p*
Constant	.1.93***	.154	1.62	2.23	<0.001
Health Belief Model	.040***	0.008	1.12	1.53	<0.001
Self-efficacy	-.376***	0.068	-.521	-.237	<0.001
Interaction	.044*	0.02	.000	.002	0.02
Health motivation	.021	0.017	-.013	.043	0.20
Suspect	.036	0.015	-.05	.011	0.02
Serious	-0.018	0.020	-.084	.017	.368
Benefits	-0.048	0.015	-.006	-.058	.002
Barrier	0.28	0.014	-.037	.024	0.04
Confidence	-.002	0.016	-.013	-.043	.901
Benefits Mammogram	-0.103	0.018	-.140	-.069	<0.001

Barriers Mammogram	0.027	0.013	.002	.049	0.03
R^2					
ΔR^2	.74				

The self-efficacy significantly moderated the relationship between health beliefs and cancer fatalism (β= .53, p < .05). Moreover, there is a statistically significant relationship between health beliefs and cancer fatalism (β = -.293, p < 0.001). With an R^2 value of.74 and F (3, 346) =88.34, p < 0.001), the predictors were able to explain approximately 74% of the variance in the result. Suspects, benefits, barriers, benefits of mammogram and barriers of mammogram showed significant relationship with cancer fatalism.

Figure 2: *Moderating Role of Self-Efficacy between Health Beliefs and Cancer Fatalism*

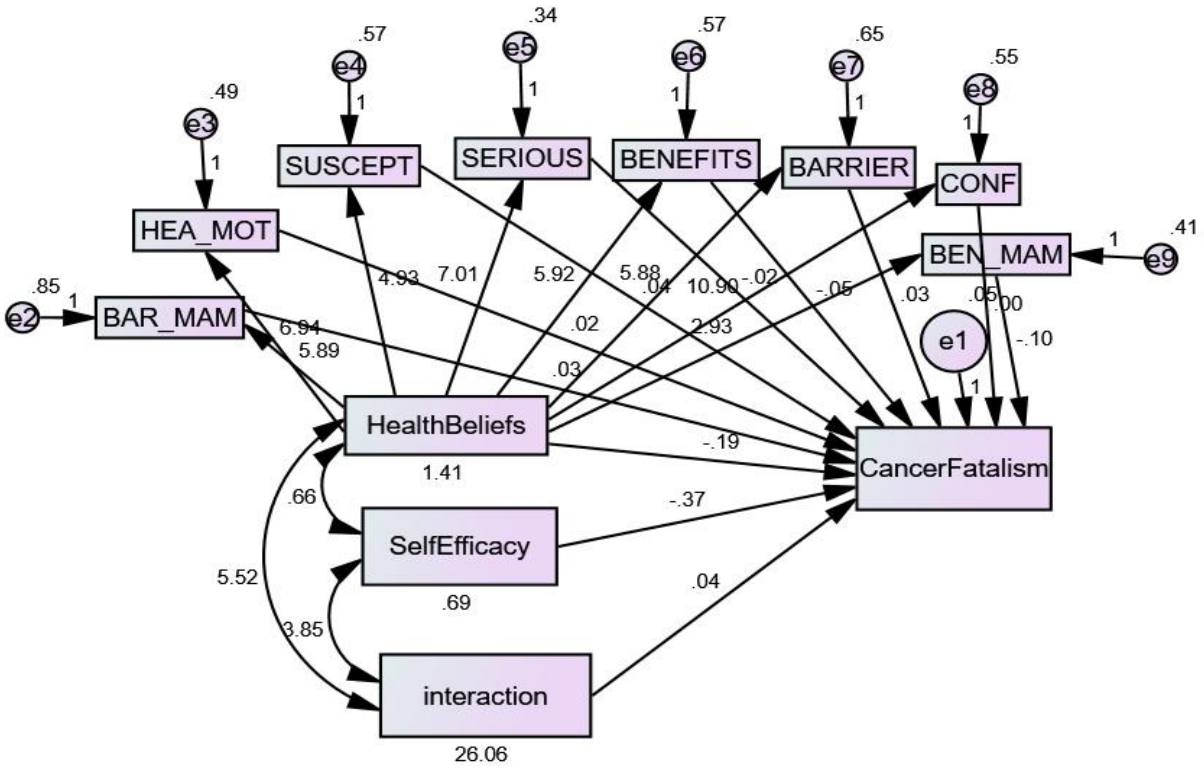

Figure 2 showed moderating role of Self-Efficacy between Health Beliefs and Cancer Fatalism. It can be seen that health beliefs was negatively predicting cancer fatalism.

