Gazi Med J 2025;36(3):307-314

DOI: http://dx.doi.org/10.12996/gmj.2025.4401

Theory of Planned Behavior (TPB) Explaining Late Presentation of Breast Cancer in the West Coast of Sabah: A Structural Equation Modelling Approach

Planlı Davranış Teorisi (TPB) Meme Kanserinin Geç Sunumunu Açıklıyor: Yapısal Eşitlik Modelleme Yaklaşımı

Diana Lapai[1], Firdaus Hayati[1], Siti Zubaidah Sharif[2], M. Tanveer Hossain Parash[3], Nik Amin Sahid Nik Lah[1]

[1]Department of Surgery, Universiti Malaysia Sabah (UMS) Faculty of Medicine and Health Sciences, Kota Kinabalu, Malaysia
[2]Clinic of General Surgery, Queen Elizabeth II Hospital, Kota Kinabalu, Malaysia
[3]Department of Biomedical Sciences, Universiti Malaysia Sabah (UMS) Faculty of Medicine and Health Sciences, Kota Kinabalu, Malaysia

ABSTRACT

Objective: Early detection potentially reduces mortality rates, yet instances of delayed treatment-seeking after symptom onset have been observed, posing significant risks, as late presentation escalates mortality rates among patients. This study aims to delineate the sociodemographic profile of late-presenting breast cancer patients and investigate the Theory of Planned Behavior's (TPB's) (attitude, subjective norm and perceived behavioural control) on intention to seek medical consultation after breast cancer symptoms, that contributing to delayed presentation.

Methods: This cross-sectional study spanned from January 2022 to December 2022, and 111 eligible participants were selected for inclusion through simple random sampling. Researchers obtained written consent and offered assurances of confidentiality. Ethical approval was granted by the Medical Research and Ethics Committee (MREC) under the Ministry of Health Malaysia (MOH). The questionnaire encompassed socio-demographic data, clinical information, and the TPB constructs. SPSS AMOS version 22 facilitated Structural Equation Modeling for data analysis. Demographic variables and the TPB constructs were integrated into the model.

Results: Participants predominantly fell into the 40-49 and 50-59 age groups (36.9% and 35.1% respectively), were mostly married (78.4%), and had secondary school education (46.8%). The majority belonged to the B40 economic group (78.4%) and resided within 25 km of the hospital (41.4%). Stage II cancer was found to be prevalent during diagnosis (43.2%) and mostly presented 3-6 months after experiencing

ÖZ

Amaç: Erken teşhis, potansiyel olarak ölüm oranlarını azaltabilir; ancak semptomların başlamasından sonra tedavi arayışında gecikmeler gözlemlenmiştir. Bu gecikmeler önemli riskler teşkil eder, çünkü geç başvuru hasta ölümlerini artırmaktadır. Bu çalışma, geç başvuran meme kanseri hastalarının sosyodemografik profilini tanımlamayı ve planlanmış davranış teorisi'nin (PDT) bu gecikmeli başvurular üzerindeki etkisini araştırmayı amaçlamaktadır.

Yöntemler: Kesitsel bu çalışma Ocak 2022 ile Aralık 2022 arasında yürütülmüştür ve basit rastgele örnekleme yöntemiyle 111 uygun katılımcı seçilmiştir. Araştırmacılar yazılı onam almış ve gizlilik güvencesi sağlamıştır. Etik onay, Malezya Sağlık Bakanlığı'na (MOH) bağlı Tıbbi Araştırma ve Etik Komitesi (MREC) tarafından verilmiştir. Anket, sosyodemografik veriler, klinik bilgiler ve PDT yapılarını içermektedir. Veri analizi için SPSS AMOS sürüm 22 kullanılarak Yapısal Eşitlik Modellemesi uygulanmıştır. Demografik değişkenler ve TPB yapıları modele entegre edilmiştir.

