Health Education Program for Nurses Regarding Patient Navigation

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Abstract

Background: Patient navigation is a patient-centered approach designed to guide individuals through the often complex and fragmented healthcare system. **Aim**: This study evaluated health education program for nurses regarding patient Navigation**. Research design:** A quasi-experimental research design was used in this study. **Sample**: A convenient sample involved 70 nurses. **Setting**: Outpatient clinics at Bahayah Hospitals for Breast Cancer Early Detection and Management, Cairo, Egypt. **Tools for data collection:** Two tools used. **1st tool** composed of three parts **1st part:** Nurses' demographic characteristics, **2nd part:** Nurses' knowledge about patient navigation, and **3rd part:** Nurses' attitude about patient navigation, **2nd tool**: Observation checklist for nurses' practices about patient navigation. **Results:** Presented that, 64.3% of nurses had inadequate total knowledge pre-program, which improved to 87.1 % of nurses, had adequate total knowledge and 89.3 % of them had positive total attitude post apply health education program. Also, 57.3% of the nurses had unsatisfactory total practices pre-program, which improved to 81.4% of them had satisfactory total practices post-implementation of a health education program. **Conclusion:** The health education program enhanced nurses' knowledge and practices regarding patient navigation. **Recommendations:** Continuous health education program for nurses about patients' navigation in other places.

Keywords: Health Education Program, Nurses, and Patient Navigation.

Introduction:

Navigation means to the process of guiding or directing someone through a specific path, route, or system. Patient navigation contains providing guidance, support, and advocacy to patients as navigate the complexities of the healthcare system to ensure patients receive timely and appropriate care. The goal of patient navigation is to support patients in overcoming barriers, accessing necessary resources and services, promoting a patient-centered approach to healthcare, and helping patients understand health conditions, treatment options, and support in making informed decisions about care ***(Chan et al., 2023).***

Patient Navigation (PN) is a process where trained healthcare professionals, known as patient navigation, help patients in navigating through the complex healthcare system to ensure timely access to appropriate care and resources. Patient navigation provides guidance and support to patients and their families, helping to overcome barriers and navigate through various healthcare services and settings. Patient navigation barriers include lack of transportation, lack of care for children or elderly relatives, not understanding why patients should get screened, speaking a language other than English, mistrust of the health care system, and fear of finding out, patients have cancer or fear of the screening procedures ***(Anthonisen et al., 2023).***

Globally, an estimated 2.3 million new cancer cases (1 in 4 new cancer cases) and 685,000 cancer deaths (1 in 6 deaths) in 2022, and the number of total women suffering from breast cancer equals 1.3 million cases. In Egypt, breast cancer is the most common malignancy in women, accounting for 38.8 % of cancers in this population, with the estimated number of breast cancer cases nearly 22,700 in 2020 and forecasted to be approximately 46,000 in 2050 ***(Mosquera et al., 2023).***

Several types of patient navigation programs are tailored to specific healthcare needs and populations, as cancer patient navigation, chronic disease patient navigation, maternal and child health navigation, mental health patient navigation, community-based patient navigation, and geriatric patient navigation ***(Ibekwe et al., 2022).*** Patient navigation includes a series of steps to assist patients in navigating the healthcare system effectively, counting assessment, establishing trust, education, and empowerment, care coordination, resource referral, advocacy, follow-up and support, and evaluation ***(Budde et al., 2022).***

A multidisciplinary team approach to provide comprehensive support to patients. The composition of the team may vary depending on the healthcare setting and the specific patient navigation program comprises patient navigation, healthcare providers, social workers/care coordinators, community health workers, administrative staff, specialists and

consultants, patient and family members, community organizations and resources ***(Mullen et al., 2023).***

Health education program for nurses about patient navigations are strategies to address patient barriers, how to maintain professional relationships and health promotion skills. More experienced navigation can focus on topics related to care coordination, emotional aspects of disease, legal and ethical healthcare issues, health promotion, motivational interviewing, professional boundaries, care coordination, and locating resources ***(Battaglia et al., 2022).***

Community Health Nurses (CHNs) can provide patient navigation with training and education on various health-related topics, as disease prevention, symptom management, and medication adherence. This can help patient navigation to better support their patients. CHN can assess patients, monitor their health status, provide interventions as medication management and wound care, and provide guidance to patient navigation on when and how to escalate patient concerns or symptoms ***(Witt et al., 2022).***

