

For affected breast cancer Patients undergoing a breast-conserving surgical operation, a nursing approach is primarily based on the Roy Adaptation Model

¹Asma Hamza Barnawi, ²Shima Hamza Barnawi

King Abdul Aziz Hospital, Makkah, Saudi Arabia

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Abstract: Nursing models allow nurses attention to nursing work and its applications relatively more than medical practice. Furthermore, it promotes systematic, purposeful, controlled, and patient-satisfaction satisfaction care. Roy Adaptation Model is one of the most widely used models in nursing. Nursing's goal, according to the Roy adaptation model, is to increase regulatory and life expectancy. The Roy Adaptation Model assesses the patient in four modes: physiologic, self-concept, role function, and interdependence, with the goal of providing holistic care. This article describes the application of Roy's adaptation Model in the treatment of a patient who was diagnosed with breast cancer and underwent breast-conserving surgery. The Appropriate theoretical model's four methods (physiologic, self-concept, and behavioral) were used to evaluate patient data.

Keywords: Roy Adaptation Model, Breast cancer, nursing.

I. INTRODUCTION

The Saudi Cancer Registry (SCR), a population-based registry, was established in 1992 by the Ministry of Health (MOH). The SCR was transferred to the Saudi Health Council in 2021, under the National Center for Health Information's department of national registries. The SCR is made up of the main office, which oversees data collection from all over the country via five regional offices in order to ensure full coverage of all healthcare facilities in the Kingdom. SCR-trained cancer registrars extract cancer data from patients' medical records based on clinical and/or histopathological diagnosis (Flemban et al., 2022).

The most common cancer among Saudi women is Breast cancer, with 2463 cases diagnosed between January and December of last year. Breast cancer was responsible for 17.7% of all cancers reported in Saudi citizens and 30.9% of all cancers reported in women of all ages. To describe the impact of breast cancer screening on improving early detection rates, SCR statistics for annual breast cancer incidence (BCI) and the percentage of each stage/year were analyzed. Annual reports are available online, and data from time points that corresponded to a milestone were extracted (Flemban et al., 2022). The study included 10,970 incident breast cancer cases over a 17-year period; data were graphed and trends were compared. The nurses role in providing care to women with breast cancer is critical. Models of nursing are the only way for nurses to provide complete care. Using these models, nursing activities shift from being service-centered to being patient-centered (Noureldin et al., 2022). Furthermore, fundamental concepts and relationships between concepts are identified, problems are identified, and solutions can be developed (Alsalem et al., 2022). As a result, nurses are more concerned with the role of nursing and its applications than with medical practice (Alghamdi, 2022). Models not only ensure that patient care is purposeful, systematic, controlled, and effective, but they also create a common language.

Furthermore, by assisting nursing staff in organizing daily care, the chance to provide a high degree of self with less labor is created. In recent years, the use of models in nursing practice and research has grown in popularity in our country. Nurses using a model to care for patients will provide holistic care. The purpose of this article is to explain the use of RAM in the care of a patient who has been diagnosed with breast cancer and has undergone breast-conserving surgery. The basis of this article is the RAM-based determination of nursing diagnoses and applications.