Bulgular: Katılımcıların çoğu 40-49 ve 50-59 yaş gruplarındaydı (sırasıyla %36.9 ve %35.1), büyük kısmı evliydi (%78.4) ve lise eğitimi almıştı (%46.8). Katılımcıların çoğu B40 ekonomik grubuna aitti (%78.4) ve hastaneye 25 km mesafede ikamet etmekteydi (%41.4). Tanı konulduğunda genellikle Evre II kanser mevcuttu (%43.2) ve semptomların görülmesinden 3-6 ay sonra başvuru yapılmıştı (%81.1). Yapısal model makul bir uyum gösterdi. Tutum, niyeti anlamlı şekilde etkiledi (β1=0.844, p<0.001); ardından algılanan davranış kontrolü

Cite this article as: Lapai D, Hayati MFM, SZ, MTH P. Theory of planned behavior (TPB) explaining late presentation of breast cancer in the west coast of Sabah: a structural equation modelling approach. Gazi Med J. 2025;36(3):307-314

Address for Correspondence/Yazışma Adresi: Nik Amin Sahid Nik Lah, Department of Surgery, Universiti Malaysia Sabah (UMS) Faculty of Medicine and Health Sciences, Kota Kinabalu, Malaysia
E-mail / E-posta: nike_opo@ums.edu.my
ORCID ID: orcid.org/0000-0002-9954-9399

Received/Geliş Tarihi: 17.02.2025
Accepted/Kabul Tarihi: 19.05.2025
Publication Date/Yayınlanma Tarihi: 11.07.2025

the symptoms (81.1%). The structural model indicated a reasonable fit. Attitude significantly influenced intention (β1=0.844, p<0.001), followed by perceived behavioural control (β2=0.178, p=0.004). Subjective norm did not significantly affect intention (β2=0.088, p=0.199), suggesting a negative influence on patients' intention to seek medical consultation.

Conclusion: Interventions enhancing subjective norm efficacy are recommended, emphasising partner, family members, peers, physician, and media involvement.

Keywords: Breast cancer, late presentation, theory of planned behaviour

geldi (β2=0.178, p=0.004). Öznel normun niyet üzerinde anlamlı bir etkisi yoktu (β2=0.088, p=0.199), bu da hastaların tıbbi danışmanlık arama niyeti üzerinde olumsuz bir etkisi olduğunu göstermektedir.

Sonuç: Partner, aile üyeleri, arkadaşlar, hekimler ve medyanın katılımını vurgulayan, öznel normun etkinliğini artıran müdahalelerin önerilmesi gerekmektedir.

Keywords: Meme kanseri, geç başvuru, planlanmış davranış teorisi

INTRODUCTION

Breast cancer stands as the most prevalent malignancy among women globally, with over two million new cases diagnosed worldwide in 2018 (1). Efforts to control breast cancer incidence encompass prevention, early detection, diagnosis, and treatment. Although early detection potentially reduces mortality, many patients delay seeking treatment after symptom onset, posing significant risks. Late presentation of breast cancer significantly escalates mortality rates among patients (2). Patient delay in seeking medical consultation refers to the interval between symptom awareness and initial medical intervention. Most studies adopt a 3-month threshold to distinguish early from delayed presentation, as delays exceeding 3 months significantly worsen survival rates (3-5). The causes of delay is a result of the interplay with the patient's socio-cultural context, individual characteristics that influence symptom interpretation and decision-making, interaction with the social network and types of support obtained, and aspects of the local health services (6).

Understanding factors influencing delays is essential for developing effective strategies. Therefore, patient behaviour should be considered in assessing late presentation. An explicit model of human emotions, cognitions, and behaviour is necessary to evaluate psychosocial risk factors (5). Proposed by Ajzen, the Theory of Planned Behaviour (TPB) has been utilised in numerous health studies, particularly in breast cancer research. According to this theory, an attitude, subjective norm, and perceived behavioural control (PBC) shape behavioural intention, ultimately guiding subsequent actions (7-9). Attitude reflects beliefs toward a specific behaviour, subjective norm involves beliefs regarding approval or disapproval of key referents, and PBC pertains to the extent to which an individual perceives a behaviour as easy or difficult to perform. These variables are crucial in determining patient intention to perform certain behaviours. This study employs the structural equation modelling (SEM) based on the TPB to examine patients' behavioural intention to seek medical consultation after experiencing breast cancer symptoms.