Significance of the study

Every 14 seconds, somewhere in the world, a woman is diagnosed with breast cancer. Around 4% of women diagnosed with breast cancer in the United States (U.S.) are younger than 40. In Egypt, breast cancer is the most common cancer among women, representing 18.9% of total cancer cases (35.1% in women and 2.2% in men) among the Egypt National Cancer Institute (NCI) series of 10,556 patients during the year 2020, with an age-adjusted rate of 49.6 per 100,000 populations. Also, this represents hospital-based data of referral tertiary centers and does not represent all breast cancer cases in Egypt ***(Salcedo et al., 2023).***

Patient navigator acts a crucial role in supporting breast cancer patients in various ways through providing emotional support, facilitating communication and education, assisting with care coordination, and providing resources and advocacy. Patient navigation is knowledgeable about available community resources, support groups, financial assistance programs, and other important services that can benefit breast cancer patients and connect patients with these resources to address their specific needs, as access to transportation, financial support, or psychosocial services. Navigation serves as advocates for patients, ensuring receive appropriate and timely care ***(Ruderman et al., 2023).***

Community health nurses link breast cancer patients with support groups, counseling services, and community resources and provide information and referrals for psychosocial support, rehabilitation services, and financial assistance programs. This support network can help patients cope with the emotional and practical challenges of their diagnosis and treatment and collaborate with healthcare providers, including oncologists, surgeons, and social workers, to ensure coordinated and comprehensive care for breast cancer patients ***(Teggart et al., 2023).*** So, this study performed to evaluate a health education program for nurses regarding patient navigation.

Aim of the study:

This study aims to evaluate a health education program for nurses regarding patient navigation through the following:

1- Assess nurses' level of knowledge, attitude and practices regarding patient navigation.

2-Planning and implementing a health education program for nurses regarding patient navigation.

3- Evaluating the effect of health education programs on knowledge, attitude and practices for nurses regarding patient navigation.

Research hypothesis:

Following the implementation of a health education program about patient navigation, the nurses' knowledge, attitudes, and practices will all improve.

Subjects& Methods:

Research design:

A quasi-experimental research design was used in this study.

Setting:

The current study was conducted at outpatients clinics in Bahayah Hospitals in Giza Governorate, a donation and non-governmental organization (NGO) affiliated with the Ministry of health depending on donations in financial support, it is a leading center for the early detection and treatment of breast cancer which is considered one of the excellent centers that offer comprehensive, compassionate pioneering services to meet the healthcare needs of breast cancer women. The hospitals offer comprehensive services, including radiology, chemotherapy, physiotherapy, and outpatient clinics." It was partially inaugurated in 2015 to receive patients. Bahayah out-patient clinics department include different clinics of several medicine branches. It presents diagnostic and medical services to its visitors. It's provided services were free except for the private cases with low cost. It serves all breast cancer patients and provides physical assessment, diagnostic procedures, and needed laboratory examinations for early detection regarding

the management of breast cancer patients it provides chemotherapy, radiotherapy, and other different lines of management for breast cancer patients;

Sampling & Sample size:

Convenience sample involved all nurses working at out-patient clinics in Bahayah hospitals equal 70 nurse.

Tools for data collection:

An interview questionnaire was written in simple Arabic language**.** It consisted of two tools.

Tool 1: it included two parts as the following:

Part (I): Demographic characteristics of nurses contained 7 items as age, marital status, job, residence, and education level and monthly income

Part (II): Nurses' knowledge regarding patient navigation: It was 18 closed-end questions (pre-posttest) as meaning and goal of patient navigation, types, barriers and effectiveness of patient navigation, key benefits, resources and team of navigation,

The scoring system comprised 18 questions; a correct response earned two points, an incomplete response earned one point, and a bad response earned zero points. Nurses' overall patient navigation knowledge score was 36 grades, which were broken down as follows:

• Inadequate overall understanding < 50% (≤18 grades).

• Adequate overall understanding > 50% (> 18 grades).

Part (III): Nurses' attitude regarding patient navigation: It was 11 closed-end questions (pre-posttest) as nurses believe that generally view patient navigation as a beneficial approach to improve patient care and coordination, many believe that navigation helps reduce barriers to care, thus enhancing treatment adherence and health outcomes, nurses believe that appreciate how navigation fosters better communication between patients, families, and the healthcare team.

