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A Current Approach to Early Diagnosis and Treatment of Breast, Colorectal and Cervical Cancers in Women: "Nurse Navigation Program" and "Nurse Navigator"

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Abstract

Advances in the implementation and treatment of cancer screening programs reduce morbidity and mortality rates. However, reasons such as not being able to access medical information, deficiencies in the reminder system, and lack of interest in cancer screening negatively affect the behavior of individuals to have cancer screening. In recent years, the "Nurse Navigation Program" has come to the fore as an innovative approach to increase women's participation in cancer screening and to ensure that they receive the necessary treatment and care on time. Within the scope of this program, "the Nurse Navigator", who is in constant communication with women, provides health consultancy on early diagnosis and treatment of cancers, which is important in protecting and maintaining health, identifying cancer risk factors and individual, organizational and social barriers to screening, and offering necessary solutions, makes them more sensitive in protecting their health. In line with the current literature, this review aims to examine the effect of "Nurse Navigator" on women's participation in cancer screening, early diagnosis, and treatment of cancers within the scope of the "Nurse Navigation Program."

Keywords: Cancer, early diagnosis, health promotion, nurse navigator, screening, women's health

Introduction

Cancer is among the leading causes of morbidity and mortality worldwide. According to the data of the International Agency for Research on Cancer (IARC), Globocan (2018), there are 18.1 million cancer cases in the world and deaths due to cancer have increased to 9.6 million. The IARC has estimated that one in five men and one in six women will develop cancer during their lifetime, and one in eight men and one in eleven women will die due to cancer worldwide.[1]

The most common type of cancer among women is breast cancer (24.2%), followed by colorectal (9.5%), lung (8.4%), cervical (6.6%), and thyroid cancers (5.1%).[1] According to the Turkiye Health Statistics Yearbook (2019) published annually by the Ministry of Health in Türkiye, the most common cancers among women were reported to be breast (24.8%), thyroid (12.3%), colorectal (8.0%), endometrium (5.5%), and lung cancers (5.4%) in the last year. It has also been shown that cervical cancer (2.4%) is also among the ten-most common cancer types observed in women.[2]

Although cancer is common in the world and in Türkiye, it is a preventable disease that can be cured when detected at an early stage. Especially in some types of slowly progressing cancer, it is possible to diagnose the disease in the precancer stage, and the quality of life and survival rates of individuals can be increased by starting treatment in the early period. For this reason, cancer screening is seen as the main strategy for coping with cancer all over the world. The World Health Organization recommends the implementation of screening programs for breast cancer, colorectal cancer, and cervical cancer.[3] In Türkiye, national standards for breast, cervical and colorectal cancer screenings have been determined and units such as Family Health Centers, Community Health Centers, and Cancer Early Diagnosis, Screening and Education Centers have undertaken

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various roles in cancer screening. Screening of women in the target population and early diagnosis of cancer are envisaged through screening programs.[4]

Although there has been progress in the provision of services for cancer screenings in Türkiye, the participation rates of women in breast, colorectal and cervical cancer screenings are not sufficient. According to the data from Turkiye Health Statistics Yearbook (2018), 71% of women reported that they have never had a mammogram, and 69.3% have never had a smear test.[2] According to Turkiye–Demographic and Health Survey data (2014–2016), it has been reported that only 13% of women had a stool occult blood test and 2.8% had a colonoscopy in the last year.[5]

Studies that were conducted to determine the reasons for women to participate/not participate in cancer screenings have shown that their sociodemographic and cultural characteristics, socioeconomic status, health beliefs, and knowledge of cancer, and screening tests affect their participation in screening.[6-8] At the same time, some problems arising from the health system negatively affect women's participation in cancer screenings. These problems are difficulties in transportation to health units, cost of the service, the quality, and continuity of the service, and the knowledge, skills, and attitude of the personnel providing the service. In addition, it has been reported that women neglect cancer screening due to reasons such as not having anyone to take care of their little children and waiting for a long time in the health centers.[9,10]

