USE OF THE CALGARY FAMILY ASSESSMENT MODEL IN STRUCTURAL, DEVELOPMENTAL AND FUNCTIONAL ASSESSMENT OF THE FAMILY OF MASTECTOMIZED WOMEN WITH BREAST CANCER

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ABSTRACT: The present study aimed to assess the structure, development and functionality of the family of women with breast cancer who underwent mastectomy. It is a qualitative study based on the Calgary Family Assessment Model and case study methodology was used. The data were collected from two families in May—September 2014, through a previously designed instrument. One of the families was a nuclear family formed by the biological parents and their three daughters, and the other family was extended, consisting of two sisters, both mastectomized, and their respective children. The use of the family assessment model provided knowledge on aspects related to the structure, functioning and development of the two families that interfere, impair or favor the adequate provision of daily care. In conclusion, this study made it possible to use a family assessment model that can interfere, impair or favor the adequate provision of daily care to the patients.

DESCRIPTORS: Family; Neoplasias; Nursing; Women’s health.

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INTRODUCTION

The family structure relies more on emotional and social relationships to which the individuals resort in times of need and, particularly, to share moments of happiness, than on kinship relations. Thus, a group of people is defined as a family by their mutually supportive relations: emotional, educational, financial or social relations between their members\(^{(1-2)}\).

The members of a family are usually not prepared to face sickening and to cope with the suffering of one of its members, which makes this process even more difficult for women who become ill\(^{(2)}\). In the case of diagnosis of breast cancer, the effects are even more devastating on the lives of the person diagnosed with the disease and their family members, due to fear of mutilation, of possible side effects of the treatments, fear of death and of the material, social and emotional impacts that almost always occur\(^{(3)}\).

The family plays an unquestionable social role on the lives of these women by helping them face the diagnosis of the disease and overcome its inconveniences, to experience a less stressful, more pleasant life and with better prospects for healing\(^{(4-5)}\).

As a chronic disease, breast cancer must be treated throughout the patients’ lives; in order to ensure a successful treatment, the patients’ families must be aware from the very beginning (time of diagnosis) of the possible effects of the treatments, the signs of complications, and should also act assertively in such situations\(^{(5)}\). Therefore, because of their different beliefs, values, histories and routines, the families respond differently to the impact of cancer and have also different ways of coping with the disease\(^{(4-5)}\).

Based on the information obtained, the health professionals are supposed to use their information on each family to be able to provide holistic care: comprehensive care that takes into consideration biological, social and spiritual factors to ensure better quality assistance\(^{(1,3)}\).

Therefore, we decided to use the Calgary Family Assessment Model (CFAM), which includes an extended spectrum of the family, with its internal and external relationships, weaknesses and strengths.

The CFAM is a multidimensional structure formed by three basic categories: structural, developmental and functional, and its multiple subcategories\(^{(6)}\) that combine the elements required to support and guide family care\(^{(1,6)}\). The use of CFAM provides knowledge on family dynamics and functioning, in an interactive way, allowing the assessment of family components and the detection of changes in its dynamics\(^{(2-6,7)}\).

Family system approaches have been used to provide a better understanding of family as a unit of care and not only the sum of its individual components, in different contexts\(^{(2-3)}\).

In Brazil, the CFAM has been little used in families of adults suffering from cancer; it has been most widely used in studies with children, adolescents, elderly and in mental health. Through this model, nurses obtain information on the family, identify their needs, as well as the most suitable care practices.

The justification for this research is the importance of the issue addressed, i.e. a disease that involves a wide range of aspects, as well as its “irreversibility” and sensitivity due to the “irreversible” character. These aspects have aroused our interest in investigating the daily dynamics of the families of women with breast cancer who underwent mastectomy.

Based on the aforementioned, the following questions were proposed: how is the family of mastectomized women with breast cancer structured and how does it function? What type of connection (emotional bond) exists between the members of these families? In order to answer these questions, we determined the objective of this study was to assess the structure, development and functionality of the family of mastectomized women with breast cancer.

THEORETICAL FRAMEWORK

Calgary Family Assessment Model

Multi-structural model adopted worldwide and used as reference in nursing courses\(^{(6)}\). It is aimed to assess the families and develop knowledge, skills and competencies for supporting necessary interventions. It involves the concepts of system, communication, change and cybernetics, and consists of three main categories: structural, developmental and functional\(^{(1-3, 6)}\).

Each nurse must select the subcategories of this model to be explored. Thus, not all subcategories are assessed in a first meeting, and some may never be explored\(^{(2,6,7)}\).

The structural category comprises the family structure, that is, its members, the emotional...
bond between its elements compared to outsiders, and its context\(^{(2,6)}\). Three aspects of the family structure can be determined: internal structure (family composition, gender and sexual orientation of members, rank or birth order of children, subsystems and limits), external structure (extended family, information on the origin and progeny of the family and wider systems that concern different social establishments and individuals with whom the family maintain some contact and who function as occasional support) and context (ethnicity, race, social class, spirituality/religion and environment)\(^{(6)}\).