Table 3

Department Wise Differences in Health Beliefs of Young Female University Students Practicing Breast Self-Examination (N=800)

	Natural Sciences	**Social Sciences**	*t*(348)	95% *CI*

Variables	*M*	*SD*	*M*	*SD*		*p*	*LL*	*UL*	Cohen's d
Suspect	15.09	6.59	20.53	3.65	-9.66	0.00	-6.54	-4.33	1.02
Serious	21.09	9.41	28.76	5.02	-9.64	0.00	-9.23	-6.11	1.01
Benefits	18.18	7.92	24.71	4.30	-9.71	0.00	-7.85	-5.21	1.02
Barrier	18.32	7.87	24.75	4.34	-9.59	0.00	-7.75	-5.11	1.02
Conf	33.29	14.40	45.39	8.01	-9.84	0.00	-14.52	-9.68	1.04
Hea_mot	21.22	9.23	28.78	5.14	-9.58	0.00	-9.11	-6.01	1.01
Bar_mam	18.14	7.88	24.54	4.42	-9.48	0.00	-7.73	-5.07	1.00
Ben_mam	9.08	3.96	12.21	2.27	-9.17	0.00	-3.80	-2.46	.96

Note: Conf= Confidence, Hea_mot= Health Motivation, Bar_mam= Barriers Mammogram, Ben_mam= Benefits Mammogram.

Table 3 showed significant differences among young female students of different departments. It can be seen that young female students practicing breast self-examination from social sciences showed higher mean compared to the young female students from natural sciences.

DISCUSSION

The present study was conducted to examine the relationship health beliefs, self-efficacy, and breast cancer fatalism in young female university students performing breast self-examination. The findings of this study showed a significant negative relationship of health beliefs and self-efficacy with cancer fatalism. This finding is somewhat consistent with Ersin and Dedeoglu they concluded that there is a correlation between health beliefs and breast cancer fatalism perceptions of individuals; a negatively weak and significant correlation between self-efficacy perceptions and breast cancer fatalism perceptions was also reported by Ersin and Dedeoglu which are in line with findings of this study. [34]

Further, one of the most important findings of this study is that self-efficacy moderates the relationship between health beliefs and cancer fatalism in young female university students practicing breast self-examination. As, self-efficacy is one of the important constructs involved in screening and health related behaviors. [35] Researches indicated that individual who believe in their capabilities actively participate in use of breast self-examination and the use of mammography [36,37,38] which are the potential factors for reducing the cancer fatalism. Although there is paucity of research; as to the best of our knowledge we could not find any study regarding the moderating role of self-efficacy between health beliefs and breast cancer fatalism; so current study's findings regarding moderating role of self-efficacy are beneficial in the sense that it adds in the literature and helpful for researchers in understanding the theoretical links.

Students coming from a different educational background showed differences on sub-scales of health belief model which could also be seen in the results of table 3. This can be the fact that they are more aware of the reasons of developing cancer and the importance of health beliefs including well understanding of breast self-examination, improved health motivation behaviors etc. Keller and his fellows reported consistent findings that education had a significant relationship with cancer knowledge and which led to higher involvement in cancer screening or benefits of mammogram. [39]

CONCLUSION

From the present study it is concluded that individual's health beliefs and self-efficacy both plays essential role in decreasing breast cancer fatalism. In order to improve breast cancer outcomes and survival, early diagnosis and screening are critical. [9,8] Although multiple factors such as culture, family support, awareness regarding disease, health beliefs, self-efficacy, disease risk perception, and other psychological as well as social factors have an influence on screening behaviors. [10,8,11] Therefore, it is

suggested to arrange proper training programs for increasing awareness as well as self-efficacy regarding breast self-examination practices among women so that they could easily perform breast self-examination efficiently without any difficulty. This will in turn help at secondary prevention level focusing on early detection and intervention to improve survival rates and add disease free healthy years to life.