II. ROY ADAPTATION MODEL CONCEPTUAL FRAMEWORK

The Roy Adaptation Model is a popular model for determining nursing's conceptual foundation. The model's evolution began in the late 1960s (Yaghoubinia et al., 2017a). Nurses from the United States and other countries around the world are emphasizing and explaining RAM. Human, environment, health, and care are also the metaparadigm concepts of the Roy Adaptation Model. A person is a biopsychosocial being in constant interaction with a changing environment, according to the Roy Adaptation Model. The environment contains stimuli that are focal, contextual, and residual. The confrontation with one's environment in which it operates is a focal stimulus. Internal and external stimuli are immediately resisted by the individual. The aim of nurses is to manage the focal stimulus first, followed by the contextual stimuli (Cepeda-Trujillo et al., 2022). Other stimuli that contribute to the focal stimuli and influence the current situation are referred to as contextual stimuli (Elizabeth Alexander et al., 2022a). The residual stimuli are closed factors that have an impact on the current situation. These are personal beliefs, behaviors, and experiences. Roy's nursing model defined nursing as a science, and the application of scientific knowledge to nursing practice (Alsalem et al., 2022). The goal of nursing, according to RAM, is to ensure adaptation. Increasing adaptation during health and disease improves the interaction of the environment and human systems, thereby improving health. As a result, it benefits health, quality of life, and end-of-life care (Basudan, 2022). RAM also defined specific activities that distinguish nursing from other disciplines as part of the nursing process. In this process, Roy proposed and explained a problem-solving approach in five stages. These are "1. Behavior and stimuli assessment, 2. Diagnosis, 3. Goal setting, 4. Planning, 5. Intervention and evaluation" (Alsalem et al., 2022). The Roy Adaptation Model classified innate and acquired coping processes as two subsystems (Yaghoubinia et al., 2017b). The regulator subsystem is made up of neurochemical and endocrine responses. Social, physical, and psychological factors are examples of internal and external stimuli. The cognate subsystem is more concerned with attention, memory, learning, problem-solving, decision-making, excitement, and defense status (Gürlek Kısacık & Çiğerci, 2019a).

The four modes of adaptation defined by the Roy Adaptation Model are physiologic, self-concept, role function, and interdependence. Nurses assist individuals in these modes of adaptation in meeting their needs (Elizabeth Alexander et al., 2022b).

Physiological Mode

The physical mode is related to the physical responses of the individual to environmental stimuli (Sasaki et al., 2022). It encompasses the physical and chemical processes that occur in a very person's life and activities. the necessities for physical modes area unit supported physical integrity. This model has 9 basic physiological requirements: 1) natural process, 2) Nutrition, 3) Elimination, 4) Activity and Rest, 5) Protection, 6) Senses, 7) Fluid-electrolyte and acid-base equilibrium, 8) neurological performance, and 9) Endocrine perform area unit all vital. Physiological integrity could be a requirement for physical mode (Gasparini et al., 2022). in step with RAM, **Table (I)** represents the classification of the individual's positive physical mode adaptation indicators.

Self-Concept Mode

The self-concept mode is outlined as a personality's current mixture of beliefs and feelings regarding himself or others. The physical self and private identity comprise the self-concept mode. Body image and body sense square measure aspects of the physical self. Thoughts, ethical ethics, and spirituality form somebody's identity (Yaghoubinia et al., 2017b). in step with RAM, **Table (II)** shows the individual's positive self-concept mode adaptation indicators.

The role performs mode

covers the individual's performance in society for social integrity. The roles delineated herein are divided into three: one. most vital roles; the role of gender (female, male), 2 secondary roles; specific roles (mother, father, teacher, etc.), and 3 tertiary roles (president of the associate association, etc.) (Yaghoubinia et al., 2017a). the primary demand for position

performance mode is delineated as social integrity (Gürlek Kısacık & Çiğerci, 2019a). Role feature mode applies to each human at the smallest number of levels. It includes specific and informal roles (Gürlek Kısacık & Çiğerci, 2019b). **Table (III)** represents the individual’s advantageous position feature mode adaptation indications per RAM.

The mutuality Mode- person, and guide systems. For the individual, this mode focuses on interactions associated to love, respect, giving, and receiving the price. the simple demand of this region is the arrival of means} of confidence by the manner of relationship integrity and improvement of relationships (Yaghoubinia et al., 2017b). Proficiency in relationships varieties the groundwork of crew requirements. the weather of the mutuality mode for organizations are things, infrastructure, and utility of members. The external context consists of economic, social, political, and cultural factors, whereas the among context consists of the mission, aim, vision, value, belief, and goals of the cluster. for each cluster, the infrastructure entails each legit and unofficial processes, operations, and system interactions. Their capability consists of psychological feature header skills, knowledge, skill, behavior, and responsibilities. The techniques that underlie this house are ability in relationships, development, and aid (Yaghoubinia et al., 2017a). **Table (VI)** represents the individual’s advantageous mutuality mode adaptation symptoms in accordance with RAM.