To increase the participation of women in the cancer screening program, raising awareness about cancer risk factors and screening tests, raising motivation and making informational interventions and developing health protection behaviors have gained importance. One of the interventions including these and significantly increasing the participation of women in health screenings is navigation and the "Nurse Navigator" intervention. "Nurse Navigator" is considered an opportunity for early diagnosis and treatment of cancers.[11-13] "Nurse Navigator" helps patients/families and caregivers to meet their health-related information and needs, to encourage and facilitate the continuity of care and to identify and remove barriers to care; and ensures the effective, efficient, and cost-effective use of the health-care system for both patients/families and caregivers as well as health-care providers. Thus, it makes it easier for individuals to receive the right care at the right time, by the right team, and from the right place. In this direction, the "Nurse Navigator" has come to the fore in the field of health-care services that span a long period, such as early diagnosis, treatment, and care of cancers.[12,14] This review aims to examine the effect of "Nurse Navigation Program" and "Nurse Navigator" on women's participation in cancer screening, early diagnosis, and treatment of cancers in line with the current literature.

"Nurse Navigation Program"

"Nurse Navigation Program" is a care program that includes individual-centered interventions offered by a specialist nurse to facilitate access to health-care services at the right time. This program is a community-based service providing intervention designed to facilitate the timely diagnosis of cancer and other chronic diseases and the access of individuals to treatment by removing barriers to care with "Nurse Navigator" interventions (Figure 1).[11,12,14]

The program was first designed and implemented by Dr. Harold Freeman in 1990. The conditions that cause barriers to access to cancer treatment and care were taken into account in the initiation of the program. Dr. Freedom has shown that breast cancer screening and treatment rates are improved and the time to breast cancer diagnosis is shortened in poor women through this program.[15-17]

The navigation program developed by Freedom aims to guide and navigate individuals to prevent them from getting lost in the complex health-care system. This program provides support, especially for low socioeconomic level and disadvantaged individuals, in the cancer diagnosis, and treatment process.[7,18] The gold standard in the fight against cancer is to provide a multidisciplinary approach. Nurses have a key position in the execution of the navigation program as they are professional members working in coordination and cooperation with each member of the health-care team.[11,12,14,19]

Starting from the irreplaceable position of nursing, the scope of the program designed by Dr. Harold Freeman was developed and the "Nurse Navigation Program" was implemented under the leadership of nurses in various fields. The "Nurse Navigation Program" is based on key components such as supporting and empowering patients, families and caregivers, providing them with the necessary training, directing them to social resources, providing cancer treatment and psychosocial support, and on the knowledge and experience of the nursing profession. This situation causes "Nurse Navigation Program" to contribute to the diagnosis of cancers at an early stage, to shorten the time of access to diagnosis and treatment for people diagnosed

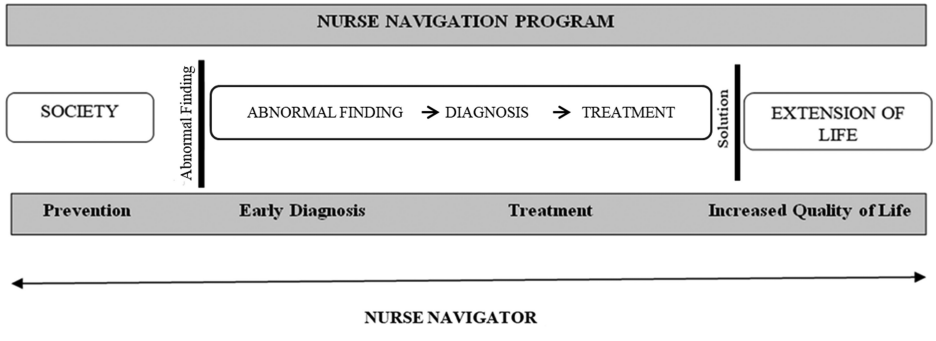

Figure 1. Scope of the "Nurse Navigation Program."[7,15]

with cancer, and to increase the quality and life expectancy with care compliance.[12,20,21]

The effect of "Nurse Navigation Programs" implemented under the leadership of "Nurse Navigator" on early diagnosis and treatment of cancers has been addressed under three main headings. These are:

Increasing Participation in Cancer Screening

Within the scope of the "Nurse Navigation Program", the "Nurse Navigator" identifies the barriers that affect women's participation in cancer screenings. He/she navigates, supports and motivates women for appropriate resources to overcome these barriers. The "Nurse Navigator" assumes the role of a bridge between the units providing screening services and the women. Studies have shown that the "Nurse Navigation Program" increases participation in breast cancer[21] and colorectal cancer[22] screenings. Wang et al.[23] carried out a study with 134 Chinese–American women living in New York (education and navigation intervention for 80 women, only education intervention for 54 women) where they evaluated the effect of the Navigation Program on women's participation in cervical cancer screenings; and they reported that the rate of having pap smear screening among women in the intervention group was 70.0% and 11.1% in the control group at the end of 12 months of the program.

Temucin and Nahcivan[22] implemented "Nurse Navigation Program" to 55 women between the ages of 50–70 years old in their randomized controlled study and evaluated the effect of this program on the colorectal cancer screening behavior of individuals and their health beliefs about colorectal cancer screening. It was stated that the rate of colorectal cancer screening rates (occult blood test in stool and colonoscopy) increased in the "Nurse Navigator" intervention group at 3rd and 6th months compared to the control group; and while their perceptions of benefit regarding colorectal cancer screening improved, their perception of barriers decreased.[22] In the study by Molina et al.[24] where the effect of navigation program was evaluated on breast cancer screening and early detection of cancer among 9506 women (3754 in the navigation program, 5752 in the control group), women included in the navigation program were found to have higher mammography rates than the women in the control group. In the same study, a multidisciplinary team consisting of a surgeon, radiologist, medical oncologist and "Nurse Navigator" for the genetic testing of women at risk for breast cancer reported that women at risk for breast cancer had genetic testing done earlier (26.3 days vs. 11 days) and their testing rates have increased from 26% to 88%. As a result of the study, it has been emphasized that the "Nurse Navigator" plays the main role in the team and that the "Nurse Navigator" plays a key role in the related field within the team in oncology-related units.[25]

Reducing the Time to Diagnosis of Cancers

The "Nurse Navigator" evaluates and monitors the test results of women who participate in the screenings. In the presence of abnormal test results, he/she guides the woman to receive appropriate treatment and care, and supports and encourages for the continuity of their follow-up. Thus, he/she contributes to the early diagnosis of cancers in line with abnormal screening results.[13,20,21] In a randomized controlled study by Green et al.[26] where they examined the effect of the "Nurse Navigator" intervention on individuals with positive stool occult blood test on undergoing colonoscopy, which is a more difficult procedure and a further examination, it was shown that the rate of undergoing colonoscopy (90%) was higher than the control group (80%) at the end of 6 months. In another randomized controlled study by Percac-Lima et al.,[27] in which they evaluated the effect of the navigation program on colposcopy after abnormal pap smear test and the severity of cervical abnormality in poor latino women, it was reported that more admissions for colposcopy were made in the navigation program group compared to the control group. The degree of cervical abnormality was measured with a numerical score, and it was reported that the numerical score of the degree of cervical abnormality decreased from 2.03 to 1.83 in the navigation program group, and increased from 1.83 to 1.92 in the control group.[27]

Bensink et al.[28] evaluated the cancer diagnosis time and cost-effectiveness of the navigation program in their randomized controlled study involving 10,521 individuals with abnormal breast, cervical, and colorectal cancer screening results between 2006 and 2010. As a result of the study, cancer diagnosis was made in 180 days in the navigation program group and in 270 days in the control group. Implementation of the navigation program brought an additional cost of $275 per patient; however, it has been reported that the cost is lower due to the decrease in the duration of cancer diagnosis and the treatment and care needs of individuals.[28]

Facilitating Initiation of Cancer Treatment

The primary goal of the "Nurse Navigation Program" is to identify and remove barriers in front of treatment and care. For this purpose, the "Nurse Navigator" supports and guides individuals so that patients with abnormal screening tests or diagnosed with cancer can access treatment and care in a timely manner.[20,29] In the study by Ko et al.,[30] it was shown that the "Nurse Navigation Program" applied to individuals diagnosed with breast, cervical, colorectal and/or prostate cancer increased the rates of receiving the recommended treatment and the quality of care compared to individuals in the control group who received standard care.