The study seeks to identify sociodemographic data on of late-presenting breast cancer patients and to investigate the impact the of TPB components on the late presentation in of breast cancer patients.

MATERIAL AND METHODS

Participant and Procedure

This cross-sectional study was executed from January 2022 to December 2022 in three phases. Initially, patient data regarding late presentation were sourced from hospital breast cancer records. Subsequently, 111 patients who fulfilled the inclusion criteria were selected as participants via random sampling. In the final stage, the researcher or representative conversed with the patients during follow-up visits to the clinic or via phone calls after finalising the patient list. Written consent was obtained from all those listed, and assurances were given regarding patient confidentiality. Ethical approval was secured from the Medical Research and Ethics Committee (MREC) (approval number: NMRR-20-32-52564 (IIR), date: 27.02.2020), Ministry of Health Malaysia (MOH). Approval and data collection has been extended until 2022 due to the pandemic of Covid-19.

Questionnaire Development

The questionnaire comprised three sections: socio-demographic information, clinical data, and the TPB construct questionnaire. The TPB construct questionnaire was adapted from prior studies (10,11). Validation and reliability of the questionnaire was done in accordance with the TPB founders' methodology (12). Content clarity and appropriateness were reviewed by two expert committees experienced in the TPB questionnaire development. Translation and backward translation were conducted by Universiti Malaysia Sabah Translation and Editing Unit and an independent translator. A pilot survey confirmed the instrument's overall reliability, with by Cronbach's alpha >0.8, indicating adequate internal consistency. Additionally, reliability coefficients for attitude, subjective norm, PBC, and intention were 0.977, 0.826, 0.870, and 0.922, respectively. The participants' responses were systematically recorded using a five-point Likert scale to ensure consistency in data collection.

Statistical Analysis

The SEM was conducted using the Analysis of Moment Structure (AMOS) software, version 22, for data analysis. Demographic variables and the TPB constructs were entered into the model and analysed. SEM is widely regarded as the optimal method for simultaneous assessment of overall model fit, individual parameter

estimates, regression coefficients comparisons, and the examination of variances within and across multiple groups (13).

RESULTS

Sample Characteristics

Table 1 presents the sample characteristics. The majority of participants fell into the age groups of 40-49 and 50-59 years, accounting for 36.9% and 35.1%, respectively. Most patients were married (78.4%), and the highest proportion had a secondary school educational level (46.8%), with a significant portion being housewives (48.6%). The majority of patients belonged to the B40 economic status (78.4%), followed by M40 (19.8%) and T20 (1.8%). Approximately 41.4% of patients resided within a distance of less than 25 km from the hospital. The distribution of patients by cancer stage was as follows: stage II (43%), stage III (33%), stage I (16%), and stage IV (8%). About 97% of the patients presented with self-discovered symptoms of breast cancer, and the most frequent initial symptom was a breast lump (83%), while few had other symptoms. 20.9% of the patients had a family history of breast cancer. Despite having listed one or more reasons to delay seeking medical consultation, most patients (81%) reported presenting within 3-6 months of discovering their symptoms, 5% reported presenting between 6 months to 1 year, and 14% delayed their presentation for one year or more.

Structural Equation Modelling (SEM)

This study employed the SEM approach to examine the proposed model's relationships, following two-stage model-building process: (i) measurement model, and (ii) structural model. In the proposed model, three constructs (attitude, subjective norm, and PBC were specified as exogenous variables, while the endogenous variable was the patients' intention to seek medical consultation after experiencing breast cancer symptoms.

Evaluation of the Measurement Model

The measurement model was assessed for reliability, convergent validity, and discriminant validity of the construct measures. According to Hair et al. (13), a good model fit is indicated by a comparative fit index (CFI) above 0.9, a chi-square normalised by degrees of freedom (χ^2/df) below 3, and a root mean squared error of approximation (RMSEA) below 0.08. The obtained model (Table 2) demonstrated a good fit based on the main goodness-of-fit indices: χ^2/df =1.573, CFI =0.984, GFI =0.914, normed fit index =0.958, and RMSEA =0.072.