Scoring system: The total score was 11 points for nurses' attitude about patient navigation. The answers scored as 2 points for agree answer, 1 point for neutral answer and zero point to disagree answer. The total score of nurses 22 points for attitude about patient navigation classified into two levels:

- **Negative attitude ≤ 50 % (≤ 11 points).**
- **Positive attitude > 50 % (> 11 points).**

Tool (II): Observation checklist to assess nurses' practices about patient navigation: It was involved 5 items:

A. Communication and information sharing included 6 closed ended questions as greets the patient and introduces themselves clearly, explains the role of the patient navigator in care, provides clear, jargon-free information about diagnosis or procedures.

B. Care coordination and navigation comprised 6 closed ended questions as guides the patient through the next steps in the care process, assists in scheduling appointments and follow-ups, coordinates with other healthcare professionals (e.g., physicians, social workers).

C. Emotional support and advocacy contained 5 closed ended questions as shows empathy and understanding toward the patient's condition, encourages patient questions and emotional expression, provides emotional reassurance during difficult times.

D. Documentation and record-keeping involved 4 closed ended questions as documents patient interactions accurately in the medical record, updates the care plan with new information from navigation activities.

E. Cultural satisfactory and ethics included 4 closed ended questions as considers patient's language, culture, and health beliefs during interaction, uses translation services or culturally appropriate materials when needed.

The scoring system contained 25 questions; the answer was 1 point for done and zero points for not done. The total score of nurses' reported practices about patient navigation equal 25 degrees divided as the following:

- Satisfactory total practices ≥ 70% degrees (≥ 18 degrees).
- Unsatisfactory total practices < 70% degrees (< 18 degrees).

Operational design included fieldwork, the pilot study's content validity, content reliability, and the preparation phase.

Preparatory phase:

It involved developing a data collection instrument by studying relevant literature and theoretical understanding of many study components using books, papers, the internet, and periodicals.

Pilot study:

Ten percent of the study participants, or seven nurses, participated in the pilot study to evaluate the study tool's question clarity and completion time. Because there were no changes, nurses who participated in the pilot study were included in the study.

Validity content:

Three community health nursing experts reviewed the tool to ensure it was clear, relevant, comprehensive, understandable, and applicable. No changes were made.

Tool Reliability:
When the same tool was given to the same participants twice under comparable circumstances, reliability was used to assess the instruments' internal consistency. Responses to the repeated tests were contrasted. Cronbach's Alpha reliability for practices was 0.859, knowledge-retest reliability was 0.842, and attitude was 0.912.

Ethical consideration:
On July 11, 2023, the Scientific Research Ethics Committee of the Nursing Faculty at Sohag University granted formal approval to carry out the proposed study under number 147. There is formal consent and voluntary participation in the study. Among the ethical issues are the study's nature and goal, the participants' right to withdraw at any time, and the confidentiality of the data, which should not be accessed by third parties without their consent. Beliefs, culture, ethics, and values are respected. Before signing, nurses were fully informed about the study and their involvement.

Fieldwork:

The director of the Bahayah Hospitals for Breast Tumors and the manager of the outpatient clinics gave their consent before the study was carried out. Formal consent was obtained from the nurses after the researchers gave them an introduction, described the study's goal, and gained their confidence and trust in order to persuade them to participate. In 2024, actual fieldwork was conducted during the six-month period from the start of January to the end of June, during which data was gathered. When the researchers interviewed nurses, they completed the questionnaires. Data was gathered by interviewing nurses in outpatient clinics and collecting data on Sundays and Wednesdays between 9 a.m. and 2 p.m. A program for health education was created and put into action, and distributed of booklet for nurses by the researchers.

Health education program formulated through the following phases:

Preparatory phase:
The program's data gathering is based on an analysis of previous and current related literature that examines several facets of nurses' patient navigation using books, periodicals, and journals. The goal is to create the study instrument and program material by understanding the research challenge.

Assessment phase:
The pre-testing questionnaire was used in this phase to evaluate the knowledge, attitudes, and practices of actual nurses on patient navigation to identified patient requirements. The patients were given a brief introduction to the researchers and the goal of the study. Individual meetings with each nurse were held, and their formal approval to participate was acquired. The confidentiality of the information collected and its exclusive use for the study's objectives were guaranteed to the nurses.

Planning phase:

Program sessions were created after a review of the relevant literature, considering the results of the assessment phase. The booklet included knowledge about patient navigation as meaning of patient navigation, types, team of navigation, barriers, role of patient navigation, benefits, and challenges in patient navigation, patient navigation models and future of patient navigation. After that, distribute booklet to all nurses. The teaching methods were lectures, group discussions, brainstorming, demonstration and re-demonstration and teaching media were PowerPoint presentations, pictures and booklet were used.

