Life Stresses As Reported By Breast-Cancer And General Medicine Patients

Dr. Yasmin N. Farooqi

Abstract

The present research investigated the life stresses reported by the out-door female breast cancer and general medicine patients. The ex post facto research design was used. The sample consisted of 128 Pakistani adult female patients (64 breast cancer and 64 general medicine patients) from various hospitals of Lahore. A checklist of Life stresses and Marital Stresses Inventory (Urdu Translation) was administered to the patients. A 14-item Hospital Anxiety Depression Scale (Urdu Version) was also administered to the patients. Data analysis suggests that the cancer patients exhibited more depression than the general medicine patients ($z=2.43$; $N=128$;$p<0.05$). However, both the groups manifested the same level of anxiety probably due to the chaotic healthcare system of Pakistan society ($z=0.96$;$N=128$;$p>0.05$). Furthermore, the two groups did not differ in terms of their general life stress ($z=1.16$; $N=128$;$p>0.05$); and marital stress (z-0.63;$N=128$;$p>0.05$). Low positive correlation was found between life stress and depression ($r=0.26$); marital stress and depression ($r=0.20$); and overall total stress and depression ($r=0.11$), in breast cancer patients.

Statement of the Problem

The current research explored the degree of life stress, marital stress and depression experienced by Pakistani cancer and general medicine patients from the outdoor units of various government hospitals of city of Lahore, Pakistan: Institute of Nuclear and Medical Oncology, Sheikh Zayed Hospital, Jinnah

Hospital, Mayo Hospital, Adil Hospital and Shaukat Khanum Hospital, Lahore.

Introduction

The present research investigated degree of stress and depression reported by cancer and medical patients.

Dramatic changes have taken place in the world and particularly in Pakistani society over the last decade or two that work and life stress have become more immediate focal points of interest. This interest has reflected itself in an ever-increasing research orientation into occupational stress, the impact of life stress and stress and disease (Cooper, 1983). According to Seyle (1980) (as cited in Cooper, 1983) the concept of health as a question of body, mind and spirit is receiving wide public recognition and importance. This holistic approach aims at enhancing our total well-being, in part through self-awareness. By learning to gauge our own innate energy, potential weakness and strengths, we can all benefit from this approach. Early in the twentieth century, scientific interest increased in the relevance of stress to health and disease. There is sufficient clinical evidence that suggests that stress plays some role in the development of every disease, its effects – for better or worse – are added to the specific changes characteristic of the disease in question. In the human body there is always one organ or system which owing to heredity or external influences, is the weakest and most likely to break down under general biological stress. In some people the heart, in others the nervous system or the gastrointestinal tract, may represent this weakest link. That may be one of the factors why people develop different types of diseases when faced with the same stressor.

Most of the theorists like Beck and Emery (1985), Firestone (1997) etc. suggest that psychosomatic disorders are physical disorders in which emotions are believed to play a central role. Today the scope psychosomatic research is much broader, and the term "psychosomatic medicine" is being replaced by behavioral

medicine. One relatively new area of research in behavioral medicine is psychoimmunology, the study of how the body's immune system is affected by stress and other psychological variables. There is significant empirical data from a number of areas that suggest that stress effects the ability of the immune system to defend the body. (Atkinson, Atkinson, Smith & Bem, 1993).

According to Youngkin and Davis (1994) stress is a unique and individual expression in response to any number of events. Stress occurs when the adaptive or coping mechanism is overwhelmed by events. A stressful event may not always be negative; but may be positive, such as marriage or a promotion, and it depends upon how an individual perceives and experiences it (Lazarus, 1991). Stress is the result of an interwine of forces: stressors, perceptions of those stressors, emotional and physiological responses to those perceptions, and efforts to cope. The degree to which a certain stressor causes stress is determined by the perception of that stressor. Thus, it may be argued that stressor may include interpersonal problems, and internal conflicts (Youngkin & Davis, 1994).

Generally speaking, stress is used to refer to a situation in which a person is overtaxed in some way. According to Seligman, (1975) (as cited in Dowretzky, 1985) the concept of learned helplessness also provides a way to understand the effects of uncontrollable environmental stress. Seligman's research (1989) has demonstrated that learned helplessness can be an important factor in the failure to adjust to stressful events. People are likely to become helpless only when they see their lack of control as due to causes that are (1) permanent rather than temporary: (2) internal (located within themselves) rather than external (located within the environment): and (3) applicable to many areas of their life rather than limited to single area of functioning.