Internal Reliability

Cronbach's alpha and composite reliability were used to assess internal reliability. Internal reliability of a measurement construct is deemed adequate when both Cronbach's alpha and composite reliability values exceed the recommended threshold of 0.70, indicating consistent and reliable measurement of the underlying latent variable. As shown in Table 3, both Cronbach's alpha and composite reliability values exceeded the recommended threshold of 0.70, indicating a high level of internal consistency among the indicators.

Table 1. Demographic profile and clinical characteristics of the patients (n=111)

		Frequency	**Percent**
Age	<30 years	3	2.7
	30-39 years	16	14.4
	40-49 years	41	36.9
	50-59 years	39	35.1
	60-69 years	12	10.8
Marital status	Married	87	78.4
	Single	12	10.8
	Divorcee	12	10.8
Ethnicity	KadazanDusun	39	35.1
	Bajau	15	13.5
	Chinese	12	10.8
	Melayu	16	14.4
	Brunei	8	7.2
	Others	21	18.9
Level of education	No formal education	8	7.2
	Primary	10	9.0
	Secondary	52	46.8
	Graduate	31	27.9
	Postgraduate	10	9.0
Occupation	Housewife	54	48.6
	Self-employed	8	7.2
	Government staff	40	35.9
	Private staff	9	8.1
Economic status	B40	87	78.4
	M40	22	19.8
	T20	2	1.8
Distance from the hospital	<25 km	46	41.4
	26-50 km	32	28.8
	51-100 km	13	11.7
	101-150 km	11	9.9
	151 km or more	9	8.1
	Total	**110**	**100.0**
		Frequency	**Percent**
Stages of cancer (during detection)	I	18	16.2
	II	48	43.2
	III	37	33.3
	IV	8	7.2
Time of presentation	3–6 months	90	81.1
	6 months–1 year	7	6.3
	> 1 year	14	12.6
	Total	**111**	**100.0**

Table 2. Goodness-of-fit for a structural model

	χ2	df	χ2/df	CFI	GFI	NFI	RMSEA	PNFI	PCFI
Recommended values*	N/A	N/A	<3	>0.9	>0.9	>0.9	<0.08	>0.5	>0.5
Model values	58.209	37	1.573	0.984	0.914	0.958	0.072	0.644	0.662

*Suki, 2014, χ^2/df, degrees of freedom.
CFI: Comparative Fit Index, GFI: Goodness-of-Fit Index, NFI: Normed Fit Index, RMSEA: Root mean square error of approximation, PNFI: Parsimony-Adjusted Normed Fit Index, PCFI: Parsimony-Adjusted Comparative Fit Index

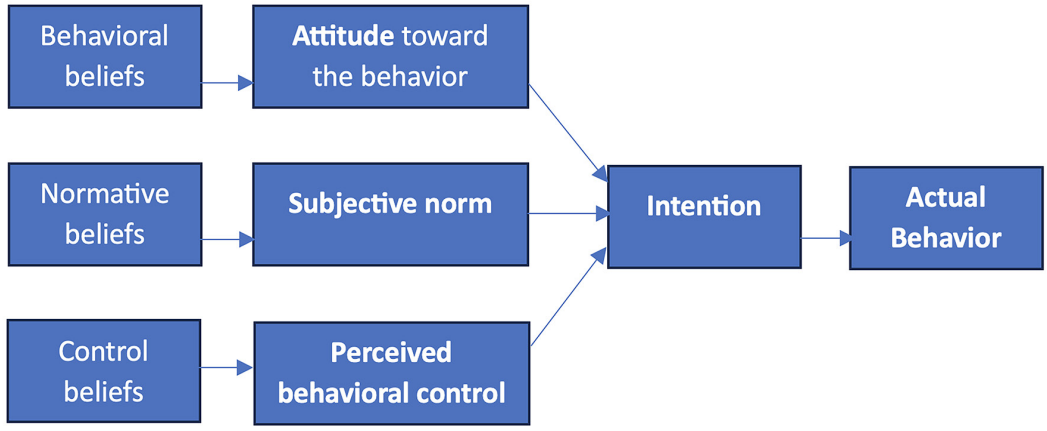

Figure 1. Theory of planned behavior Ajzen (7).

