

Original article

The Role of Transgenerational Transmission in the Psychological Adjustment of Women with Breast Cancer

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Abstract

Introduction: Getting sick with cancer is a traumatic event for the affected person and can result with various psychological difficulties, which is further deepened by invasive methods of treatment. The previously experienced psychological trauma of a close person can influence the response of a person who is currently experiencing trauma, because the far-reaching power of posttraumatic consequences extends through a natural biological barrier far into the next generation (the so called "transgenerational impact of traumatization").

Objective: To assess the impact of transgenerational transmission on the development of PTSD in women with breast cancer.

Methods: The sample consisted of 120 women treated at the Oncology Department of the University Hospital Center Osijek, included in liaison psychiatric treatment. A detailed clinical examination with a psychiatric interview was used with the application of DSM-IV diagnostic criteria, a specially structured non-standardized questionnaire for the assessment of etiological factors and the Los Angeles Symptom Checklist of PTSD symptoms (LASC) for determining PTSD.

Results: No statistical significance was obtained between the presence of a family member with cancer and the average total score on the LASC in women with newly diagnosed breast cancer.

Conclusion: Although there was no correlation between the existence of a family member suffering from cancer and the development of PTSD in the test subjects, during psychotherapy procedures we observed the existence of symptoms that did not meet the criteria for establishing a diagnosis of PTSD, but could interfere with the development of various psychological responses. By including cancer patients in psychotherapy procedures, we can prevent the development of more severe psychological responses in the second generation, which due to the genetic influence in the inheritance of the disease will develop cancer, and the psychological disorder associated with it, and achieve a far reaching effect on strengthening adaptation mechanisms.

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Introduction

Breast cancer is a great stress for every woman, but there is great variability in the psychological responses of each individual. Although women nowadays have more treatment options, the psychological problems remain the same. The age at which cancer occurs, earlier emotional stability, personal coping skills and the existence of interpersonal support are of particular importance. Most researchers generally agree that the most important period during adjustment to cancer is the year following the diagnosis. It is a crisis in the patient's life, but most patients overcome it in a satisfactory manner, especially in the group of those with a good prognosis (1, 2). However, some adapt better than others. Psychological response depends on the sociocultural environment in which treatment is provided (treatment methods available, decision-making during treatment), psychological and psychosocial environmental factors, and medical and physical factors including disease stage, treatment, response and clinical course (3).

Many studies emphasize that people with better social support adapt better to the disease (4, 5). Social support is an important factor in the impact of stressful events on health, because social factors and interpersonal relationships can protect an individual from the dangerous consequences of stress (6, 7). Stress can mobilize a social network and elicit supportive behavior from it, but it can also have a negative impact, i.e. reduce help by worsening or destroying relationships. Sources of social support can be different. Nevertheless, most people receive the largest part of emotional support, warmth, belonging, material and instrumental support in the family (8).

As it is often emphasized, psychosocial support cannot be provided to all sufferers, therefore it is important to determine which persons are more at risk for adjustment difficulties, so that support can be directed to them (3).

The previously experienced psychological trauma of a close person through

transgenerational transmission can affect the reactions of the person who is currently experiencing the trauma, leading to repetitions of earlier experiences and the development of various psychological disorders (9, 10).

The success of therapeutic interventions is often evaluated by the quality of life of patients. In the past, only the quantity of life (survival time) was measured. By prolonging the survival time of patients, they began to think about what the life of those who succeeded in this is like, whether this continuation of life is of sufficient quality and whether it justifies the costs of the treatment, which is supported by earlier research (11). Psychotherapeutic support with the support of family and friends significantly affects the quality of life of affected women and indicates the need to involve a psychiatrist in the treatment of patients who exhibit psychological difficulties in adapting to a physical illness.