Implementation phase:

The study actual field works done through the period of the beginning of May to the end of October in 2024, two days per week according to accessible time of nurses to provide education program. Health education program was enhanced nurses' knowledge and practices. Based on the pre-test questionnaire results, the researchers provided nurses a six-session program, each session needed from 30-45 minutes (three theoretical sessions and three practical sessions). Post-test done after apply the end session. The study sample equal 70 nurses divided to 4 groups contained about 17-18 nurse. By the end of each session, the nurses had concerns about the schedule and content of the following one.

Evaluation phase:

This phase aimed to evaluate improving in nurses' total knowledge, attitude and practices after applying a health education program for nurses regarding patient navigation. It was done immediately after program implementation.

Statistical analysis:

Upon completion of data collection, data was computed and analyzed using Statistical Package for the Social Science (SPSS), version 24 for analysis. The P value set at 0.05. Descriptive statistics tests as numbers, percentages, mean standard deviation (±SD), will be used to describe the results.

Appropriate inferential statistics used as the "F" test or "t" test.

Significance of results:

- When P > 0.05, it is a statistically insignificant difference.
- When P < 0.05, it is a statistically significant difference.
- When P < 0.01 or P < 0.001, it is a statistically highly significant difference.

Results

Table (1): **Detects that,** the highest percentage of studies nurse were from 26-30 years old with Mean ±SD = 27.99±2.936, 74.3% of them had university education and 54.3% of them were working. Regarding the studies nurse residence, the current table illustrates that, 51.4% of them were from urban residence moreover, 74.3% of them had enough income.

Figure (1): Illustrates that, there was a statistically significant improvement in studied nurses' total knowledge post- providing health education program as evidenced by 68.7% of studied nurses had inadequate total knowledge preprogram and become 88.6% of them had adequate total knowledge post implementation health education program.

Figure (2): Illustrates that, there was a highly statistically significant improvement in studied nurses' total attitude post- health education program as evidenced by 67.8 % of them had negative total attitude pre- health education program and increased to 89.3 % had positive total attitude post- health education program at p=0.000*.

Figure (3): Illustrates that, there was a highly statistically significant improvement in studied nurses' total practices post- health education program as evidenced by 70.0 % of them had unsatisfactory total practices pre- health education program and increased to 90.0 % had satisfactory total practices post- health education program at p=0.002*.

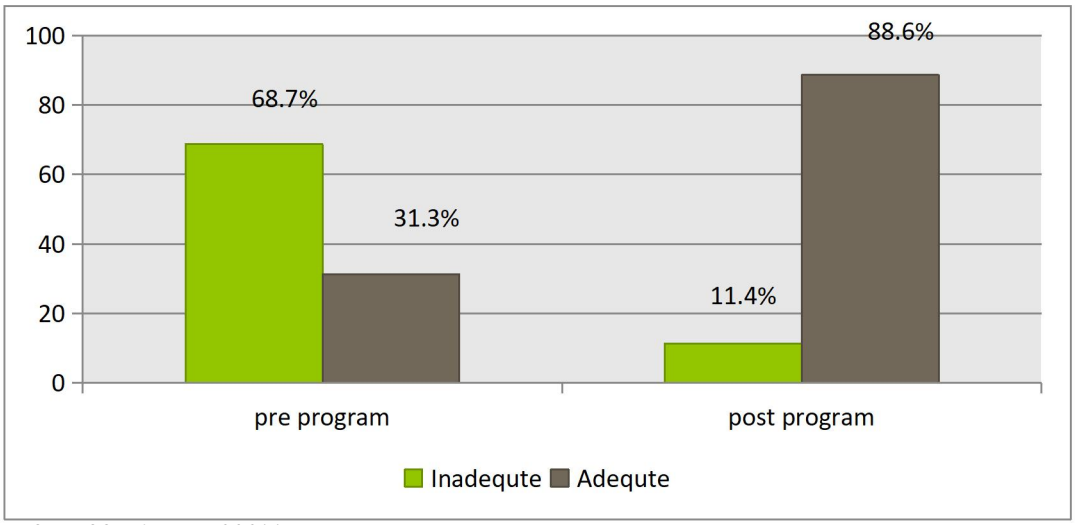
Table (2): Illustrated that, there was statistically significant relation between total studied nurses' total knowledge regarding patient navigation and their demographic characteristics p<0.05*, there was a highly significant relation p<0.001** at post-health education program implementation.