Convergent Validity

Convergent validity was assessed through standardised loading items, composite reliability, and average variances extracted (AVE). Convergent validity is established when standardised loadings and composite reliabilities exceed 0.700, and the AVE is greater than 0.500. Table 3 demonstrated that both standardised loadings and composite reliabilities exceed 0.700, Moreover, the AVE was above 0.500 in all instances, confirming successful convergent validity.

Discriminant Validity

Discriminant validity was assessed by comparing the shared variance between constructs with the square root of the AVE for each construct. Discriminant validity is established when the square root of the AVE for each construct exceeds the corresponding inter-construct correlations (shared variances). The correlation matrix revealed that the square root of the AVE for each construct was greater than the absolute value of its correlation with other constructs, thereby confirming satisfactory discriminant validity (Table 4). Since correlation coefficients were all below 0.700, multicollinearity was not a concern in this study.

Evaluation of Structural Model

The structural model underwent evaluation by scrutinising fit indices and the estimates of explained variance. Based on the assessment of the measurement model, this model demonstrated a reasonable fit. Table 5 and Figure 2 presents the standardised path coefficient of the structural model. The association between attitude and patients' intention to seek medical consultation after experiencing breast cancer symptom(s) is presented in Q1. The SEM approach revealed a positive influence of attitude on patients' intention to seek medical consultation after breast cancer symptoms (β1=0.844, p<0.001). The subsequent inquiry, Q2, hypothesised that PBC positively impacts patients' intention to seek medical consultation after experiencing breast cancer symptoms. The analysis found a positive and significant impact of PBC on patients' intention (p=0.004, with β2 =0.178). Furthermore, the examination of the impact of subjective norm on patients' intention to seek medical consultation after experiencing breast cancer symptoms is proposed in Q3. However, with a standardised path coefficient (β2) of 0.088 and a p-value of 0.199, subjective norm emerged as having an insignificant influence on patients' intention to seek medical consultation after detecting breast cancer symptoms. Consequently, Q3 appeared to have a negative influence on patients, leading to delays in their intentions to seek medical consultations after observing breast cancer symptoms.

DISCUSSION

This study investigated the behavioural intention of patients to seek medical consultation after experiencing symptoms of breast cancer using the TPB model. It elucidated how various psychosocial factors, such as the TPB constructs of attitude, subjective norm, and PBC, impact patients' intention to seek medical consultation after becoming aware of breast cancer symptoms.

In this investigation, attitude emerged as the most influential predictor of patients' intention to seek medical consultation after breast cancer symptoms, followed by PBC. The findings of this study validated the positive correlation between attitude and patients' intentions to seek medical consultation after breast cancer symptoms. These results are consistent with studies conducted by. Sun et al. (14), Wang et al. (10), and Fajriah et al. (15) have highlighted attitude as a contributing factor to women's participation in breast cancer screening programmes. However, Khazir et al. (16) found no predictive relationship between attitude and intention.

Table 3. Probable factors influencing intention of the breast cancer patients to seek medical consultation after breast cancer symptom (s) (n=110)

Item	Standardized loadings	Cronbach's alpha	Composite reliability	Average variance extracted
Attitude		0.977	0.975	0.908
attd2: Having early breast check-up is worth doing	0.919			
attd3: Having early breast check-up will detect lumps / abnormalities if I have any	0.974			
attd4: Having early breast check-up will lead to an early diagnosis of breast cancer if I have it	0.997			
attd5: Having early breast check-up will lead to an early treatment if I have breast cancer	0.919			
Subjective norm		0.826	0.826	0.704
Sn8: Most people who are important to me think I should have my breast check-up	0.836			
Sn9: If the important people around me had a breast cancer check-up, I would also carry out a check-up.	0.842			
Perceived behavioural control		0.870	0.871	0.772
PBC8: I believe I can solve the family commitment problem to get breast check-up in any healthcare facilities	0.902			
PBC9: I believe I can solve the work commitment problem to get breast check-up in any healthcare facilities	0.855			
Intention		0.922	0.922	0.798
Intent2: I have been paying attention to breast cancer check-up information	0.913			
Intent3: I am willing to promote breast cancer-related knowledge	0.887			
Intent4: I am willing to mobilize others to participate in breast cancer check-up if they have symptom(s)	0.880			