If a child has a parent who is burdened by trauma, their early development of an attachment model can be disrupted, creating problems at the level of forming a healthy personality. If this is not corrected at some point in development, it creates a burden for the development of interpersonal relationships throughout life, because even new relationships can be burdened by the shadow of trauma from the past (12). Lack of self-esteem, experience of inferiority, shame, guilt and other complex experiences largely stem from the underlying feeling of pain.

Important developmental processes, the development of feelings of attachment, separation and individuation are especially disturbed, because a sick parent places the child in an atmosphere of high anxiety, depression and impulsivity. Some people have been traumatized multiple times, by the so-called cumulative trauma, worried about the future and security without enough strength to adapt (13, 14).

Our first contact with reality, with the world, is first affective, emotional and only then rational. Our affective memory, which contains all the emotions experienced in the past, colors the reality we encounter so that our picture of the

world is first subjective, which means somewhat distorted, due to the affective assessment of reality that we made before rational judgment. Affective judgment of reality predisposes a person to adopt and maintain affective attitudes that then determine, and in immature persons often dictate, human behavior. According to M. B. Arnold, it is a living memory of the history of the feeling (emotional) life of every person. Since it is always at our disposal, it plays an important role in the judgment and interpretation of everything around us, like the matrix of every experience and action (15).

It should be said that the very use of emotionally saturated words contributes to the affective judgment of reality. Such words have a strong impact on the recipient of the message so that they immediately take a certain attitude towards the conceptual content of the mentioned emotionally saturated words (for example "cancer").

Mental trauma is an extremely complex phenomenon, and it occurs when a person is confronted with the so-called a catastrophic experience, one that is far out of the ordinary (e.g. near death or complete helplessness). A traumatic event is easily recalled, with loss of control, a tendency to avoid it, causes overwhelming fear, mental pain, a sense of loss of hope for the future and actions of the autonomic nervous system. By destroying values and beliefs in the structure of a person, trauma destroys the relationship of trust between the person and their world. The patient no longer knows how to act in the fight for survival and develops chronic post-traumatic stress disorder, which leads to a reduced capacity for adequate family and parental functioning, which also affects the health of children, increasing the predisposition to the development of psychological disorders.

Patients transmit the fears they feel to the entire family, and daughters or sisters of patients who are at a higher risk of getting cancer may develop special fears of their own disease by resisting or worrying too much during the care of the sick woman (16).

For many years, "epigenetic inheritance" has been researched, i.e. the way in which accumulated experiences during the life of parents affect the genes of their offspring and what role this plays in the development of children. The term epigenetics consists of the words genetics and epigenesis, i.e. the development of a living being. Numerous studies in recent years have investigated the connection between experienced trauma and the impact on genes (17–21). However, in addition to affecting genetic transmission, trauma can lead to changes in the behavior of the next generation.

Aim of the study

To assess the role of transgenerational transmission on the development of PTSD in women with newly diagnosed breast cancer.

Patients

The sample consisted of 120 women treated at the Oncology Department of University Hospital Center Osijek, included in liaison psychiatric treatment.

The criteria for inclusion in the research were: female gender, aged 18–65, diagnosed with breast cancer, radiotherapy as part of cancer treatment, absence of serious physical illnesses, no history or current signs of psychotic disorders, completed elementary school as the lowest educational level, adequate opportunity to talk, signed informed consent for the patient.

The criteria for exclusion from the research were: non-acceptance of participation in the research according to the patient's informed consent, the presence of other serious physical diseases, pregnancy, breastfeeding, data on the previous or current existence of psychotic disorders, mental retardation, severe personality disorder, permanent personality changes, abuse of psychoactive drugs substances or alcohol in the last three months before the start of the study, previous participation in any form of psychotherapeutic treatment.

The patients were included in liaison psychiatric treatment (pharmacotherapy and psychotherapy). All applied psychiatric therapeutic procedures were limited to one year. Psychotherapy procedures were conducted once a week during the first two months of the study, and later according to the intensity of the clinical picture and the motivation of the test subjects for a total duration of one year.