Table (3) shows that there was statistically significant relation between total studied nurses' total practices regarding patient navigation and their demographic characteristics p<0.05*, there was a highly significant relation p<0.001** at post- health education program implementation.

Table (4): Illustrates that, there was a highly statistically significant positive correlation between nurses' total knowledge, attitude and practices regarding patient navigation pre & post health education program implementation.

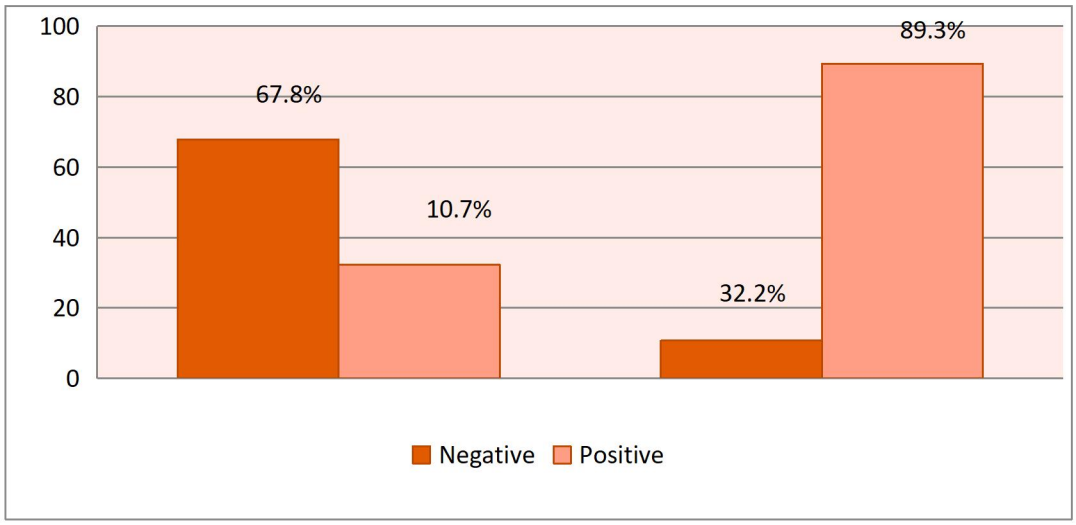
Table (1): Frequency Distribution of the Studied Nurses' Demographic Characteristics (N=70).

Demographic characteristic	No.	%
Age/ years		
20-25	8	11.4
26-30	46	**65.7**
31-35	12	17.1
36-40	4	5.7
Mean ±SD = 27.99 ± 0.936		
Educational level		
Diploma	8	11.4
University education	52	**74.3**
Master education	10	14.3
Job		
Head nurse	4	5.7
Nurse	66	94.3
Years of experience		
<1-5	38	**54.3**
>5	32	45.7
Residence		
Rural	34	48.6
Urban	36	**51.4**
Marital status		
Single	32	45.7
Married	**34**	**48.6**
Divorced	4	5.7
Monthly income		
Enough	52	**74.3**
Not enough	18	25.7