Seyle (1976) called attention to the body's reaction to stress the general adaptation syndrome (GAS). His most influential work is in adrenal stress physiology. This syndrome consists of three

different stages, the alarm stage, the resistance stage, and the exhaustion stage. He further pointed out that attempts to adapt to the continued stressor may deplete the body's resources and make it vulnerable to illness.

The first state is the alarm reaction, which includes the effects of autonomic nervous system activation and which is characterized by a drop in bodily resistance to the stress. The autonomic nervous system stimulates the adrenal medulla, which secretes norepinephrine and epinephrine. The pituitary secretes ACTH, which stimulates the adrenal cortex to release glucocorticoids. If the initial stress is too severe, an organism may die.

If it doesn't die the second phase, the resistance stage, begins. In this stage, pituitary continues to secrete ACTH, which goes on stimulating the adrenal cortex to secrete the glucocorticoids, important in resistance to stress. The glucocoricoid hormone stimulates the conversion of fats and protein to sugars, providing energy to deal with the stressor. Simultaneously, though, these hormones delay the growth of new tissue around a wound, inhibit formation of antibodies, and decreases the formation of white blood cells, increasing susceptibility to the disease and injury. (Seyle (1976) noticed that many stress related diseases develop in the resistance stage.

If the specific stress continues, the body's ability to contain it and to resist other stresses ultimately collapses and the exhaustion stage sets in. Under prolonged stress, then, bodily defense mechanisms are geared to defend the body. The mechanisms also prepare for corresponding reductions in the activities promoting reproduction and an associated weakening of resistance to the disease and infection. This pattern manifests itself regardless of the source of stress, external, such as extreme cold; internal, such as illness or surgery; or emotional disturbance, involving frustration, conflict, or fear (Roediger, Capaldi, Paris & Polivy, 1991).

Thus, the very existence of protective or defensive physiological mechanisms against stress, when carried too far, produce its own cost in bodily stress. The term "diseases of adaptation" conveys the important idea that such defenses are a double-edged sword-aiding in defense of the physiological integrity of the person and at the same time contributing to illness (Lazarus, 1976).

According to Friedman and Book-Kewley (as cited in Comer, 1992) the ANS is not the only point of connection between stress and bodily reactions. Another is the pituitary-adrental endocrine system, which when stimulated at times of stress causes the pituitary gland to secrete hormones that affects functioning through out the body. If this system malfunctions, body organs may be over-worked and damaged, and again psychophysiological disorders may develop. Local biological dysfunction also may contribute to psychophysiological disorders. According to Rees (as cited in Comer, 1992) people may, for example, have local somatic weaknesses – particular organs that are either defective or prone to dysfunction under stress. Those with a "weak" gastrointestinal system may be candidates for an ulcer. Those with a "weak' respiratory system may develop asthma. Such local somatic weaknesses are thought to be genetically inherited or to result from improper diet or infection.

Organ dysfunctioning may also be caused by individual response specificity, or indiosyncratic biological reactions to stress. Some people, for example, perspire in response to stress, others develop stomachaches, and still others experience a faster heartbeat or a rise in blood pressure. Although such variations are perfectly normal, the repeated activation of a "favored" system may wear it down and ultimately result in a psychophysiological disorder. It has been discovered, for example, that some infants secrete much more gastric acid under stress than other infants. Over the years, this individual physical reaction may wear down the mucous lining of the stomach or duodenum until an ulcer develops (Comer, 1992).

Taylor (as cited in Atkinson, Atkinson, Smith & Bem, 1993) has described for different routes: the direct route, the interactive route, the health behavior route, and the illness behavior route to explain how stress affects health. In the direct route, the physiological response the body undergoes in the face of a stressor may have a direct, negative effect on physical health if this response is chronically maintained. Long term arousal of the sympathetic system can cause damage to arteries and organ systems. Stress may also have a direct affect on the immune system's ability to fight off disease. The interactive model is often referred to as the vulnerability-stress model, or a diathesis-stress model. (A diathesis is a vulnerability, or predisposition to a disorder). The vulnerability makes the individual susceptible to a particular disorder, but it is only when he or she encounters the stress that the disorder actually develops. The health-behavior route suggests that when we are feeling stressed we do not often take proper care of ourselves.

Thus, stress may indirectly effect health by reducing positive health behaviors and increasing negative ones. The final model of stress-illness is the illness behavior model. Stressors lead to a number of unpleasant symptoms: nervousness, depression, fatigue, sleep problems, upset stomach. Some people interpret these symptoms as signs of illness and seek medical advice for them. The attention they get for these symptoms may reinforce their illness behavior and it also gives the person an excuse for avoiding the stressor (staying home in bed).