In their study, Basu et al.[31] evaluated the effect of the "Nurse Navigator" intervention on the provision of timely care and treatment of 100 patients in the nurse navigation intervention and 76 patients in the control group following the diagnosis of breast cancer. It was reported that the first admission to the hospital for treatment and care after the diagnosis of breast cancer was shorter in the nurse navigation intervention group compared to the control group. In the study of Mertz et al.,[32] it was shown that the "Nurse Navigation Program" applied to women diagnosed with breast cancer had positive effects on stress, anxiety, and depression.

Conclusion and Recommendations

It is important for women to take responsibility of their own health in terms of prevention from cancer, diagnosis of cancer, and initiation of treatment at an early stage. The "Nurse Navigation Program" is an intervention that improves women's health-seeking behavior, increases their regular participation in screening, and thus, contributes to the improvement of women's health. There are a limited number of studies evaluating the "Nurse Navigation Program" and "Nurse Navigator" intervention in Türkiye. More studies are needed using the "Nurse Navigator" intervention for women to increase cancer screening. It is suggested to use this innovative approach effectively for early diagnosis and treatment and to integrate it into the health-care

system following adaptation to the cultural and health system of Türkiye, in line with future studies.

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References

1. World Health Organization (WHO). *Global Cancer Observatory*. Available at: https://gco.iarc.fr/. Accessed February 28, 2020.
2. Turkiye Ministry of Health. *Turkiye Health sTatistics Yearbook*; 2019. Available at: https://dosyasb.saglik.gov.tr/Eklenti/36134,siy2018trpdf.pdf?0. Accessed February 28, 2020.
3. World Health Organization (WHO). *Early Detection of Cancer*. Available at: https://www.who.int/cancer/detection/en/#:~:text=Screening,screeningmethods%2CincludingPapsmears. Accessed February 28, 2020.
4. Turkiye Ministry of Health, General Directorate of Public Health, National Cancer Screening Standards. Available at: https://hsgm.saglik.gov.tr/tr/kanser-tarama-standartlari. Accessed March 6, 2020.
5. Turkish Statistical Institute (TURKSTAT). *Turkiye Health Survey*; 2016. Available at: https://data.tuik.gov.tr/Bulten/Index?p=Turkiye-Saglik-Arastirmasi-2016-24573. Accessed July 13, 2021.
6. Brown RF, Muller TR, Olsen A. Australian women's cervical cancer screening attendance as a function of screening barriers and facilitators. *Soc Sci Med*. 2019;*220*:396-402. [CrossRef]
7. Freeman HP, Chu KC. Determinants of cancer disparities: barriers to cancer screening, diagnosis, and treatment. *Surg Oncol Clin N Am*. 2005;*14*(4):655-669. [CrossRef]
8. Smith SG, McGregor LM, Raine R, Wardle J, von Wagner C, Robb KA. Inequalities in cancer screening participation: examining differences in perceived benefits and barriers. *Psychooncology*. 2016;*25*(10):1168-1174. [CrossRef]
9. Tuncer HA, Tuncer SF. Women's knowledge, awareness and attitudes toward newly implemented national HPV-based screening in Turkey. *J Cancer Policy*. 2019;*22*:100205. [CrossRef]
10. Crăciun IC, Todorova I, Băban A. "Taking responsibility for my health": health system barriers and women's attitudes toward cervical cancer screening in Romania and Bulgaria. *J Health Psychol*. 2018;*25*(13-14):2151-2163. [CrossRef]
11. Shejila CH, Pai MS, Fernandes DJ. Oncology nurse navigator programme a narrative review. *Nitte Univ J Heal Sci*. 2015;*5*(March):103-107.
12. Pautasso FF, De Medeiros Zelmanowicz A, Dias Flores C, Catalina R, Caregnato A. Online Revista Gaúcha de Enfermagem Role of the Nurse Navigator: integrative review Atuação do Nurse Navigator: revisão integrativa Actuación del Nurse Navigator: revisión integrativa. *Rev Gaúcha Enferm*. 2018;*39*:2017-0102. [CrossRef]