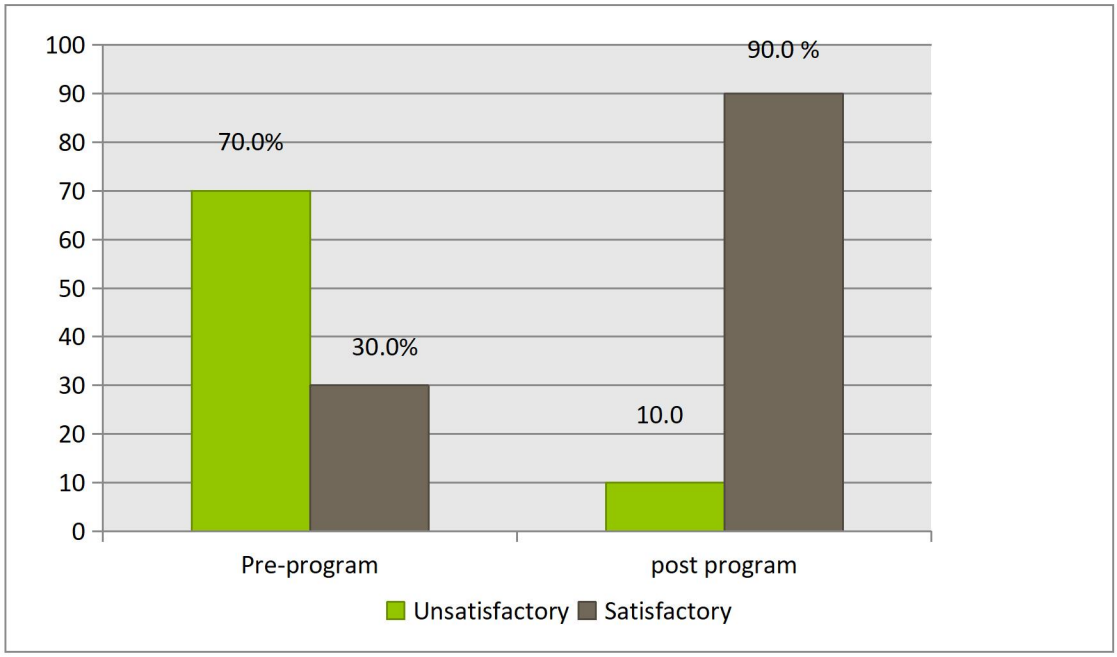
χ2 = 29.46 P =.000**

Figure (1): Percentage Distribution of the Studied Nurses' Total Knowledge Pre and Post Implementation Health Education Program Regarding Patient Navigation (n=70).



*χ2 = 36.3 P =.000***

Figure (2): Percentage Distribution of Studied Nurses' Total Attitude about Patient Navigation Pre and Post Implementation a Health Education Program (n=70).



x^2 = *Relation between pre& post health education program (8.869), (0.002*)*

Figure (3): Percentage Distribution of Studied Nurses' Total Observed Practices about Patient Navigation Pre and Post Implementation a Health Education Program (n=70).

Table (2): Statistically Relation between Total Knowledge and Demographic Characteristics of Studied Nurses Pre and Post Implementation Health Education Program (n=70).

Items	Pre				Chi-square		Post				Chi-square	
	Inadequate (n=48)		Adequate (n=22)		X^2	p-value	Inadequate (n=8)		Adequate (n=62)		X^2	p-value
	No.	%	No.	%			No.	%	No.	%		
Age/ years												
20-25	8	21.1	0	0.0	19.134	0.16	4	50.0	4	6.5	20.668	0.000**
26-30	28	73.7	18	56.3			4	50.0	42	67.7		
31-35	2	5.3	10	31.3			0	0.0	12	19.3		
36-40	0	0.0	4	12.5			0	0.0	4	6.5		
Educational level												
Diploma	7	14.6	1	4.5	26.553	0.07	1	11.1	7	11.5	9.754	0.001*
University education	41	85.4	11	50.0			7	77.8	17	27.9		
Master education	0	0.0	10	45.5			0	0.0	26	42.6		
Job												
Head nurse	1	2.1	3	13.6	23.317	0.06	0	0.0	4	6.4	6.721	0.021*
Nurse	47	97.9	19	86.4			8	100.0	58	93.6		
Years of experience												
<1-5	21	43.8	17	77.3	0.032	0.524	0	0.0	38	61.3	12.264	0.000**
>5	27	56.2	5	32.6			8	100.0	24	38.7		
Residence												
Rural	26	54.2	8	36.6	0.549	0.309	7	87.5	27	42.6	6.721	0.011*
Urban	22	45.8	14	63.4			1	12.5	35	56.4		
Marital status												
Single	30	62.5	2	9.1	3.225	0.002*	2	25.0	30	48.4	5.214	0.001*
Married	14	29.2	20	90.9			4	50.0	30	48.4		
Divorced	4	8.3	0	0.0			2	25.0	2	3.2		
Monthly income												
Enough	36	75.0	16	72.7	1.497	0.172	4	50.0	48	77.4	4.815	0.003*
Not enough	12	25.0	6	27.3			4	50.0	14	22.6		

Chi-square test, ** highly statistically significance p≤ 0.001, * statistically significance p≤ 0. 05, No statistically significance p> 0. 05

Table (3): Relation between Total Practices and Demographic Characteristics of Studied Nurses Pre and Post Health Implementation Education Program (n=70).