Sufficiency of support systems and close individuals in providing development nursing technique subject area depends entirely on Roy Adaptation Model throughout a patient gift technique of breast-conserving surgery The patient had suffered a breast-conserving surgery (BCS) 6 days past and was interviewed at intervals throughout the initial route of her treatment. Verbal knowledgeable consent was received from the patient before the interview. Patient demographic and scientific facts are given in **Figure (1)**. Patient statistics related to the physiological mode of RAM and nursing interventions are delineated in **Figure (2)** an attempt at Patient records related to the self-concept mode of RAM and nursing interventions is delineated in **Figure (3)** Patient statistics related to the position characteristic mode of RAM and nursing interventions are delineated in **Figure (4)** Patient knowledge associated to relation mode of RAM and nursing interventions are delineated in **Figure (5)**.

In this article, nursing interventions within the facet of holistic care in accordance with the Roy Adaptation Model were delineated, with Associate in Nursing affected one administrative unit had undergone breast-conserving surgery. Being recognized with and undergoing remedies for cancer could cause bio-psycho-social problems. it's expected that the advance of interventions specific to the character with the assistance of nurses, will yield high-quality and finally end up among the excellence of the sufferers' administrative unit to do to handle these problems. this suggests the patients have gotten to be tailored to the new life that their nice of life will improve. the use of theories will facilitate the state of affairs and may offer the simplest way for nurses to be in the middle of attention in their career nursing, and advance holistic care through a biopsychosocial approach to the patients they are taking care of. For that reason, it is vital that the use of theories in treatment, have to be compelled to be driven and their implementation into exercise have to be compelled to be enlarged.

Table (I): Classification of the individual's positive physical mode adaptation indicators.

The classification of the individual’s positive physical mode adaptation indicators	
<p>Oxygenation:</p> <ul style="list-style-type: none"> •Balanced ventilation amounts •Balanced gas exchange •Sufficient gas exchange •Sufficient compensation amount Oxygenation. 	<p>Protection:</p> <ul style="list-style-type: none"> •Intact skin • Sufficient healing amount •Sufficient secondary protection against changes in immune standing and skin integrity •Sufficient immune amount •Sufficient heat regulation
<p>Nutrition:</p> <ul style="list-style-type: none"> •Balanced digestion amount • Sufficient nutrition for body requirements • Supplying metabolic associate degree biological process needs 	<p>Senses</p> <ul style="list-style-type: none"> •Sufficient feeling amount •Efficient integration of emotional information input. •Balance of perceptive input and analysis • Efficient cope strategies just in case of sense alteration.

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<p>Elimination:</p> <ul style="list-style-type: none"> •Sufficient internal organ evacuation amount. • Balanced internal organ evacuation •Sufficient excreting amount •Balanced urinary elimination •Efficient cope strategies just in case of altered evacuation. 	<p>Neurological perform</p> <ul style="list-style-type: none"> •Efficient response in sense, perception, coding, conception formation, memory, language, designing, and motor response. •Integration of thought and sense processes. •Development of flexibility and purposeful effectiveness throughout neurological system aging and alteration.
<p>Activity and rest:</p> <ul style="list-style-type: none"> •Sufficient activity amount. •Sufficient management of equalization movements throughout immobility. •Sufficient activity and resting. •Sufficient sleep amount. •Environmental changes moving sleep disturbances. 	<p>Fluid-electrolyte and acid-base equilibrium:</p> <ul style="list-style-type: none"> •Sufficient amount of fluid balance. •Balanced solution levels of body fluids. •Balanced acid-base standing. •Efficient organization of chemical buffering.
<p>Endocrine perform:</p> <ul style="list-style-type: none"> • Efficient secretion regulation throughout the body and metabolic processes. •Efficient secretion regulation in generative development. •Negative feedback circuit balance in secretion regulation. •Balanced secretion cycle rhythm. •Efficient stress management strategies. 	

Table (II): The classification of the individual’s positive self-concept mode adaptation indicators.

<ul style="list-style-type: none"> • Positive body image • Effective sexual perform • Spiritual integrity in physical growth • Sufficient compensation for body changes • Sufficient cope strategies for loss • Efficient amount in end-of-life • Sufficient integration of own ideas • Balanced consistency. • Efficient amount in moral-ethic development • Efficient cope strategies in threats against oneself
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Table (III): The classification of the individual’s positive role performs mode adaptation indicators

<ul style="list-style-type: none"> • Identification of roles. • Efficient role-changing quantity. • Combination of non-verbal and informative role movements. • Combination of primary, secondary, and tertiary roles. • Efficient example of fulfilling roles. • Efficient header ways in which role dynamic. • Responsibility to fulfill roles. • Combining economical roles. • Balanced role sufficiency.