13. McMullen L, Christensen D, Haylock PJ, Sellers JB. *Oncology Nurse Navigator Core Competencies*. Pittburgh, Pennsylvania:Oncology Nursing Society;2017:*2*.
14. Carter N, Valaitis RK, Lam A, Feather J, Nicholl J, Cleghorn L. Navigation delivery models and roles of navigators in primary care: A scoping literature review. *BMC Health Serv Res*. 2018;*18*(1):96. [CrossRef]
15. Freeman HP. A model patient navigation program. *Oncol Issues*. 2004;*19*(5):44-46. [CrossRef]
16. Freeman HP, Rodriguez RL. History and principles of patient navigation. *Cancer*. 2011;*117*(15):3539-3542. [CrossRef]
17. Freeman HP. Patient navigation: a community centered approach to reducing cancer mortality. *J Cancer Educ*. 2006;*21*(1):S11-S14. [CrossRef]
18. Liang X, Ying H, Wang H, et al. Enhanced recovery care versus traditional care after laparoscopic liver resections: a randomized controlled trial. *Surg Endosc*. 2018;*32*(6):2746-2757. [CrossRef]
19. McMullen L. Oncology nurse navigators and the continuum of cancer care. *Semin Oncol Nurs*. 2013;*29*(2):105-117. [CrossRef]
20. Wagner EH, Ludman EJ, Aiello Bowles EJ, et al. Nurse navigators in early cancer care: a randomized, controlled trial. *J Clin Oncol*. 2014;*32*(1):12-18. [CrossRef]
21. Temucin E, Nahcivan NO. The effects of the nurse navigation program in promoting colorectal cancer screening behaviors: a randomized controlled trial. *J Cancer Educ*. 2020;*35*(1):112-124. [CrossRef]
22. Wang X, Fang C, Tan Y, Liu A, Ma GX. Evidence-based intervention to reduce access barriers to cervical cancer screening among underserved Chinese American women. *J Womens Health (Larchmt)*. 2010;*19*(3):463-469. [CrossRef]
23. Molina Y, Kim SJ, Berrios N, et al. Patient navigation improves subsequent breast cancer screening after a noncancerous result: evidence from the patient navigation in medically underserved areas study. *J Womens Health (Larchmt)*. 2018;*27*(3):317-323. [CrossRef]
24. McAllister KA, Schmitt ML. Impact of a nurse navigator on genomic testing and timely treatment decision making in patients with breast cancer. *Clin J Oncol Nurs*. 2015;*19*(5):510-512. [CrossRef]
25. Green BB, Anderson ML, Wang CY, et al. Results of nurse navigator follow-up after positive colorectal cancer screening test: a randomized trial. *J Am Board Fam Med*. 2014;*27*(6):789-795. [CrossRef]
26. Percac-Lima S, Benner CS, Lui R, et al. The impact of a culturally tailored patient navigator program on cervical cancer prevention in Latina Women. *J Womens Health (Larchmt)*. 2013;*22*(5):426-431. [CrossRef]
27. Bensink ME, Ramsey SD, Battaglia T, et al. Costs and outcomes evaluation of patient navigation after abnormal cancer screening: evidence from the patient navigation research program. *Cancer*. 2014;*120*(4):570-578. [CrossRef]
28. Freund KM, Battaglia TA, Calhoun E, et al. Impact of patient navigation on timely cancer care: the patient navigation research program. *J Natl Cancer Inst*. 2014;*106*(6):dju115. [CrossRef]
29. Ko NY, Darnell JS, Calhoun E, et al. Can patient navigation improve receipt of recommended breast cancer care? Evidence from the national Patient Navigation Research Program. *J Clin Oncol*. 2014;*32*(25):2758-2764. [CrossRef]
30. Basu M, Linebarger J, Gabram SGA, Patterson SG, Amin M, Ward KC. The effect of nurse navigation on timeliness of breast cancer care at an academic comprehensive cancer center. *Cancer*. 2013;*119*(14):2524-2531. [CrossRef]
31. Mertz BG, Dunn-Henriksen AK, Kroman N, et al. The effects of individually tailored nurse navigation for patients with newly diagnosed breast cancer: a randomized pilot study. *Acta Oncol*. 2017;*56*(12):1682-1689. [CrossRef]