Items	Pre				Chi-square		Post				Chi-square	
	Unsatisfactory (n=49)		Satisfactory (n=21)		X^2	p-value	Unsatisfactory (n=7)		Satisfactory (n=63)		X^2	p-value
	No.	%	No.	%			No.	%	No.	%		
Age/ years												
20-25	8	17.8	0	0.0	14.877	0.32	0	0.0	8	12.7	20.836	0.000*
26-30	32	71.1	14	56.0			7	53.8	39	68.4		
31-35	5	11.1	7	28.0			0	0.0	12	21.1		
36-40	4	8.2	0	0.0			0	0.0	4	7.0		
Educational level												
Diploma	7	15.6	1	4.9	23.317	0.04	2	28.6	6	9.5	15.445	0.001*
University education	39	51.1	12	57.1			5	71.4	47	74.6		
Master education	2	20.0	8	32.0			0	0.0	10	15.9		
Job												
Head nurse	1	2.1	3	14.3	22.312	0.05*	0	0.0	4	6.4	15.445	0.001*
Nurse	48	97.9	18	85.7			7	100.0	59	93.6		
Years of experience												
<1-5	25	51.1	13	68.0	0.082	0.485	0	0.0	38	66.7	18.958	0.000**
>5	24	48.9	8	32.0			7	100.0	25	33.3		
Residence												
Rural	24	48.9	10	40.0	1.144	0.206	7	100.0	27	45.6	1.075	0.233
Urban	25	51.1	11	60.0			0	0.0	36	54.4		
Marital status												
Single	20	40.8	12	57.1	7.214	0.211	2	28.6	30	47.6		
Married	25	51.1	9	42.9			4	57.1	30	47.6		
Divorced	4	8.2	0	0.0			1	14.3	3	4.8		
Monthly income												
Enough	35	68.9	17	84.0	1.921	0.135	0	0.0	52	80.7	6.614	0.016*
Not enough	14	31.1	4	16.0			7	100.0	11	19.3		

Chi-square test, ** highly statistically significance p≤ 0.001, * statistically significance p≤ 0. 05, No statistically significance p> 0. 05

Table (4): Pearson Correlation between Total Knowledge, Attitude and Total Practices of Studied Nurses Pre and Post Implementation Health Education Program (n=70).

Variables	Total Practices of nurses			
	Pre- program		Post program	
Total Knowledge of nurses	r	P	R	P
	-0.13	0.07	-0.24	<0.0001
Total Attitude of nurses	-0.12	0.08	-0.22	<0.0001

**** Highly significant (p ≤ 0.001)**

Discussion

In order to enhance patient outcomes and lessen racial healthcare disparities, patient navigation programs have developed as a potential strategy for guiding patients along the cancer care continuum. The advantages of patient navigation in screening and diagnostic resolution phases have been well recognized. Nevertheless, there is a dearth of research assessing the effectiveness of patient navigation in cancer therapy, with particular attention to palliative care, quality indicators, treatment initiation, treatment adherence, and patient satisfaction ***(Chen et al., 2024).***

Regarding to demographic characteristics of the studied nurses, the present study findings related that mean age of them were 27.99 ± 1.936 years. This result disagrees with a study conducted by **Lima et al., (2025)** who conducted a study in southern Brazil about "Patient Navigation by Nurses in the Context of Head and Neck Neoplasms: An Integrative Review", who found that, the mean age of studied samples were 34.99 ± 0.29 years.

Concerning the studied nurses' educational level, the current study result revealed that, more two thirds of the studied nurses had university education. This result in the same line with **Yoo et al., (2024)** who carried out a study conducted in Korea about "Development of a nurse navigation program for cancer pain ", who found that, 71.5 % of the studied nurses' educational level had university education. **From researchers' point of view,** many healthcare institutions now require nurses to hold at least a bachelor's degree in nursing (BSN) as part of efforts to improve care quality and meet modern healthcare standards.

Regarding the studied nurses' residence, the current study result revealed that, more than half of the studied nurses had urban. This result in the same line with **Esmeil et al., (2025)** who carried out a study conducted in Egypt about "Nurse Navigation Principles and Responsibilities and its Relation to Total Quality Management ", they found that, 50.5 % of the studied nurses' educational level had urban. **From the researchers' point of view,** hospitals and healthcare facilities are concentrated in cities, offering more job openings, better salaries, and career growth compared to rural settings. Urban areas often provide better infrastructure, transportation, healthcare services, and social amenities, which attract professionals, including nurses.

Concerning the studied nurses' monthly income, the current study result revealed that, more than two thirds of the studied nurses had enough monthly income. This result in the same line with **Mohammed et al., (2024)** who carried out a study conducted in Egypt about "Improving Oncology Nurses' Navigator Core Competencies toward Caring for Children with Cancer", who found that, 72.3 % of the studied nurses had enough monthly income. **From the researchers' point of view,** many nurses are employed in government hospitals or reputable private institutions that provide stable and relatively competitive monthly salaries compared to other professions.