Table (VI): The classification of the individual’s positive relation mode adaptation indicators

- Balanced love, and respect.
- Sufficient love.
- Efficient dependent and independent examples.
- Efficient coping methods in case of loneliness and separation.
- Sufficient communication and relations.
- Sufficient development for learning and maturation in relationships.
- Trust in relationships.
- Providing developmental talent in the formation of attention and care.

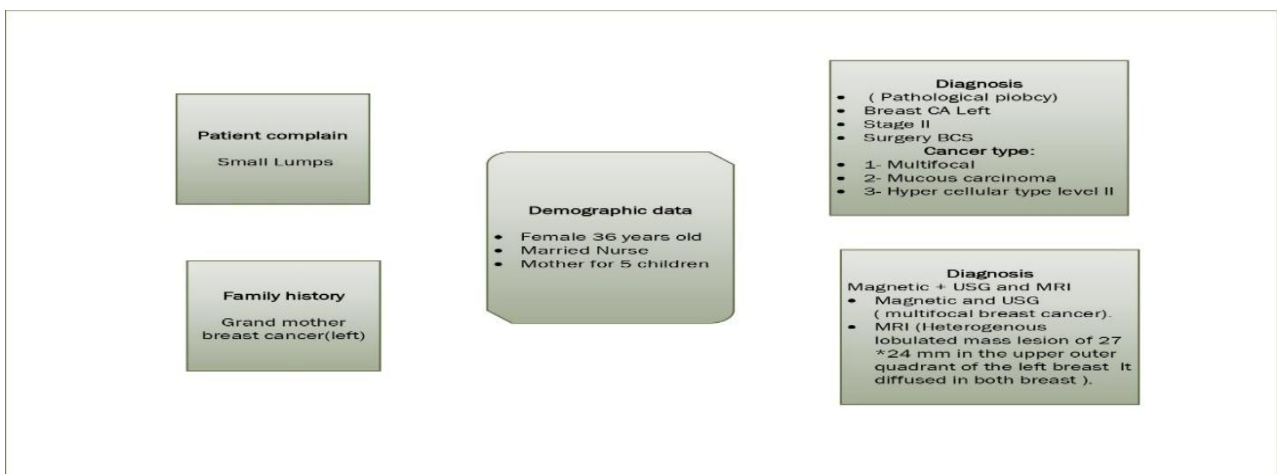


Fig (1): Patient demographic and clinical data BCS: Breast-conserving surgery; USG: Ultrasonography; MRI: Magnetic Resonance Imaging

