

A new method to study the relationship between perceived stress and physical and psychological symptoms of breast cancer patients: A new model for stress physiology

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Abstract— Cancers, especially breast cancer, are considerably prevailed in women. Actually, ailments like cancer are directly related to tensions; the longer the duration of illness induced tensions, the higher the psychological and physiological negative impacts of illness. This leads to loss of immune system performance of patient and difficulties arises in effective fight against illness. At the other hand, if the feelings rose in cancer patients are not profess, it is possible to result in stress, depression, hopelessness and trying to suicide. Many of cancer patients have stressful thinking and show the loss of focus and attention level. In other words, it is necessary to prevent affective disorders such as perceived stress in cancer patients since stress cause to loss of life quality and any measure to stress reduction can be improved the quality of life.

Index Terms— Perceived stress, Cancer patients, Psychological signs, Physical signs, Breast cancer, Psychological model of stress, Psychological pattern of stress, General compatibility

1 INTRODUCTION

Cancers, especially breast cancer, are considerably prevailed in women [1-7]. However, there is a strong relationship between psychological situation and cancer [8, 9]. In addition, World Health Organization (WHO) predicted that mood disorders will be the most important threat for public health in 21st century [10-19]. Prevailing mood disorders such as depression in women are twice higher than in men (21.3% compared to 12.7%) [20]. In cancerous women, psychological tensions resulted from cancer cause to stress and depression and loss of remediation and treatment lead to last of hospitalization, loss of medical remediation and decrease in lifetime [21-23]. Many of worries and depressions in cancer patients arose from loss of a part of body or its performance, dependency to others and loss of their role in society or family [24-29]. Worry and depression are the most prevalent psychological reactions in cancerous people which are flashed during diagnosis and preparing to treatment times and may be continued during remediation of illness [30]. However, fighting with pain in cancer patients has strong effect on general quality of her/him life, especially with impact on physical and psychological features [31-35].

Chronic illnesses like cancer are in relation with tensions [36]. Longer duration of tensions lead to more negative psychological and physiological impacts on patient which results the attenuation of immunity system of body and encountering the patient to more problems in remediation process [37, 38]. As a result, although high stress levels in cancer patients would not reduced the number of killer cells, it reduced the effects of these cells and imparted stress to patient would affect in actions of leukocytes and cause to infirmity in immunity system of body [39-45]. Therefore, the treatment of a cancer patient has not only clinical feature [46, 47]. Cancer and its treatment have different features so it is necessary to pay attention in all other different features than clinical one [49-51]. It seems that psychological evaluation of such patients, recognizing the prevalent reactions and lateral consequences of remediation is of critical importance to prevention and faster treatment [52-56]. Cancer patients are need to help for effective and enlivening conformity with their chronic illness [57]. They will be need to learn new fighting skills and this will be happen when their reactions to illness and its induced problems are well recognized [59-66].

2 IMPORTANCE OF STUDY

Generally, the relationship between perceived stress and physical and psychological signs in breast cancer patients may have especial consequence [67]. Stress reduction in patients may lead to more effective cooperation of them in medical centers to improve the process of remediation actions and attenuate

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the progress rate of illness as possible [68]. It is also definitely reduce the high medical costs of the patient [69]. In addition, it should be noted that by improving the optimism in patients and by recognizing their capabilities it would be possible to increase the quality and their satisfaction of life which in turn, led to functional consequences such as reduction in stresses and pressures imparted to family of the patients [70].

Today, the positive effects of psychological interventions in process of improving the physical chronic illnesses are accepted and by daily extension of health psychology, psychologists have taken more active role in remediation process [71]. Mood methodology is one of the psychological methodologies which are interesting for researchers and psychologists in recent decades [70, 71]. This approach can be helpful for patients to minimize the adverse mental effects of illness [67-69]. The strong tentative support about the use of mood-recognition remediation in prevalent psychological problems of physical illnesses is fully in accordance with offering the new medical cares and emphasis on tentative support remediation [65]. So far, the mood-recognition remediation and its medical protocols are compiled for many psychological disorders and chronic illnesses and most of them are recognized as effective actions in clinical studies [65, 66]. The mood-recognition remediation was successfully used to control the irritable bowel syndrome, chronic fatigue syndrome, chronic pains, HIV/AIDS patients and to reduce the stress and depression of cancer patients [63, 64]. Therefore, according to basics about the recalling psychological reactions by cancer as a TENIDGIZA phenomenon and to demonstration of usefulness of mood-recognition remediation in many physical chronic illnesses, it aims to use the medical intervention to reduce the psychological signs of cancer patients in the current study.