Methods

Before the start of the research, signed informed consent for participation in the research was obtained from all respondents.

The research included:

▣ Detailed clinical examination with psychiatric interview with application of diagnostic criteria according to DSM-IV for mental disorders (22).

▣ The application of a specially structured non-standardized questionnaire, which was used to assess in detail the possible etiological factors in the occurrence of psychological disorders in the test subjects.

Psychological testing conducted by a psychologist that assessed the existence of PTSD symptoms using the Los Angeles Symptom Checklist of PTSD symptoms (LASC) in order to determine the existence of PTSD when entering the study, or the development of PTSD symptoms during the development of the disease at the end of the study. The tests were

completed on day zero and after two months of research.

Results

1. Demographic data of the sample

The average age of the respondents was 56.52 years (minimum 24, maximum 65) with a standard deviation of 8.628.

According to the place of residence, 71 (59.17%) respondents were from the village and 49 (40.83%) from the city. Seventy-four (61.67%) respondents were married, and 33 (27.5%) were widows. Most of them had two children (53 respondents, i.e. 44.17%) or three or more children (34 respondents, i.e. 28.33%). Fifty-nine (49.17%) respondents completed primary school, and 49 (40.53%) completed secondary school. Sixty-one (51%) respondents had a family member with cancer, and 59 (49%) did not. Twenty (32.79%) respondents had a parent previously suffering from cancer, six (9.8%) had a spouse, 16 (26.23%) had more members of the immediate family suffering from cancer and 16 (26.23%) had a member of the extended family suffering from cancer (the term refers only to the first-degree relatives, i.e. the patient's aunt or grandmother) 14 (33.95%). Five respondents (8.2%) had a child with cancer.

2. Analysis of the results according to the total value on the LASC and the family member suffering from cancer for the studied groups

During the research, 10.83% of the subjects developed a clinical picture of PTSD (Table 1).

Table 1. Total Los Angeles Symptom Checklist (LASC) score according to a family member diagnosed with cancer

Family member diagnosed with cancer	Number of subjects	Average total LASC score for the first measurement	Maximum total LASC score for the first measurement	Average total LASC score for the second measurement	Maximum total LASC score for the second measurement
NO	59	20.88	56	22.4	55
YES	61	22.92	58	20.17	50

Table 2. Total Los Angeles Symptom Checklist (LASC) score according to a family member diagnosed with cancer

Family member diagnosed with cancer	Number of subjects	Average total LASC score for the first measurement	Maximum total LASC score for the first measurement	Average total LASC score for the second measurement	Maximum total LASC score for the second measurement
Parent	20	25.53	50	22.68	50
More members of the closer family	16	22.09	58	18	48
Member of the extended family	14	20.9	36	20.36	44
Child	5	27.6	39	27	43
Spouse	6	15.2	27	14.6	19
Nobody	59	20.56	56	22.24	55

The t-test for independent samples showed no statistical significance on the association between the average total score on the LASC and the presence of a family member with cancer for the first ($p < 0.4630$) or second measurement ($p < 0.3852$) (Table 2).

No statistical significance was obtained for the first measurement (Median test $p < 0.1252$, Kruskal Wallis test $p < 0.5176$) nor for the second measurement (Median test $p < 0.1333$, Kruskal Wallis test $p < 0.5973$) regarding the association of having a family member with cancer and the average total score on the LASC.

Discussion

The most significant information obtained from this research is the fact that 51% of the women examined had a family member who suffered from cancer.

In this paper, we do not observe the genetic influence in the development of cancer, although this information opens up the need to analyze this problem as well, but we focus on the observation that this fact had a significant impact on adaptation and the type of fears that developed after realizing that they too had the disease from a serious illness with which they had negative previous experiences.

During psychotherapeutic treatment, feelings and thoughts related to earlier traumatic experiences with regards to the illness, as well

as suffering and dying experienced by people from their close family, were often processed. It was a superimposed trauma.