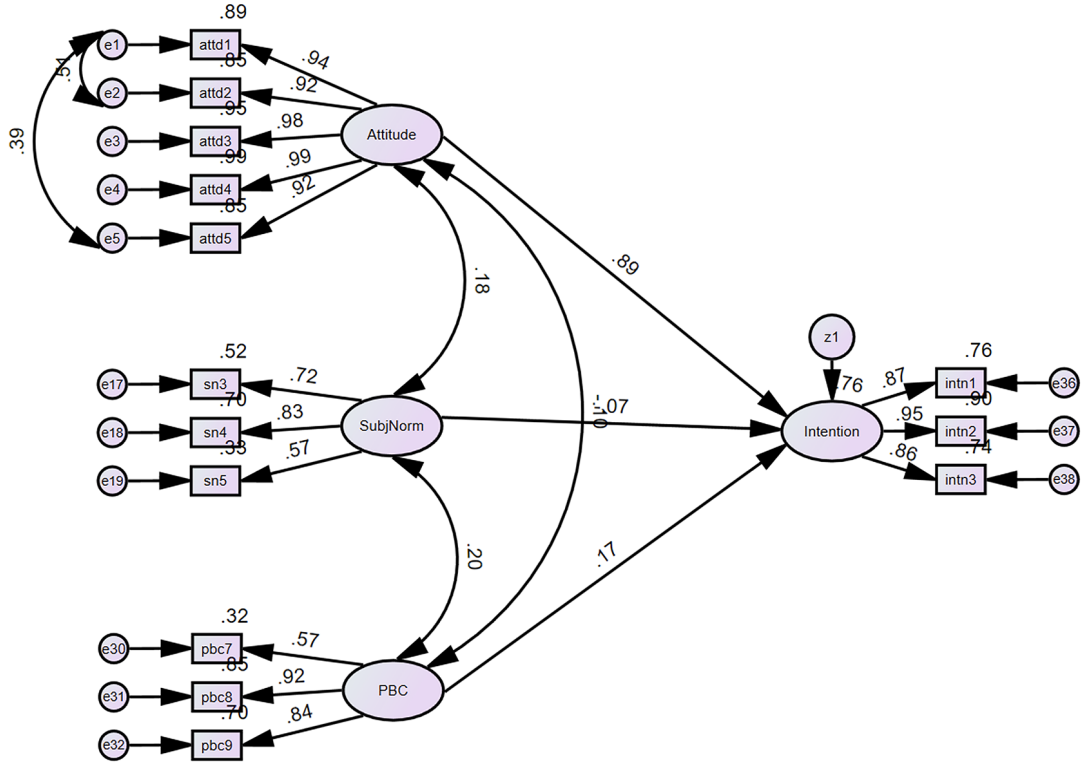

Figure 2. Final structural model of intention of patients to seek medical consultation after breast symptom (n=110)

PBC: Perceived behavioural control

Table 4. Correlations between the possible factors (n=111)

	Attitude	Subjective norm	Perceived behavioural control	Intention
Attitude	**0.953**			
Subjective norm	0.444**	**0.839**		
Perceived behavioural control	-0.117	0.049	**0.879**	
Intention	0.813**	0.438**	0.089	**0.893**

**Significant at p<0.01 level, bolded numbers represent the square root of average variances extracted (AVE).

Table 5. Relationships of late presenter patients' intention to seek medical consultation after breast cancer symptoms