A series of stresssful events, such as, those that occur when a person suffers from chronic illness or loses a job and moves to another city to seek employment, can keep the person in a continually agitated state as one alarm reaction after another evoked by a succession of threat cues. Even positive life changes, such as promotion to a more responsible job, could contribute to a sustained hyper vigilant reaction as far as they pose new threats of failure and new demands that may tax further the person's coping capabilities at a time when he or she is already overloaded with an accumulation of other life stresses (Lazarus, 1976). Among these

often pleasant, but stressful events or circumstances are marriage, gaining a new family member, a change in financial state (which could mean for better or for worse), an outstanding personal achievement, beginning school, family get-togethers, and even a vacation.

Pakistani women might be more prone to stress than Pakistani men because Pakistani men tend to have a greater range of options in dealing with stress: aggression, use of alcohol, smoking and so on are all more acceptable among males than females. Thus, it may be argued that Pakistani women, lacking these options, may bottle up their stresses which appear in the form of headaches, sleeplessness and so on.

There is a growing body of substantial research which supports the relationship between the life events and the development of certain illnesses, including myocardial infarction, painful gastrointestinal disorders, appendicitis, multiple sclerosis, and diabetes. Some of the psychophysical illnesses are being reviewed in perspective of stress being a contributing factor (Bootzin, Bower, Zajonc & Hall, 1986).

Hypertension is one of the most serious psycho-physiological disorders. It predisposes people to artheosclerosis (clogging of the arteries), heart attacks and strokes, as well as death through kidney failure. Stressful interviews, natural disasters, anger, and anxiety, and have been found to produce short-term elevation in blood pressure (Davison & Neale, 1994). Because of their genetic or other factors, hypertension individuals may be particularly sensitive to stress. Their blood pressure rises rapidly in response to minor stress, or even the anticipation of stress, and it takes longer to return to normal levels in them than it does in most people (Bootzin, Bower, Zajonc & Hall, 1986).

People in high stress jobs are at increased risk for CHD, particularly, jobs that are highly demanding (in terms of workload, responsibilities, and role conflicts) but which provide little control (the worker has little control over the speed, nature and conditions

of work). According to Haynes and Feinleib (as cited in Atkinson, Atkinson, Smith & Bem, 1993), high family demands in addition to stressful job can adversely affect a woman's cardiovascular health.

According to Atkinson, Atkinson, Smith & Bem (1993), cardiac illness has been related to certain type of personality called Type A personality. People who exhibit this Type A behavior pattern are extremely competitive and achievement oriented; they have a sense of time urgency, find it difficult to relax, and become impatient and angry when confronted with delays or with people they view as incompetent. Although outwardly self-confident, they are prey to constant feeling of self-doubt; they push themselves to accomplish more and more in less and less time.

Rosenman & Friedman (as cited in Bootzin, Bower, Zajonc & Hall 1986) conducted a longitudinal study of more than 2000 male executives and found that Type As were twice as likely as Type Bs to develop CHD, and five times more likely to have a second heart attack – even after family history, smoking, hypertension and high cholesterol levels were controlled for. The link between CHD and Type A behavior is one of the best documented in the literature on stress and illness.

Anxiety, tension produce frustration, anger, depression and anticipated pleasurable excitement are all examples of psychological factors that may, through induced emotionality, disturb the functioning of the respiratory system and thus cause asthma. Even when asthma is originally induced by an infection and allergy, psychological stress can precipitate attacks (Davison & Neale, 1994).

Migraine headaches are extremely debilitating headaches caused by sustained dilation of the extracranial arteries, the temporal artery in particular. It has been shown that a wide variety of experimentally induced stressors – frustrations, excessive demands for performance, and threatening interviews – cause vascular dilation among migraine sufferers but not among other.

people. The vast majority of headaches are so – called "simple" tension headaches. These, too, involve stress and vascular changes, but the changes are thought to be different from those in migraine headaches. Here, emotional stress seems to lead to contraction of the muscles surrounding the skull; these contractions, in turn, result in vascular constrictions, which cause headache pain (Carson, Butcher & Coleman, 1998).

Cooper & Fragher (1990), from the University of Manchester Institute of Science and Technology, Manchester, conducted a research on psychosocial stress and breast cancer: the interrelationship between stress events, coping strategies and personality. This quasi-prospective study of 2163 women attending a breast-screening clinic for routine check-up indicated that certain types of coping strategies and personality dispositions predispose some women to an increased risk of developing breast cancer following the occurrence of major life-event, such as, bereavement of other loss-related events. Regular exposure to stress situations appears to reduce the risk of a malignancy; experiencing a single stressful life event was found to be potentially much more damaging, particularly if the individual was unable to externalize her emotions and obtain appropriate help and counseling.