The criteria according to DSM-IV for the diagnosis of post-traumatic stress disorder (PTSD) include symptoms that are present at least one month after exposure to a traumatic event in the form of repetition of the traumatic event, symptoms of heightened arousal and avoidance behavior, and loss of psychosocial functioning (22).

Epidemiological studies indicate that 25–33% of people exposed to traumatic events, including cancer, develop PTSD (23), and the results of our research found that 10.83% of respondents showed PTSD during the entire study.

In cancer patients, defining the traumatic stressor is a problem. Within the multiple crises that the cancer experience is comprised of, it is difficult to single out and define a stressor. A stressor can be a diagnosis, the realization that the disease can be fatal, a long period of severe pain, symptoms and signs of the return of the disease, aversive actions or being in the room with a person who is dying or has died. In 1994, by redefining the criteria for a traumatic event, in the DSM-IV classification, contracting a life-threatening disease and the knowledge of one's own child developing a life-threatening disease were included as a stressful event that meets the criteria for a diagnosis of PTSD (22).

The severity, duration and proximity of a person's exposure to a traumatic event affect the development of PTSD, and the suddenness and threat to life and physical integrity are important causes of the development of the disorder, while the presence of pain and other physical symptoms correlate with intrusive thoughts (23).

Earlier research additionally suggests that PTSD leads to deficits in some social functions (reduced interest in returning to work, poorer work performance, inadequate parental role, participation in household activities and general social functioning), which additionally leads to the development of anxiety and depression (24).

The far-reaching power of post-traumatic consequences also extends through a natural biological barrier, namely far into the next generation (the so-called "transgenerational impact of traumatization") (25). Research on the descendants of people who lived through the Holocaust indicates that their descendants were more anxious (26), showed excessive narcissistic vulnerability, more aggression (27) and guilt for having survived (28).

Also, symptoms of chronic PTSD can develop in family members who were not born when the trauma occurred, as described in children of Vietnam veterans, who suffer from low self-esteem and reality testing, are hyperactive, unstable, aggressive, have difficulty coping with problems and own feelings such as fear, anger, guilt and mistrust. That is why they may have more problems in behavior, relationships with peers or in learning. In the families of traumatized persons, the percentage of intimate partner and family violence is higher, and exposed children may also develop psychological disorders as a result (27).

We are born with our unique, inherited combination of genetic potential, but perhaps even more than genes, a child's emotional development is influenced by the people with whom they are in closest contact. Thus, the so-called "secondary transmission of trauma", which is called indirect, secondary or empathic traumatization, occurs almost according to the type of transference identification, and happens

to children, wives or caregivers of sick people, even to healthy children who play with the traumatized (29). Thus, the traumatic experience indirectly gains new victims.

A child in a family with a traumatized parent grows up with a distorted idea of roles and conflicts, is ashamed of themselves, carries a core of self-hatred that is difficult to undo later. Some are withdrawn and cautious so as not to be emotionally betrayed again, while others uncritically get involved in relationships and repeat disappointments, they are emotionally numb, unavailable and find it difficult to experience positive emotions.

Basically, communication is primarily damaged, so it is easy to enter into a vicious cycle of anxiety, frustration and withdrawal, until the feeling of complete exclusion. Silence and avoidance are most often the basis of relationship disorders, as well as the inability to show real feelings, which the traumatized person cannot bear, so the child has no one to ask for help and develop the protective feeling that a parent should evoke. Sometimes the parent overwhelms the child by excessively openly describing the traumatic event in minute detail, which terrifies the child.

For reintegration after trauma, an effective struggle for healing is needed, which is recognized by the establishment of a relationship of trust in oneself and the world, by offering healthy patterns of communication and behavior, which strengthen growth and progress. This requires a systematic and team approach, raising the level of awareness and understanding, and creating quality social support in the community.