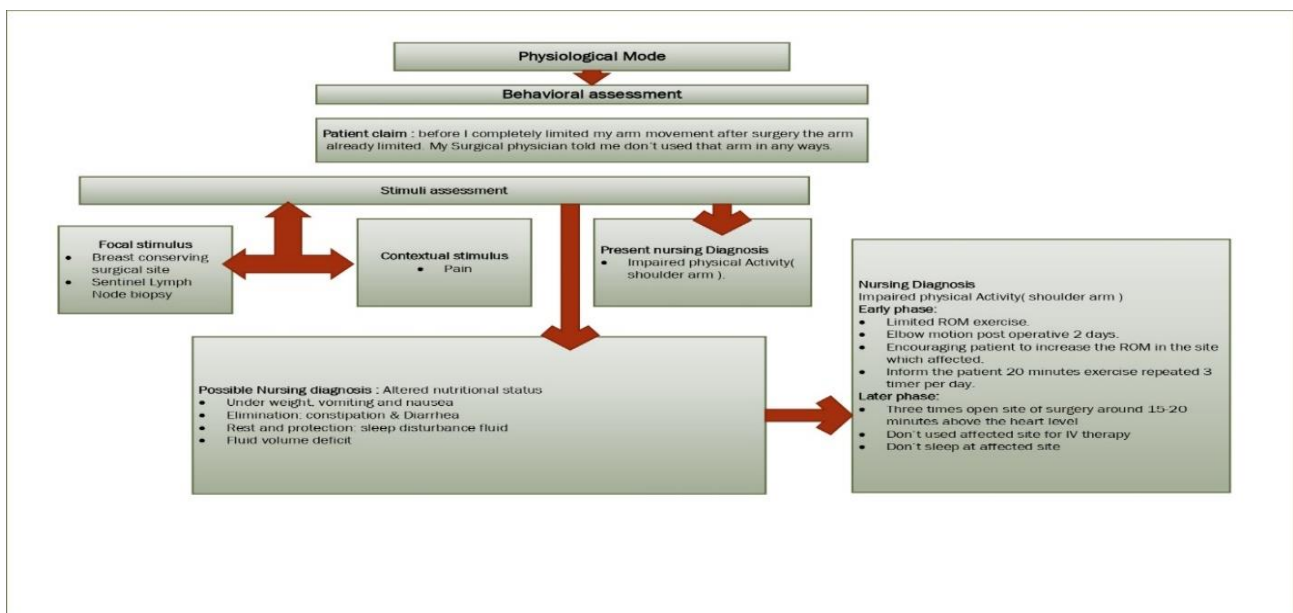


Fig (2): Patient data related to physiologic mode of RAM and nursing interventions

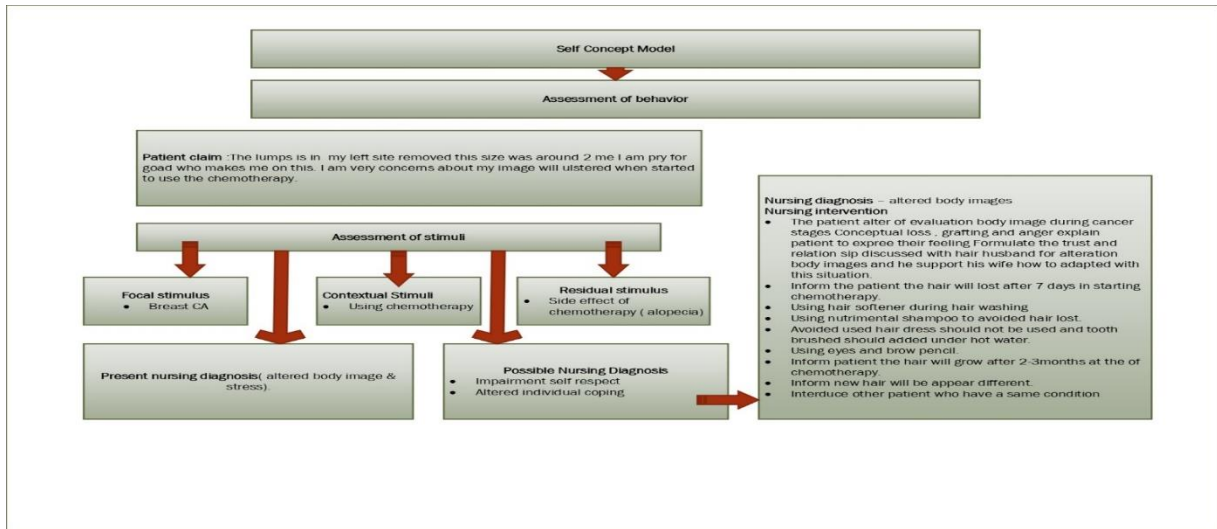


Fig (3): Patient data related to self-concept mode of RAM and nursing interventions