Steptoe and Wardle (1994), conducted a European survey of expert opinion about the influence of lifestyle on health. This paper described an assessment of expert medical and epidemological and social medicine in Western Europe universities. Estimates were made of the influences of eight life-style factors like smoking, alcohol consumption, exercise, stress, body weight, dietary fat, fiber and salt on the etiology or course of five disorders: heart disease, high blood pressure, lung cancer, breast cancer and diabetes. One hundred and fifty responses were received from scientists and clinicians from 16 countries. The only links to be endorsed as definite by over 90% of the respondents were those between smoking and both heart disease and lung cancer. However, more than 70% considered alcohol consumption, exercise, stress, body weight, and dietary fat to be definite or probable influences on heart disease. Smoking, alcohol, exercise,

stress, body weight, and salt intake were affirmed as relevant to high blood pressure by more than 70% and personality dispositions were associated with a high incidence of cervical cancer.

Clearly, then, psychophysiological disorders have strong ties to environmental stress, stressful reactions, and biological dysfunctioning. The interaction of such factors was once considered an unusual occurrence that could occasionally lead to an unusual kind of disorder – a psychophysiological disorder. As the years have passed, more and more illnesses have been added to the list of traditional psychophysiological disorders, until it includes such common ailments as irritable bowel syndrome (intermittent episodes of abdominal discomfort), psoriasis (a skin disorder involving reddish lesions), eczema (a disorder characterized by extremely itchy skin eruptions), rheumatoid arthritis (severe inflammation and swelling of the joints), hypoglycemia (a low level of serum glucose) (Comer, 1992).

The present research explored the degree of life stress, marital stress and depression experienced and reported by the Pakistani female patients suffering from cancer and other general medical illnesses so that the innovative psychosocial treatment modalities and preventive measures can be introduced along with the traditional medical interventions to such patients and their families.

Forsen (1991), carried out a research on psychosocial stress as a risk of breast cancer. In a case-control study of 87 breast cancer patients and their controls, they investigated life events, important emotional losses, difficult life situations, and psychological characteristics. In a second part, the effect of life events preceding cancer diagnosis on survival was studied in an 8-year follow-up of the breast cancer control group. The control group was selected from the general female population and matched for sex, age, number of child-births, and language. The findings suggest that breast cancer patients tend to have significantly more life events, important losses, and difficult life situations prior to the discovery of the breast tumor than controls.

Methodology

The sample consisted of 128 adult female subjects; 64 breast cancer patients who had already been diagnosed by their oncologists in the past one year and 64 general medicine patients under the treatment of their physicians and without chronic or life-threatening disease. The ex post facto research design was used and comparable groups were used.

Instruments

A checklist of Life Stress and Marital Stress Inventory (Urdu Translation) were administered to the patients individually. Life Stress was operationally defined by 104 item checklist derived from Dohrenwood, Krasnoff, Askensy & Dehrenwood (as cited in Golberger & Breznitz 1986). Marital Stress was defined operationally by a 14 item inventory given by Zimbardo (as cited in Goldberger & Brenitz, 1986). The Urdu version of Hospital Anxiety Depression Scale (Mumford, Tareen, Bajwa, Bhatti & Karim, 1991) was also individually administered and was used to assess the level of depression among the cancer and general medicine patients.

Results and Discussion

Results of the present research support the hypothesis that stress is involved in all states of illness such as cancer, and all general medical illness. Therefore, there is no significant difference between the level of stress reported by female breast cancer and female general medicine patients as supported by the results ($z=1.16; p>0.05$).($z=0.63; N = 128; p> 0.05$).($z= 1.23; N = 128; p>0.05$).

Table 1

Scores of Breast Cancer and General Medicine Patients on Stress Checklist.

Type of Illness	Scores on Stress Checklist			
	X	SD	SE_{DX}	Z
Breast Cancer	28	18	3.46	**1.16**
General Medicine	32	21		

(z = 1.16;N = 128, p>.05)

Note:

X = Arithmetic mean
SD = Standard Deviation
SE_{DX} = Standard error of difference between means of Depressives and Medical Patients.

Table 2

Scores of Breast Cancer and General Medicine Patients on Marital Stress Checklist.