3 PSYCHOLOGICAL MODEL AND PATTERN OF STRESS

The reaction of different bodies to stressful external motives are generally have similarities which named as "general adaptation syndrome (GAS)". Based on this theory, the resistance of person is reduced in first step and then, in second step, resistance against stressful factor is increased and is remained in a suitable level. But the third step is happened when a tedious process is progressed due to remaining of stress and the level of resistance is attenuated (Figure 1).

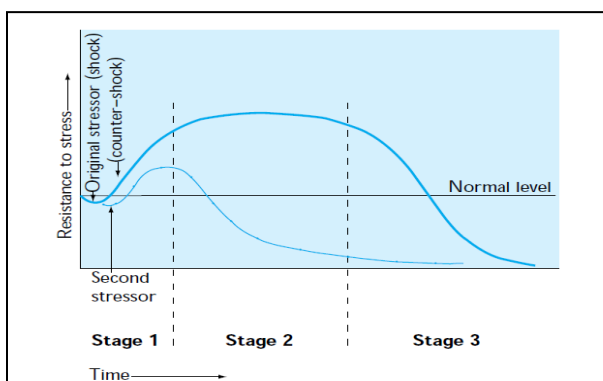


Fig 1. Psychological general adaptation syndrome against stressful factor.

4 BREAST CANCER

Cancer is a complicated, enervated and prevalent illness which is the second bio-medical factor of death, after heart attack, in many countries including Iran. Today, breast cancer is the most worrying factor of health in women because it is the most prevalent type of cancer and is the second most factor of cancer induced death after lung cancer. Women stricken by breast cancer must encounter with physical and affective features induced by recognition of a dangerous illness. These features will be continuing many years after treatment and potentially would be harmful to quality of survivors. Since during cancer there are many stressful phenomena induced by it and fighting with it, the role of stressful phenomenon in psychological and physical illnesses such as cancer are interesting issue since a long time ago. Cancer patients are faced with many problems and bio-psychological and -social stresses and clinical depression is the most prevalent psychological disorder among them. One of the most effective factors for psychological situation of cancer patients is the method of encountering to the illness and methodology of fighting with cancer induced stresses.

The idea that cancer is in relation with stress or feeling factors was introduced about 200 years B.C. when Galen was hinted that women stricken by Melancholia are more ready to give cancer than usual women. Further interesting to relation of mentality and body in the last three decades are guide our knowledge in direction of recognizing complicated internal relationships between immunology, endocrine and neurons system. There are many observations that tension would be harmful to different parts of immunity system and made a suitable base for progress of danger.

Vant Spijker et al. (1997) [20-35] categorized the methods of encountering to stress in adult cancer patients into methods which have high psychological compatibility such as affront, having fighter morale and optimism and methods which have psychological problems such as passive reception, shirk, feeling of no control and fatalism.

Petticrew et al. (2002) [20-35] found that shirk, hopelessness and high prostration are predictive of potential of illness relapse. The study of Reynolds et al. (2005) [20-35] show that in cancer patients, there is a relationship between merriment and increasing the potential of health. Allison (2002) [20-35] found that in cancer patients the optimistic persons reported less pain and in different parts of life have better performance but in breast cancer patients pessimism is the predictive of after surgery psychological problems. Watson et al. (2005) [20-35] in a study during 10 years on 587 cancer patient found that less prostration and hopelessness are the predictive of faster remediation and the improvement in hopeless patients is less. Petticrew et al. (2002) [20-35] claimed that in women stricken by breast cancer that have fighter morale, improvement and surviving have high possibility.

In addition, the effect of stressful happenings in life is not only in relation with seriousness and type of impact, but also is in relation with accessibility of resources to encounter to needs. Vander (2009) [20-35] reported that stressful happenings such as mourning impacted the potential of person to resist and lead to hopelessness, leaving or depression and such factors is the base of different types of psycho-body illnesses like cancer. Straus (2004) [20-35] according to the study of women stricken by breast cancer claimed that the threatened happenings in last 5 years of life are the influential factors in progress of cancer. Threatened happenings are in relation with the potential of breast cancer.