The family, as a center within whose relationships all the child's psychological processes take place, represents a place of safety and support, a place of identification and the creation of relationships, and a place where numerous pathological events responsible for the subsequent development and functioning of each family member, especially the child, take place. The family is significantly influenced by cultural, ethnic and socioeconomic factors, all of which, together with the specifics and

expectations of each member within the family, form a whole, which is in a constant dynamic of change (30).

Such a milieu is responsible for the child's early development and relationships. The family is not only determined by the socioeconomic status, but also by the experience, knowledge and expectations of each member within the family, and each of the aforementioned factors models and influences each member (31). In this interplay of numerous factors, all psychological influences and problems take place in the earliest phase of the child's life. The child brings such experiences into all other relationships, and when assessing any pathological process, the assessment of early family relationships is an indivisible part, especially when the direct connection of these processes with acceptance or rejection, love and emotions is known (32).

Social learning theories, as well as psychoanalytic and ethological ones, each using different mechanisms, emphasize the importance of the dyadic relationship between the child and the mother or some other person who cares for them.

Bowlby's conception of attachment is particularly important, according to which a human being has an innate need to create strong bonds with people who provide a sense of protection and security and who are emotionally important to them, and the early experience of connection with parents shapes the development and quality of close relationships in adulthood. Unconditional trust in the availability of the object of attachment (parents) and their support are the basis of a stable person (30, 31).

In states of interruption or threat of interruption of these connections and the impossibility of realizing them again, there are strong emotional responses and a search for an object. Bowlby believes that the established connection and attachment to an important person stems from our need for security and protection. This bond is established after birth and develops in the relationship with the mother, and then with other important persons for us (father, brothers, sisters, partner) and lasts throughout life.

If the mother and child do not "fit" well, their relationship will be marked by a weak attachment or a bond filled with fear. Early losses (abandonment of the mother) are experienced as death. The experience of being "abandoned" (by the mother) in early childhood can be distorted as complete abandonment because we are bad and unloved, to which we respond with helplessness, guilt, anger, fear and horror. Therefore, early losses will affect the way of mourning subsequent losses and make it difficult to overcome separation and loss (32).

As attachment theory deals with social behavior, an individual's expectations about themselves, others and relationships, it also makes predictions about an individual's self-esteem and ability to form close relationships.

Parents remain permanent components in the attachment hierarchy, but over time they occupy a secondary position in terms of importance, and partners become the most important objects of attachment.

The way people perceive existing social support can strengthen their belief that others care about them and value them, and can also increase their self-esteem and confidence in their own ability to cope with future stress (33, 34).

Symptoms of anxiety and depression are present in various psychological disorders and often overlap, with comorbid conditions that are difficult to distinguish, and timely diagnosis is of theoretical, diagnostic and therapeutic importance (33, 34).

Establishing a diagnosis is complicated by the fact that cancer is not an acute and discrete event, but an experience of strong, repeated traumas of indefinite duration. Therefore, the sufferer can show symptoms of PTSD at any time from diagnosis, during treatment and recurrence of cancer which also leads to symptoms of stress reaction in sufferers (35).

These observations suggest the need for continuous reassessments of the diagnosis throughout the course of treatment, and according to DSM-IV, although PTSD symptoms

usually appear within the first three months after the trauma, they may be delayed for months, even years.

PTSD in women who have had a family member with cancer can be reactivated PTSD when the old clinical picture of PTSD reactivates, but it can also manifest as a new disorder. Second-generation PTSD, i.e. reactivated PTSD, lasts longer and often remains as strong as it was at the beginning. Exposure to trauma, in the second generation, exposes a latent sensitivity that was not triggered by ordinary life events. In the second generation, there is also a deepening of the experience of failure, because that generation was raised to compensate for the damage experienced by their parents, and this experience is often present in the treatment of cancer. Recovery can also be hindered by excess secondary gains stemming from an overprotective parenting relationship, which is well documented for parents of Holocaust survivors (36).