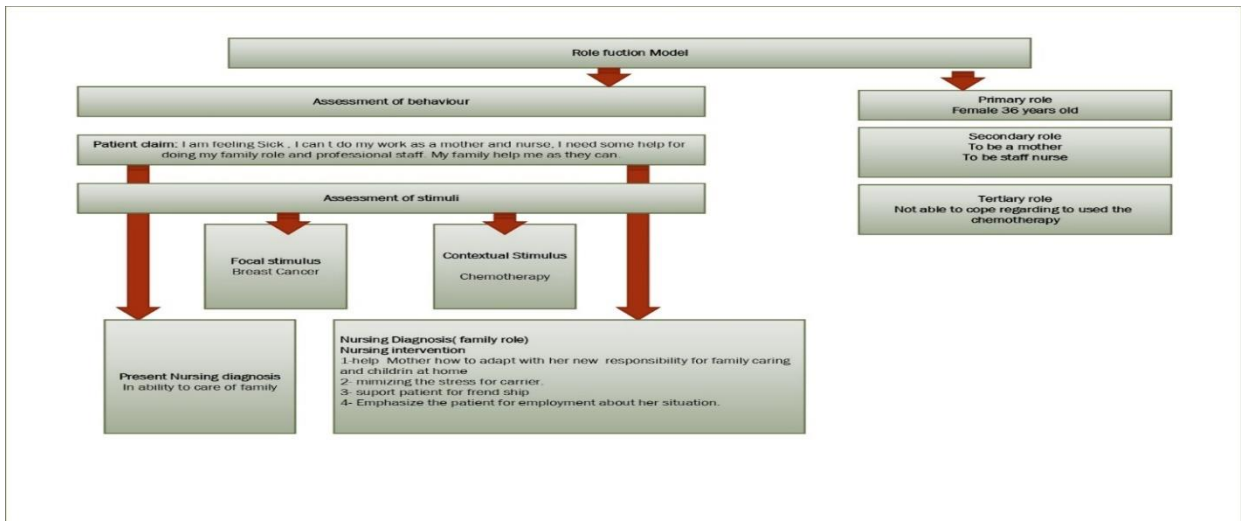


Fig (4): Patient data related to role function mode of RAM and nursing interventions

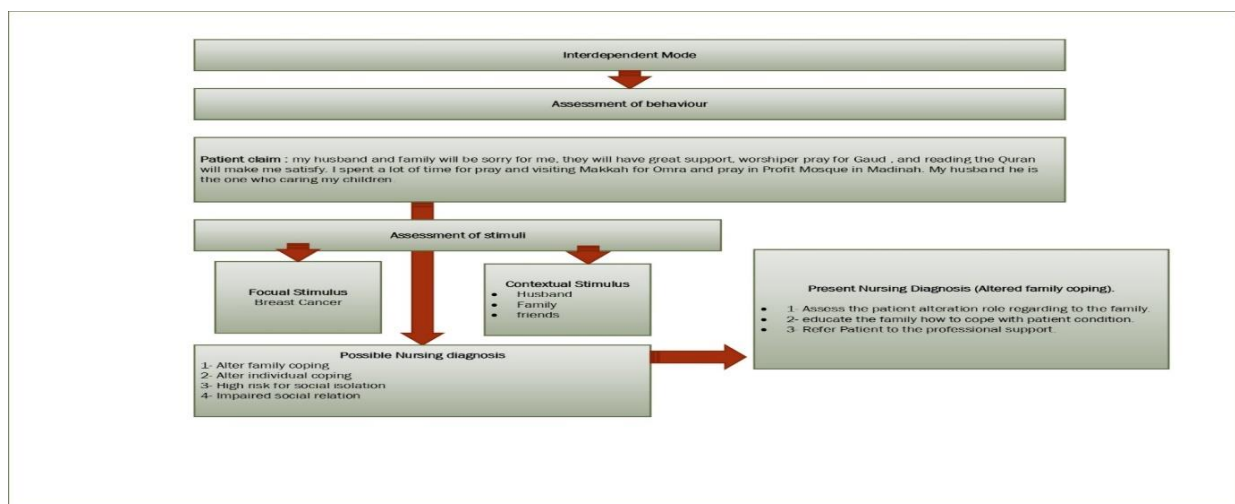


Fig (5): Patient data related to interdependence mode of RAM and nursing interventions