LIMITATIONS AND RECOMMENDATIONS

The present study has several limitations which should be addressed in subsequent research. Firstly, in this study only those young female students were participated who perform breast self-examination; so for future researchers it is recommended that they should gather data from those young females who are not practicing breast self-examination in order to understand their health beliefs, self-efficacy and breast cancer fatalism. As in this study only female students with the age range of 19 to 26 year were included, so for future researchers it is recommended that they should include the women who are at the age of 40 and above as the incidence of breast cancer is more prevalent in this age group. Further, this study needs to be replicated for more valid and reliable results.

Funding

The author received no funding for this research.

Conflict of Interest

None declared.

Ethical Approval

Advanced Studies and Research Board (ASRB) of University of Gujrat reviewed and approved the study vide notification number UOG/ASRB/Psychology/13/18631.

REFERENCES

Curtis, Amy. "Health Belief Model and Fatalism related to Breast Cancer Screening in Working Women." PhD diss., Auburn University, 2016.

Ferlay J, Colombet M, Soerjomataram I, Parkin DM, Pineros M, Znaor A, Bray F. Cancer statistics for the year 2020: an overview. Int. J. Cancer 2021;149:778-789.

Hussain I, Majeed A, Rasool MF, et al. Knowledge, attitude, preventive practices and perceived barriers to screening about colorectal cancer among university students of newly merged district, KPK, Pakistan: a cross-sectional study. J Oncol Pharm Pract, 2021;27:359–367

Ali A, Manzoor MF, Ahmad N, et al. The burden of cancer, government strategic policies, and challenges in Pakistan: a comprehensive review. Front. nutr., 2022;9:1-17

Rashid A, Aqeel M, Malik B, Salim S. The prevalence of psychiatric disorders in breast cancer patients: a cross-sectional study of breast cancer patients experience in Pakistan. Nature-Nurt J. Psych, 2021;1:1-7

Humphrey LL, Helfand M, Chan BKS, Woolf SH. (2002). Clinical guidelines. Breast cancer screening: a summary of the evidence for the US Preventative Services Task Force. Ann. Intern. Med, 2002;137:347-360.

Abbas G, Shah S, Hanif M, Asghar A, Shafique M, Ashraf K. Cancer prevalence, incidence and mortality rates in Pakistan in 2018. Bull Cancer, 2020;107(4):517-518

Yucel SC, Orgun F, Tokem Y, et al. Determining the factors that affect breast cancer and self breast examination beliefs of Turkish nurses in academia. Asian Pac J Cancer Prev, 2014;15:1275-1280

Charkazi A, Samimi A, Razzaghi K, et al. Adherence to recommended breast cancer screening in Iranian Turkmen women: the role of knowledge and beliefs. ISRN Prev Med. 2013;581027

Kulakci-Altintas H, Kuzlu-Ayyildiz T, Veren F, Kose-Topan T. The effect of breast cancer fatalism on breast cancer awareness among Turkish women. J Relig Health. 2017;56:1537-1552.

Akhigbe A, Akhigbe K. Effects of health belief and cancer fatalism on the practice of breast cancer screening among Nigerian women. Mammography. 2012;71-88.

Jemal A, Thomas A, Murray T, Thun M. Cancer statistics. Ca-A Cancer J Clin. 2002;52:23-47.

Dewi TK, Massar K, Ruiter RA, Leonardi T. Determinants of breast self-examination practice among women in Surabaya, Indonesia: an application of the health belief model. BMC Public Health, 2019;19:1-8

Champion VL, Hui S, Maraj M, et al. Comparison of tailored interventions to increase mammography screening in non-adherent older women. Prev Med, 2003;36:150-158

Carpenter CJ. A meta-analysis of the effectiveness of health belief model variables in predicting behavior. Health Commun, 2010;25:661-669

Champion VL, Skinner CS. The health belief model. In: Glanz K, Rimer BK, Viswanath KV, editors. Health behavior and health education: Theory, research and practice. 4th ed. San Francisco: Jossey-Bass, Inc; 2008:46-65.