In addition, as it is a well-known fact that breast cancer occurs more often in the daughters of affected women, we should also bear in mind the transgenerational transmission of the impact of the current trauma on the next generation (i.e. the daughters of the examined women) and the prospective impact of current psychiatric procedures and their impact on reducing severe psychological reactions in the future.

The chronification of the PTSD process and malignant forms usually occurs in those women who are not satisfied with their physical or mental condition and self-care (11), and the contents that were processed during the psychotherapy process indicate exactly that.

There are frequent repetitions of various traumatic experiences experienced both during

diagnostic and therapeutic procedures, which do not have to meet the criteria for establishing a diagnosis of PTSD, but can interfere with the development of psychological responses, disorders or just the intensity of anxiety and depression.

Affected women often transfer their own fears to their children, changing their ways of responding and intensifying anxiety and depression. Psychotherapeutic treatment has far-reaching effects and can lead to major changes in relationships in the entire family of the woman being treated. Positive therapeutic advances (through insight and changing responses and leading to changes in the attitudes and reactions of sick children) can have an impact on the next generation as well and help children (if they get sick in the future) in their psychological adaptation and fight against this serious disease. Recent research on the transmission of transgenerational trauma as a transmission of resistance, and not only as a transmission of problems or psychological pathology, points in this direction, emphasizing that earlier collective trauma can also result in the strengthening of some positive family values (37).

The transgenerational transmission of emotions in cancer is important, but still insufficiently researched and it is a challenge for future research, opening up many complex questions.

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Utjecaj transgeneracijskog prijenosa u psihičkoj prilagodbi žena s karcinomom dojke

Sažetak

Uvod: Obolijevanje od karcinoma predstavlja traumatski događaj za oboljelu osobu i može rezultirati cijelim nizom psihičkih poteškoća, a invazivni načini liječenja dodatno ih produbljuju. Ranije proživljena psihička trauma bliske osobe može utjecati na odgovor osobe koja u sadašnjosti proživljava traumu jer se dalekosežna moć poslijetraumatskih posljedica proteže i kroz prirodnu biološku prepreku daleko u sljedeći naraštaj (tzv. pojam "transgeneracijskog utjecaja traumatizacije").

Cilj: Procijeniti utjecaj transgeneracijskog prijenosa na razvoj PTSP-a kod žena oboljelih od karcinoma dojke koje su u obitelji imale člana oboljelog od karcinoma.

Metode: Uzorak se sastojao od 120 žena liječenih na Odjelu za onkologiju KBC Osijek uključenih u liaison psihijatrijsko liječenje. Korišten je detaljan klinički pregled s psihijatrijskim intervjuom uz primjenu DSM-IV dijagnostičkih kriterija, posebno strukturirani nestandardizirani upitnik za procjenu etioloških čimbenika i LASC za utvrđivanje PTSP-a.

Rezultati: Nije dobivena statistička bitnost o povezanosti postojanja člana obitelji oboljelog od karcinoma i prosječne ukupne vrijednosti na LASC-u.

Zaključak: Iako nije dobivena povezanost postojanja člana obitelji oboljelog od karcinoma i razvoja PTSP-a kod ispitanica, tijekom psihoterapijskih postupaka je uočeno postojanje simptoma koji ne zadovoljavaju kriterije za postavljanje dijagnoze PTSP-a, ali mogu interferirati s razvojem raznih psihičkih odgovora, poremećaja ili samo jačine anksioznosti i depresivnosti. Uključivanjem oboljelih od karcinoma u psihoterapijske postupke, možemo prevenirati razvoj težih psihičkih odgovora kod drugog naraštaja, koji će zbog genetskog utjecaja u nasljeđivanju bolesti tek razviti karcinom i uz njega vezan psihički poremećaj te dalekosežno djelovati na jačanje mehanizama prilagodbe.