Two common tools are used to depict the internal and external family structures: the genogram and the ecomap\(^{(1-2,6)}\). The genogram is a graphic representation of the internal family structure. The basic purpose of the genogram is to assist in family assessment, planning and intervention\(^{(6)}\). The genogram uses symbols and codes that follow a given pattern; when it is completed, this tool provides a clear picture of the members of the family, providing the basis for analysis and discussion of family interactions\(^{(7)}\). Through the genogram, the family itself can identify its constituent elements and the relationships between these members\(^{(6-7)}\).

The ecomap is a diagram of the living or not living relationships between the community and the family, and allows estimating social supports and available networks, and their use by the family\(^{(1,6)}\). The ecomap is dynamic, once it represents the presence or absence of economic, social and cultural resources, in a certain period of the family life cycle, which can be modified over time\(^{(6-7)}\).

The category “development” refers to the progressive transformation of family history over the life cycle phases: its history, life course, family growth, birth and death\(^{(2)}\).

Regarding the functional category, it refers to the way in which family members interact. The instrumental aspect of family functioning, related to routine activities of daily living, and the expressive aspect of family functioning, related to the modes of communication, problem solving, beliefs, roles, rules and alliances can be explored\(^{(2,6)}\).

It is believed that considering the family of a mastectomized woman with breast cancer as a system will contribute to the support of the implementation of a comprehensive family assessment that recognizes its structure, the development of their tasks and their ties during the life cycle and the functioning of its activities and communication styles.

According to this view, the family dynamics affects the quality of life and the status of women who undergo breast cancer treatment and mastectomy, and these, in turn, continually influence the dynamics of the family group.

### METHOD

In order to meet the proposed objective of this qualitative content analysis, case study methodology was used\(^{(8)}\). This method that can be applied to a wide range of problems and used in several fields providing greater knowledge and involvement with real-life life situations. The theoretical framework was the CFAM.

The study was conducted through four meetings with the two assessed families. The extended family was composed of two sisters and their respective male children. The two women underwent mastectomy and were treated for breast cancer. The other family assessed was a nuclear family composed of the parents and their three daughters.

The first interview aimed to introduce the ethical and legal aspects involved in the research and invite the families to participate in the study. In the second visit, the genogram and the ecomap were constructed with the participation of the family. The third and fourth visits were devoted to discussions and considerations on the genogram and ecomap, as well as specific guidance related to each situation experienced by the family.

The study setting was the residence of the families of women who underwent breast cancer treatment and mastectomy, in a city of the state of Minas Gerais. The home visits were conducted from May-September 2014.

Based on convenience sampling, the following inclusion criteria were adopted: families including at least one woman who had treated breast cancer and undergone mastectomy, living in a city of Minas Gerais (research setting) and registered in a charitable nonprofit organization.

The exclusion criteria were families composed of mastectomized women whose addresses and/or telephones were not registered, who were unavailable for interviews in the home visits and unable to understand and/or answer the questions.
The participants were seven members of two families who expressed their desire to participating in the study. The three women of the two families were in adjuvant therapy with tamoxifen, a selective estrogen receptor modulator, administered orally, which is used in breast cancer treatment.

It should be stressed that although not all the family members participated in the research, the focus of the study was the family unit. Thus, all the participants were asked to observe their families, as recommended by the CFAM theory.

The CFAM tool composed of open questions focused on the structural assessment of the family (with the construction of a genogram and an ecomap), assessment of family development throughout its vital cycle, with its tasks and ties, and assessment of the instrumental aspect of family functioning (daily life activities) and expressive aspect of family functioning (communication, roles, influences, beliefs and alliances) was used in the study.

The construction of the genogram and ecomap involved the participation of the family, with the participants allowed to freely express their views during the discussions and considerations about the diagrams. Also, the families were given specific guidance on each situation experienced. The study was conducted according to ethical precepts and the Project was approved by the Research Ethics Committee of Universidade Federal de São João del-Rei, according to CAAE 28929914.5.0000.5545 and protocol No 620.273. To disguise the identities of the participants, fictitious names of plants were used.

RESULTS

Family One was composed of Carnation and Daisy and their three daughters were Orchid, Pomegranate and Bromeliad, according to Figure 1.