REFERENCES

- [1] Alghamdi, I. (2022). Epidemiology of Gastric Cancer in Saudi Arabia. <https://doi.org/10.22541/au.166681119.98026187/v1>
- [2] Alsalem, A. A., Alkraidees, M. S., Alkarni, A. F., Alramyan, R. K., Alessa, M. A., & Elkrim, M. (2022). Major Salivary Glands Carcinoma in Saudi Arabia: A 10-Year Nationwide Retrospective Study of 571 Cases. <https://doi.org/10.21203/rs.3.rs-2033704/v1>
- [3] Basudan, A. M. (2022). Breast Cancer Incidence Patterns in the Saudi Female Population: A 17-Year Retrospective Analysis. *Medicina*, 58(11), 1617. <https://doi.org/10.3390/medicina58111617>
- [4] Cepeda-Trujillo, L. M., Mosquera-Aguirre, J. M., Rojas-Atehortua, D. Y., & Perdomo-Romero, A. Y. (2022). Coping and adaptation of adults with cancer: the art of nursing care. *Aquichan*, 22(1). <https://doi.org/10.5294/aqui.2022.22.1.7>
- [5] Elizabeth Alexander, A., Lumia Da Costa, E., K, R. M., Elizabeth, A., Costa, D., & Lumia, E. (2022a). Determinants of Quality of Life in Women with Breast Cancer: A Systematic Review. In *Journal of International Women's Studies* (Vol. 24, Issue 7).
- [6] Elizabeth Alexander, A., Lumia Da Costa, E., K, R. M., Elizabeth, A., Costa, D., & Lumia, E. (2022b). Determinants of Quality of Life in Women with Breast Cancer: A Systematic Review. In *Journal of International Women's Studies* (Vol. 24, Issue 7).
- [7] Flemban, A. F., Kabrah, S., Alahmadi, H., Alqurashi, R. K., Turaes, A. S., Almaghrabi, R., al Harbi, S., & Khogeer, A. A. (2022). Patterns of Thyroid Cancer Mortality and Incidence in Saudi Arabia: A 30-Year Study. *Diagnostics*, 12(11), 2716. <https://doi.org/10.3390/diagnostics12112716>
- [8] Gasparini, R., Agazzotti, G., Anderson, R., Fmedsci, F., Battaglia, M. A., Cristina, M. L., Agostini, F. D. ', de Flora, S., Durando, P., Gabutti, G., Majori, S., Orlando, P., Pelissero, G., Ramirez, M., Rappuoli, R., Italy, S., Sticchi, L., Timmins, F., Zanetti, A. R., & Lai, P. L. (2022). Volume 63-Issue 2 Supplement 3 June 2022. <http://www.jpmh.org>
- [9] Gürlek Kısacık, Ö., & Cigerci, Y. (2019a). Nursing Approach Based on the Roy Adaptation Model in a Patient Undergoing Hemiglossectomy Surgery for Tongue Cancer. *Journal of Education and Research in Nursing*. <https://doi.org/10.5222/head.2019.268>
- [10] Gürlek Kısacık, Ö., & Cigerci, Y. (2019b). Nursing Approach Based on the Roy Adaptation Model in a Patient Undergoing Hemiglossectomy Surgery for Tongue Cancer. *Journal of Education and Research in Nursing*. <https://doi.org/10.5222/head.2019.268>
- [11] Noureldin, Y. A., Alqirnas, M. Q., Aljarallah, M. F., Alfraid, O. B., Alghafees, M. A., Ghazwani, Y., & Alkhalaf, A. (2022). Testicular cancer among Saudi adults: Hands on a nationwide Cancer Registry over 10 years. *Arab Journal of Urology*, 20(4), 182–188. <https://doi.org/10.1080/2090598X.2022.2084902>
- [12] Sasaki, M., Schwab, C., Ramirez Garcia, A., Li, Q., Ferstl, R., Bersuch, E., Akdis, C. A., Lauener, R., Frei, R., Roduit, C., Bieber, T., Schmid-Grendelmeier, P., Traidl-Hoffmann, C., Brügggen, M. C., & Rhyner, C. (2022). The abundance of *Ruminococcus bromii* is associated with faecal butyrate levels and atopic dermatitis in infancy. *Allergy: European Journal of Allergy and Clinical Immunology*. <https://doi.org/10.1111/all.15440>
- [13] Yaghoubinia, F., Navidian, A., Yousefian, N., & Chaji, F. (2017a). Effect of care plan based on Roy adaptation model on physiological adaptation in patients with thalassemia major. In *Medical-Surgical Nursing Journal* (Vol. 6, Issue 3).
- [14] Yaghoubinia, F., Navidian, A., Yousefian, N., & Chaji, F. (2017b). Effect of care plan based on Roy adaptation model on physiological adaptation in patients with thalassemia major. In *Medical-Surgical Nursing Journal* (Vol. 6, Issue 3).