	Path			Estimate	S.E.	C.R.	P
Q_1	Attitude	→	Intention	0.844	0.076	10.958	<0.001
Q_2	Perceived behavioral control	→	Intention	0.178	0.058	2.888	0.004
Q_3	Subjective norm	→	Intention	0.088	0.069	1.283	0.199

**significant at α=0.05

Similarly, perceived behavioral control exhibited a significant relationship with patients' intention to seek medical consultation after breast cancer symptoms, aligning with the findings of Rezabeigi-Khazir et al. (17) and Wang et al. (10), Rezabeigi-Davarani et al. (18), which suggested that perceived behavioral control predicts intentions and actions. However, Peyman et al. (19) found perceived behavioral control to be the weakest predictor of breast cancer screening, possibly due to variations in research settings, subjects, or data collection tools.

Contrary to attitude and PBC, subjective norm did not significantly influence patients' intention to seek medical consultation after experiencing breast cancer symptoms in this study. This suggests that individuals, important to the patients (partners, family, peers, physicians, and media), may have negatively influenced them, leading to delays in seeking medical consultations after noticing breast cancer symptoms. Despite patients' strong inclination to seek medical consultation for their breast cancer symptoms, as indicated by the positive significance of attitude and PBC, they were hindered by a lack of support, from their surroundings hindered them. This finding resonates with Keshavarzi (20), where subjective norm did not predict mammography screening intent and behaviour. However, it contradicts studies by Dezham (16) and Hatefnia (21), which showed a positive relationship between subjective norm and mammography screening intention and behaviour. Sun et al. (15), Wang et al. (10), and Jensen et al. (22) also concluded that subjective norm is the strongest predictor of screening intention.

Subjective norm is influenced by significant individuals in one's life, such as spouses, relatives, friends, health experts, and the media. One reason subjective norm did not significantly affect intention may be the lack of understanding among spouses regarding breast cancer symptoms. Men often lack clarity about breast cancer and its symptoms, leading them to pay less attention to their spouse's complaints. In a study by Khakbazan et al. (24), only 14% of women received encouragement from their husbands to seek medical consultation after experiencing breast cancer symptoms, while 31% received no encouragement from anyone.

Apart from spouses, insufficient encouragement from family members and friends may also contribute to delays in seeking medical consultations after experiencing breast cancer symptoms. Family members and friends should offer psychological support and emotional comfort to alleviate barriers to intention. Molina (24) indicated that advice from friends and family members increased the intention to undergo mammography screening. In this study, most patients were housewives with no active income, but with family commitments. Thus, increased support and encouragement from families and friends could give patients more time and courage to seek medical consultation for their symptoms. A lack of encouragement from family members and healthcare providers significantly affects women's decisions regarding breast cancer screening programmes. There is a correlation between lower levels of social support and the lack of participation in breast cancer screening (23). Stronger social support networks contribute to the development of more positive attitudes toward preventive healthcare.

Another factor noted in the study by Bonsu and Ncama (25), Moodley et al. (26), Kohler et al. (27) and Khakbazan et al. (23) is the absence of family history having breast cancer. As explained, subjective norm can be divided into injunctive normative belief and descriptive normative belief (28). An injunctive normative belief is the approves or disapproves of next of kin of the women to performing the behaviour while descriptive normative belief are beliefs as to whether important others themselves perform the behaviour. If the women having a family history of breast cancer, they are likely to experienced seeing their own family to seek medical consultation for breast symptoms, therefore this will increase women awareness of their increase susceptibility to breast cancer (29). In this study, only around 20.9% of the patients had a family history of breast cancer and only few of them (6%) having close friends that had breast cancer.

In addition to spouses, family members, and friends, health experts also play a significant role in influencing the subjective norm. In the study by Vahedin Shahrodi et al. (30), physicians and healthcare staff were the most informative sources regarding breast cancer

and screening methods. Emphasis on the importance of breast examinations and relevant knowledge by experts and primary care physicians is crucial. Intervention by community health workers and local volunteers can help alleviate women's discomfort and shyness about breast healthcare. Limited access to doctors, healthcare workers, educational resources, diagnosis, and treatment processes contributes to women's low awareness about clinical examinations and their importance. Women often neglect breast examinations until they experience severe symptoms, highlighting poor awareness about clinical examination execution and importance of clinical examinations. Most patients detected breast cancer at stage II (44%) and stage III (34%) and sought medical consultation only after experiencing multiple breast cancer symptoms.