Structural assessment of family One indicated that it is a nuclear family. Daisy, who underwent total mastectomy, chemotherapy and radiotherapy, works as a manicure and lives in her own home. She and her eight siblings are the product of a 56-year old relationship; her father (Sunflower) lives near Daisy’s house and depends on the assistance of her daughter and granddaughters because he can’t cook and has memory impairment. Her mother (Rose) died at the age of 69 due to metastatic breast cancer only two months after Daisy’s breast cancer diagnosis and initiation of treatment. Carnation, Margarida’s husband, is 44 years old and works as a private bank watchman. The couple has three daughters aged 8, 14 and 17 years, all attending school. In addition to attending classes at night, the eldest daughter, Orchid, works with clothes sales.

Their emotional bond is very strong, as shown in Figure 2.

Regarding the developmental category, we observed that Daisy was the only person that required health monitoring at the charitable nonprofit organization located in her town, whose purpose is assisting cancer patients, and at the Basic Health Unit close to her residence. Daisy said that she strictly adheres to the guidelines of the health professionals and that both facilities provide high-quality care.

Daisy takes tamoxifen every day and sometimes takes painkillers for back pain. The family income is six minimum wages and the family members perform different activities to improve their quality of life, e.g. Daisy does physical therapy (Global Postural Reeducation) and all the family members take daily walks. In the past two years, she has been undergoing chemotherapy and radiotherapy sessions in a hospital in Belo Horizonte, Minas Gerais, and has finally undergone total mastectomy in the referred hospital. During the home visits, Daisy complained of hot flashes after taking tamoxifen. Despite the hectic routine that involves permanent care to her father and the fear of dying and leaving her children, Daisy manages to maintain a good quality of life. The other family members reported not suffering from any disease. The family is entirely assisted under the Brazilian Unified Health System.

Functional assessment showed that Daisy is a friend and partner of her companion, with whom she has been married for 22 years. They have a relationship of mutual affection, help, based on concern. In her reports, she describes in a loving and affectionate way her good relationship with her three daughters. However, there were times when she had a conflicting relationship with one of her brothers, who lives nearby and is a heavy drinker. At these moments of stress, Daisy looks for her younger sister (Gardenia), with whom she has a close relationship. She also has a good relationship with all the siblings and the family members of her husband. During the interviews, her daughters said they feared that their mother would die from cancer recurrence, just as their maternal grandmother.
Figure 1 – Genogram of family One. Divinópolis, 2014

Figure 2 – Ecomap of family One. Divinópolis, 2014
It is a dynamic family where all the members take part in leisure activities (e.g. daily walks, bingo games and social gatherings in their residence) together and with friends. During the meetings, all the family members were found to have a strong relationship with God. They are Evangelicals and attend church services together, on Sundays. Daisy added that God is her permanent spiritual confidant, in good times and in bad times.

 Asked about the concept of health and the changes in her life, Daisy said that being healthy is having the willingness and courage to carry out all the necessary activities. She said that she always responded well to the changes (negative or positive) occurred in her life and was always ready to face them and overcome them. She also stressed the importance of the presence of family members and friends during her treatment, who demonstrated encouragement, support, affection and solidarity.

 Family Two (2), represented in Figure 3, consisted of two sisters, Araucaria (50 years old) and Camellia (48 years old), and their respective sons, Hibiscus (28 years old) and Hyacinth (17 years old).

 According to the structural assessment, family Two was an extended family. They lived in a house owned by their older brother and don't pay rent. The two sisters and seven other siblings are the product of the relationship of their parents, both deceased. Araucaria is the fourth child and Camellia the fifth child. Hibiscus, son of Araucaria, is a physical educator and works in two fitness centers. Hyacinth, 17, attends night classes (3rd grade of high school), and works as a photocopier. The emotional bonds between mother-son, aunt-nephew and cousins are strong. In turn, the sisters frequently disagree on many issues, which is confirmed by their children. The genogram and the ecomap were jointly constructed with the sisters and their children. The eldest sister is a widow. The younger is divorced. Regarding the developmental category, we found that Araucaria and Camellia take tamoxifen every day, as shown in Figure 4.

 At the end of 2009, Araucaria showed breast cancer symptoms and underwent total mastectomy and chemotherapy. In June 2010, Camellia was diagnosed with breast cancer and underwent chemotherapy, radiotherapy and total mastectomy. Both were treated in a public hospital of Belo Horizonte, state of Minas Gerais.

 They are currently being monitored at the charitable non-profit organization located in their city whose purpose is assisting individuals with cancer, and at the Basic Health Unit close to their residence. The sisters strictly adhere to the treatment guidelines and that both facilities provide high-quality care. The family monthly income is seven minimum wages. Araucaria demonstrates greater optimism and excitement; she takes daily walks and travels at least once a month with friends. Camellia, in turn, is shy and would rather stay at home watching television and listening to the radio.

 The functional assessment indicated that the sisters play the roles of mother, father, housewife, friend and partner of their sons and nephews. However, the sisters reported that they had many disagreements because of differences in personality and in the attitudes towards life. In times of stress, they contact their younger sister (Dahlia) with whom they have a close relationship and who is a reference for the entire family since the death of their parents.