Regarding nurses' total knowledge about patient navigation, the result revealed improvement of nurses had adequate total knowledge from less than one third pre heath education program to more than two third after health education program. This agrees with **Li et al., (2020))** in published study entitled "Effects of nurse-led interventions on early detection of cancer: A systematic review and meta-analysis" conducted in Blair, Datta and China reported that the intervention also improved cancer knowledge, early detection beliefs, and cases of detected precancerous lesions. **From researchers' points of view,** the health education program likely provided well-organized and targeted information that clearly explained the concept, purpose, and functions of patient navigation, helping participants grasp unfamiliar concepts.

Concerning nurses' total attitude post apply health education program, the present study show there was a highly statistically significant improvement between per and post health education program regarding patient navigation and this finding was supported with **Pan et al., (2024),** who published study at Indonesia under title of " Implementation and effectiveness of a nurse navigation program based on nodding's care theory in first-year undergraduate nursing students for professional identity and career planning: A quasi-experimental study. " reported that, there was a highly statistically significant positive enhancement of nurses' total attitude between pre and post program regarding patient navigation. **From a researcher's point view,** a deeper understanding of how navigation improves patient care outcomes can lead to more favorable attitudes.

Concerning nurses' total practices, the result revealed that improve of nurses had satisfactory total practices less than one third pre heath education program to more than three fourth post health education program. This agrees with **Nelson et al., (2020)** in published study entitled "Effectiveness of Patient Navigation to Increase Cancer Screening in Populations Adversely Affected by Health Disparities: a Meta-analysis" conducted in clinical practices in the USA reported that, the results had satisfactory total practices less than one third pre-program to

more than three fourth post-program. **From researchers' points of view,** the program likely included hands-on training, demonstrations, or role-playing, which helped nurses' practices and internalize patient navigation tasks as guiding patients, coordinating care, and communicating effectively.

Regarding relation between studied nurse total knowledge regarding patient navigation and their demographic characteristics $p<0.05$, there was a highly significant relation $p<0.001$ at post- health education program implementation and this finding was in agreement with **Shash et al., (2024)** who published study at Egypt under title **"**Enhancing Patient Outcomes Through Integrated Education and Navigation Programs at the Breast Cancer Comprehensive Center, National Cancer Institute, Cairo University", who reported that, there was a highly significant relation $p<0.001$ at post- health education program implementation. **From researchers' point view,** demographic factors as education level, residence, and income may influence nurses' access to learning resources, their exposure to professional development, and their attitude toward new knowledge, contributing to differences in post-program knowledge.

Regarding relation between studied nurses' total practices and their demographic characteristics, that there was statistically significant relation between total studied nurses' total practices regarding patient navigation and their demographic characteristics $p<0.05$*, this finding was in agreement with **Mohamed Amin et al., (2025)** who published study at Egypt under title **"**Unlocking prevention: the role of health literacy in cervical cancer screening: community nursing perspective", who reported that, there is no statistically significant relation $p>0.05$ and monthly income, there was a statistically significant relation $p<0.05$. **From a researchers' point view,** nurses' understanding of patient navigation is likely shaped more by their educational background, training, and years of experience, rather than their salary. Income alone does not guarantee access to or interest in educational content.

Concerning correlation between nurses' total knowledge, attitude and practices post apply a health education program, the present study show there was a highly statistically significant positive correlation between total studied nurses' total knowledge, attitude and practices regarding patient navigation and this finding was supported with **Ibrahim et al., (2024),** who published study at Egypt under title of " Effectiveness of a palliative care education program for caregivers of cancer patients receiving chemotherapy in Port Said City: A pre-post quasi-experimental study" reported that, there was a highly statistically significant positive correlation between studied nurses' total knowledge, attitude and practices regarding patient navigation. **From a researcher's point view,** as nurses gain more accurate and comprehensive knowledge through the educational program, nurses are better able to understand the importance of patient navigation and apply it effectively in their clinical roles.

Conclusion:

The study's findings validated the hypothesis and demonstrated that, when compared to the pre-program, nurses' overall knowledge and attitude toward patient navigation significantly improved following the implementation of a health education program. After a health education program was implemented, the nurses' overall patient navigation practices score improved compared to before the program. Also, there was positive correlation between studied nurses' total knowledge, attitude and their total practices regarding patient navigation.

Recommendations:

Based on the findings of the present study, the following recommendations are suggested:

1. Continuous health education program for nurses about patient navigation.
2. Provide nurses booklets about patient navigation.
3. Make posters or banners about patient navigation and put them in the outpatient clinics.
4. Use additional research to generalize findings in different settings and with larger sample sizes.

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