5 RESULTS AND DISCUSSION

Cancer is a complicated, enervated and prevalent illness which is the second bio-medical factor of death, after heart attack, in many countries including Iran. But the cancer has stress load on patients in addition to cost of remediation. The stress would be very harmful and interrupting on whole life of patient. But one type of stress which is more prevalent in cancer patients is perceived stress. However, the severity of perceived stress is in relation with the belief of patient in seriousness of stress. High potentially, the person will be follow an special guideline to resist when he/she believed to the cancer induced physical, psychological and social negative impacts and its critical consequences (such as change in social relationships, reduce in independency, pain, infirmity and death). In fact, the recent studies show that the most of people stricken by cancer are believed that stress has a critical role in outbreak and intensification of their illness. Anyway, it seems that the attention to the program of immunizing against stress in cancer patients to improve the quality of their life is necessary.

Breast cancer is the most prevalent cancer among Iranian women. The psychological impacts of the illness lead to feel fray, anger, guilty, hopeless and worry. As a result, the current study is aimed to investigate the effect of logotherapy on perceived stress and hopelessness in women stricken by breast cancer. To study the relationship between perceived stress and physical and psychological signs of breast cancer patients, the researchers evaluate different indices such as worry, aggression, depression, sensitivity in inter-personal relationships, somatoform complaints, scrupulosity-constraint, phobia and psychosis by data collecting from questionnaires based on in advance theories.

6 CONCLUSION

It is found that the breast cancer patients are suffered from psychological symptoms such as depression, worry, perceived stress, hopelessness, propitiated anger and prostration. Some of these symptoms are due to knowing about cancer and cognitive feedbacks and the others are due to side effects of usual medical actions (e.g., mastectomy, chemotherapy, surgery and

radiotherapy) such as losing hairs and a part of body, which is the symbol of womanhood and motherhood. However, the psychological effects, severity of hopelessness and perceived stress by patient may lead to a special psychic situation under it the person feels prostration, infirmity and boring in the life. In this condition, the patient is highly de-active and weakened and loss the power of adaption to changes of life condition and continually slow down from natural flow of life. Totally, the results of study show that the perceived stress in cancer patients is effective on physical and psychological signs of them. However, in comparison with similar studies, after many investigations, the researcher has not found similar results to the current results

7 FUTURE STUDIES

Considering the extent of research in this context, it is recommended to other researchers in this field that more attention would be paid to issues such as age of patients, their educational level and martial status in regards to statistical universe. At the other hand, being psychologically health and having desirable work life quality in cancer patients lead to better and more creative programming of life by them and help to performed the programs as well as possible which in turn, leads to higher levels of health and happiness. Generally, cancer patients are more subjected to stress than usual people that results decrease in level resistance to mental pressures and they shown high levels of psychological symptoms and hence, depression will rise in patients. Therefore, one of the functional recommendations by authors is that hospital authorities codify strategic programs and try to increase psychological health level and quality of patient's life and deeply investigate the reasons and results of psychological symptoms in this type of patients.

8 APPENDIX

Items assessing benefit finding in regard to having had breast cancer. Having had breast cancer...

- (a) has led me to be more accepting of things.
- (b) has taught me how to adjust to things I cannot change.
- (c) has helped me take things as they come.
- (d) has brought my family closer together.
- (e) has made me more sensitive to family issues.
- (f) has taught me that everyone has a purpose in life.
- (g) has shown me that all people need to be loved.
- (h) has made me realize the importance of planning for my family's future.
- (i) has made me more aware and concerned for the future of all human beings.
- (j) has taught me to be patient.
- (k) has led me to deal better with stress and problems.
- (l) has led me to meet people who have become some of my best friends.
- (m) has contributed to my overall emotional and spiritual growth.

- (n) has helped me become more aware of the love and support available from other people.
- (o) has helped me realize who my real friends are.
- (p) has helped me become more focused on priorities, with a deeper sense of purpose in life.
- (q) has helped me become a stronger person, more able to cope effectively with future life challenges.

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