 Cancer seems to have had a great impact on Camellia's life, as she expressed her fear of metastases and said she often got thoughtful and tearful. Araucaria, in turn, showed optimism and adaptation to the limitations imposed by the disease. She responds well to the changes (positive or negative) occurred in her life, always trying to face and overcome them. She even adopted a new, more active lifestyle after the end of chemotherapy. The sisters also reported receiving support from all the family members, neighbors and friends.

 Regarding religiosity, Camellia said she's Jehovah's Witness and attends church services every two weeks. Araucaria is catholic and attends mass every Sunday except when she is traveling. Asked about their concept of health and the changes in their lives, the sisters reported that being healthy is having the willingness and excitement to carry all their activities and stressed the importance of the encouragement, support, affection and solidarity demonstrated by their family members and friends during their treatment.

 DISCUSSION

 The two families were of different types, the first was the characteristic nuclear family composed of mother, father and daughters, and the second was an extended family composed of two sisters and their only sons. The process
Figure 3 – Genogram of Family Two. Divinópolis, 2014

Figure 4 – Ecomap of family Two. Divinópolis, 2014
of becoming ill with cancer involves challenges to be experienced by the patient and the family. In the study, after seeking information on the everyday lives of the families of these women who underwent cancer treatment and mastectomy, but are not yet taking tamoxifen, affects not only the women but the family environment, the social context and friends.

The disease affects interpersonal relationships in the family, since the sick woman experiences physical, emotional and social changes that are also experienced by the family members. They are usually not prepared to cope with the illness of a loved one and tolerate the pain and suffering of a family member, which makes their suffering even greater. In this study, this question was very clearly answered. The key aspect to recovery is family interaction, even if pain is many times stronger, because family support and assistance will make the difference in the end. Family has a key role in the lives of these women.

The link is established through emotional connections and proximity that are often present in expressions of affection, in the desire to stay together, that confer a sense of happiness. This was clearly observed in family One where harmony is present and apparent in the actions and statements of all the members.

In family Two, we noticed that Araucaria and Camellia had disagreements related to their different lifestyles and to household chores, though they had a strong emotional connection between themselves and with the family members; also, when necessary, they contacted their younger sister Dahlia to help manage the conflicts, as she was considered an assertive leader. Emotional bonds can also be established with people outside the family, as it is the case of Araucaria who travels at least once a month with friends. It should be stressed that people respond differently to the impact of disease, and bonds are also established differently.

The family members provide key support to the recovery of cancer patients. However, the social network composed of individuals who can support the patient, such as friends and neighbors, is also considered of utmost importance in this context.

In the case of the family of Araucaria and Camellia, the health professionals recognize the key role that can be played by Dahlia, in the recovery of her sisters. She can, for example, be advised to monitor, even from a distance, the relationship of the two sisters, and encourage Camellia to engage in leisure activities and have greater social interaction. In the case of Daisy, her husband Carnation and her sister Gardenia are the family members who can play the role of allies of the health professionals.

Margarida also finds comfort in her faith and spiritual beliefs. They play an important role in the maintenance of emotional balance and acceptance of the circumstances, stimulating the individual to cope with the disease and enhancing family ties. Despite their religious beliefs, Araucaria and Camellia did not report faith as an element that helped them accept and cope with the disease.

Spiritual beliefs help in the healing process of the individuals, because they feel more confident and maintain their hope in the treatment. These positive thoughts can make the patients feel more optimistic and energized. In fact, faith is deeply rooted in our culture and is as indispensable as other ways of coping with a chronic condition.

The beliefs, values and social behaviors guide the life experiences acquired by the individual and the family during the health/disease process and in self-care. Based on this assumption, the nurse must understand the family accepting and recognizing their experiences, in order to mobilize new knowledge and forms of learning in the delivery of care to the sick family member, highlighting the importance of the needs and priorities of the sick person and family, seeking to provide high-quality and humanized care.

FINAL CONSIDERATIONS

Family assessment based on the Calgary model has made it possible to know the families and raise essential aspects of their structure, development and functioning. One of the great potentials of home care is the ability to provide support to the families, according to their specific needs, helping them cope with the impact of a serious disease, such as breast cancer, in order to minimize suffering.

The findings of this study can be used by nurses to support the planning of care to women with breast cancer and their families, assisting them in identifying their weaknesses and strengths.

This comprehensive family assessment has made it possible to propose joint interventions aimed to improve the quality of family life, helping the family members envision their own solutions.
to deal with daily problems.

A limitation of this study, which is a qualitative research, is that its findings cannot be generalized and cause and effect relationships cannot be established.

Studies like this are important as they shed light on the experiences of the families of mastectomized women, their relationships and feelings and the possibility of overcoming this difficult situation.

REFERENCES