Kissal A, Ersin F, Koc M, Vural B, Cetin O. Determination of women's health beliefs, breast cancer fears, and fatalism associated with behaviors regarding the early diagnosis of breast cancer. Int. J. Cancer Manag, 2018;11(12)

Shang C, Beaver K, Campbell M. Social cultural influences on breast cancer views and breast health practices among Chinese women in the United Kingdom. Cancer Nurs, 2015;38:343-350

Clarke N, Kearney PM, Gallagher P, McNamara D, O'Morain CA, Sharp L. Negative emotions and cancer fatalism are independently associated with uptake of Faecal Immunochemical Test-based colorectal cancer screening: results from a population-based study. Prev Med, 2021; 145:106430

Ngien A, Jiang S. Online cancer information seeking and colorectal cancer screening in China: Considering threat and coping Appraisals, and cancer fatalism. Prev. Med. Rep, 2024;45:102824

Ghahramanian A, Rahmani A, Aghazadeh AM, Mehr LE. Relationships of fear of breast cancer and fatalism with screening behavior in women referred to health centers of Tabriz in Iran. Asian Pac J Cancer Prev., 2016;17:4427-4432

Banning M, Shia N. Perceptions of breast cancer screening in older Chinese women: a meta-ethnography. Global J Breast Cancer Res.,2014;2:8-18

Menhas R, Umer S. Breast cancer among Pakistani women. Iran J Public Health, 2015;44:586-587.

Siddiqui R, Mehmood MH, Khan NA. An overview of breast cancer in Pakistan. Discov Med, 2024;1:82.

Banning M, Hafeez HA. Two-center study of Muslim women's views of breast cancer and breast health practices in Pakistan and the UK. J Cancer Educ, 2010;25:349-353.

Badar F, Faruqui ZS, Uddin N, Trevan EA. Management of breast lesions by breast physicians in a heavily populated South Asian developing country. Asian Pac J Cancer Prev. 2011;12:827–32.

Naz N, Khanum S, Dal Sasso GTM, De Souza MDL. Women's views on handling and managing their breast cancer in Pakistan: a qualitative study. Diseases. 2016;4:17.

Saeed S, Khan JA, Iqbal N, Irfan S, Shafique A, Awan S. Cancer and how the patients see it; prevalence and perception of risk factors: a cross-sectional survey from a Tertiary Care Centre of Karachi, Pakistan. BMC Public Health. 2019;19:1–7.

Perreault A, Bourbonnais FF. The experience of suffering as lived by women with breast cancer. Int J Palliat Nurs. 2005;11:510-9

Bremner AK, Recabaren J. The efficacy of MRI as an adjuvant to traditional mammography. Am Surg, 2007;73:970-972.

Parsa P, Kandiah M, Mohd NM, et al. Reliability and validity of Champion's Health Belief Model Scale for breast cancer screening among Malaysian women. Singapore Med J, 2008;49:897.

Schwarzer R, Jerusalem M. Generalized Self-Efficacy Scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), Measures in Health Psychology: A User's Portfolio. Causal and Control Beliefs, 1995:35-37

Powe BD. Fatalism among elderly African Americans. Effects on colorectal cancer screening. Cancer Nurs, 1995;18:385-392.

Ersin F, Dedeoglu GK. Examining the correlation between breast cancer fatalism and health beliefs of mothers of hospitalized children in the pediatric surgery clinic of a university hospital. Int. J. Caring Sci, 2020;13:2037-2047.

Secginli S. Mammography self-efficacy scale and breast cancer fear scale: psychometric testing of the Turkish versions. Cancer Nurs, 2012;35:365-373.

Gonzales A, Alzaatreh M, Mari M, Saleh AA, Alloubani A. Beliefs and behavior of Saudi women in the university of Tabuk toward breast self-examination practice. Asian Pac J Cancer Prev, 2017;19:121-126.

Othman AK, Kiviniemi MT, Wu YWB, Lally RM. Influence of demographic factors, knowledge, and beliefs on Jordanian women's intention to undergo mammography screening. Journal of Nursing Scholarship, 2012;44:19-26.

Abolfotouh M, Banimustafa AA, Mahfouz AA, Al-Assiri MH, Al-Juhani AF, Alaskar AS. Using the health belief model to predict breast self-examination among Saudi women. BMC Public Health, 2015;15:1-12.

Keller KG, Toriola AT, Schneider JK. The relationship between cancer fatalism and education. Cancer Causes Control,2021;32:109-118.