Type of Illness	Marital Stress			
	X	SD	SE_{DX}	Z
Breast Cancer	10	9	1.59	**0.63**
General Medicine	11	9		

(z = 0.63;N = 128, p>.05)

Table 3

Scores of Breast Cancer and General Medicine Patients on Stress Checklist and Marital Stress Inventory.

Type of Illness	Stress & Marital Checklist (Combined Scores)			
	X	SD	SE_{DX}	Z
Breast Cancer	38	22	4.096	**1.23**
General Medicine	43	24		

(z = 1.23;N = 128, p>,05)

These findings are in accordance to Selye's theoretical framework (1976), which states that there is a relationship between life stress and medical illnesses, ranging from minor to major illnesses, such as diabetes, asthma, ulcer, coronary heart disease and cancer. Data analysis further suggests significant difference between level of depression (z = 2,43;N = 128;p<0.05) reported by female breast cancer and general medicine patients with breast cancer patients reporting greater level of depression. However, insignificant differences were noted in anxiety level (z = 0.96; N = 128; p> 0.05). These results were expected considering the deplorable medical facilities in Pakistan provided to the general population where even a regular visit to the hospital is a stressful and anxiety-provoking experience. Moreover, due to lack of education, awareness and acute shortage of up-to-date medical facilities; cancer is usually perceived as a fatal and debilitating illness in Pakistani society.

Table 4

Scores of Breast Cancer and General Medicine Patients on Depression as reported on Hospital Anxiety and Depression Scale (HAD).

Type of Illness	Depression Scores on HAD X	SD	SE DX	Z
Breast Cancer	10.27	14.32	0.77	**2.43**
General Medicine	8.41	4.33		

(z = 2.43 ; N = 128,* p>.05)

Table 5

Scores of Breast Cancer and General Medicine Patients on Anxiety as reported on Hospital Anxiety and Depression Scale HAD

Type of Illness	Anxiety Scores on HAD X	SD	SE DX	Z
Breast Cancer	12.64	4.32	0.78	**1.16**
General Medicine	11.89	4.55		

(z = 0.95;N = 128, p>,05)

Results of the current research also suggest low positive relationship between life stress and depression (r = 0.26); marital stress and depression (r = 0.20); and overall total stress and depression (r = 0.11) in breast cancer patients. It may be argued that in an underprivileged and poor country like Pakistan cancer may create a feeling of helplessness and depression in the female patients diagnosed with breast cancer due to misconceptions about this disease, psychosocial and sexual repercussions of breast cancer and confusion about its cure.

The results of the current research are consistent with the findings of Forsen (1991) which suggest that breast cancer patients seem to have more significant life events, important losses, and difficult life situations prior to the diagnosis of the breast tumor than those of controls. Jansen(1991) found in his research on psychosocial factors in breast cancer and their possible impact upon prognosis that the risk of getting breast cancer may be connected with difficulties with expressing feelings, especially, aggression; whereas, a person's coping strategy, amount of stress, and level of activity, seem to be of possible influence to the prognosis. Nevertheless, very little research work has been carried out to explore these psychological factors in Pakistan.

In Pakistani society it is seen that due to socio-cultural demands women in our society lack opportunities to express their aggressive impulses and tend to bottle up their emotions and stresses. Moreover, it may be argued that in this patriarchal system the Pakistani females continue to be the most underprivileged, least educated and most oppressed group even in this millenium. Thus, this state of pent-up emotions may pave the path to various form of illnesses ranging from headaches to heart disease and cancer. It is imperative that women in such a society; especially those who have a predisposition for breast cancer or any other stress related disease, should attend screening-clinics regularly and should be taught effective stress-management and anxiety-reduction methods, relaxation techniques, resolution of depression encountered in life situations as well as ways of problem-solving, conflict resolution and coping strategies. However, Pakistani Health care system seriously lacks such options for the general public, though the elite class may have access to such modern and expensive treatment modalities.

Chorot & Sandin (1994), conducted a research on life events and stress reactivity as predictors of cancer, coronary heart disease and anxiety disorders. The data showed that the cancer group reported, pre events by loss and illness, while coronary group was more associated with stressful work events. A strong relationship

between depressive reactions and cancer was also found in contrast to the anger variable that was more relevant in the infarction patients.

The level of depression in the breast cancer patients was expected considering the deplorable medical facilities in Pakistan provided to the general population. There is a lack of awareness in the population as a whole and among the females in particular as they are the most under privileged and uneducated class in our society. Thus, it may be argued that; a life-threatening disease like cancer will create more intense feelings of helplessness and depression in the Pakistani female patients diagnosed with breast cancer probably; due to misconceptions about the disease and poor health care system.

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