In the study by Sun et al. (14), past experiences influence women's behaviours towards breast cancer screening. Women who had been screened before were more likely to get advice from physicians regarding breast cancer prevention Wu et al. (31). In this study, since the subjective norms found to be negatively linked with intentions, it is assumed that most women had never been screened before. This might suggest that poor communication between health care provider and the community lead to late presentation. Thus, collaboration between healthcare providers and relatives or community is essential to enhance the positive influence of subjective norm.

Subjective norms as media influence might publicize the harm of breast cancer and increase check-up intention, but it could also increase the exposure of screening process Sun et al. (14). Media can therefore give negative effects on subjective norm. Thus, patients may feel more embarrassed, especially with the male physician's involvement. Therefore, given our research findings, more intervention approaches should be taken to improve the efficacy of media influence such as television, brochures or leaflets, newspapers or magazines, and broadcast. Sun et al. (14) reported that advocacy and education has positive impact on subjective norms. Community that constantly exposed to the regular intervals of announcements or reminders of screening behaviours, and consequently, their emotions will be aroused and they will increasingly engage in the behaviours.

Study Limitations

This study marks an inaugural exploration into the inclination of late presenting breast cancer patients in Sabah to seek medical consultation after experiencing breast cancer symptoms. The TPB and SEM analytical models were employed for the purpose. This research provides valuable insight into the factors influencing delayed medical consultation, emphasizing that late presentation of breast cancer can vary based on psychosocial influences and is not solely determined by demographic or clinical factors.

Despite the substantial findings, the study encountered certain limitations. It was conducted with a limited number of participants for SEM analysis, relied on patients' recollections for recording dates, potentially introducing recall bias, and also relied on self-reporting for the questionnaire. Additionally, the absence of questions regarding negative intentions hindered the assessment of the direct impact of subjective norm on behavioural intention. However, these limitations do not undermine the overall significance of the study but rather offer suggestions for future research. To enhance data validity, it is recommended to incorporate interviews as a complement to the questionnaire, rather than solely relying on self-reported questionnaires. Moreover, combining the TPB model with other models such as the prototype willingness model could amplify explanatory power and offer a superior fit to the data compared to a single model. Furthermore, it is advisable to compare the model with other health education and health promotion models to enrich understanding and applicability.

CONCLUSION

In this study, subjective norm was seen to have a negative influence on the intentions of patients to seek medical consultation after experiencing cancer symptoms for the first time, while the patient's attitude and PBC was noted to have a positive influence on their intention to seek medical consultation after observing symptoms. Therefore, based on our research findings, additional intervention approaches should be implemented to enhance the efficacy of subjective norm influences on the public, such as awareness among partners, family members, peers, physicians, and various media. Thus, policies and programmes that encourage and mobilise the public to take preventive measures with regard to their own health should reasonably include education through the subjective norm.

Ethics

Ethics Committee Approval: Ethical approval was secured from the Medical Research and Ethics Committee (MREC) (approval number: NMRR-20-32-52564 (IIR), date: 27.02.2020), Ministry of Health Malaysia (MOH).

Informed Consent: Written consent was obtained from all those listed, and assurances were given regarding patient confidentiality.

Footnotes

Authorship Contributions

Surgical and Medical Practices: F.H., S.Z.S., N.A.S.N.K., Concept: F.H., S.Z.S., N.A.S.N.K., Design: S.Z.S., N.A.S.N.L., Data Collection or Processing: Analysis or Interpretation: D.L., M.T.H.P., Literature Search: D.L., Writing: D.L.,

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support.

Acknowledgments

The author wishes to express their gratitude to all the research assistants who contributed to data collection. Special thanks are extended to the reviewers and editors for their valuable feedback.

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