

IMPACT OF STRESS AND TYPE-A PERSONALITY IN THE DEVELOPMENT OF BREAST CANCER

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ABSTRACT

The present study explores whether type A personalities are more prone to stress and breast cancer than Non-type A personalities. Non-type A personalities were those who had received lower score on Type A behavior questionnaire and were not diagnosed with breast cancer. The sample comprised 140 (70 diagnosed breast cancer and 70 not diagnosed breast cancer). Breast cancer patients' data was collected from the Nuclear Oncology and Radiology Institute (NORIN) Nawabshah, while data of participants not diagnosed with breast cancer was collected from friends, family members and acquaintances. Type A behavior questionnaire (Jeremy Stranks 2003) translated in Urdu was used for assessment of stress level and type A personality traits. Analysis revealed that breast cancer patients scored significantly higher on Type A personality questionnaire as compared to non-diagnosed participants. Findings of the present study reveal the high impact of stress on type A personality in the development of breast cancer.

INTRODUCTION

In these extenuating circumstances increased mental, physical and emotional stress is inevitable. Though, experiencing psychological stress is normal in the routine life, but repeated encounter may cause health issues.

Over the last 30 years psychological researchers have established various types and traits of personality. Their research indicates that most people combine traits of more than one of these types but the type most at risk to stress is type A. According to various researches conducted by Ben-Zur (2002), Karl Berg *et.al.* (1998) and Magnavita *et.al.* (1997), Type A have more chances of automobile accidents because they are highly driven, competitive, impatient, and aggressive. They are always under pressure, hurried, keeping one eye on the clock (Conte *et.al.*, 2001). They not only eat, talk and walk rapidly but also feel restless when others are

slow at their work. Mostly, they are early on appointments and critical in power sharing.

Cancer research have discovered possible link between stress and cancer. Chronic stress sometimes lowers level of cortisol (cortisol being the primary stress hormone increases glucose in the bloodstream and curbs functions that would be nonessential or detrimental in a fight-or-flight situation) disrupting the immune system's ability to produce antibodies within the body as a defensive reaction to the presence of an antigen (Heffnes *et.al.* 2003, Salovey *et.al.* 2000).

There are some kinds of cancer which are the results of prolong stress or depression after the impairment of immune system (Bauer *et.al.* 2003, McGuire *et.al.* 2002).

In WHO 1998 report, breast cancer is not only most common but also the second prominent cause of women's death. Another WHO report reveals that in 2004 more than 5 million women were victim of breast cancer and died. In this intense battle not only the developing countries are at high target but developed courtesies are also significantly affected. In another WHO report 460000 females died from breast cancer in 2008.

Nearly 1 in 8 women develop breast cancer and among 97% of those who discover it, the disease is already advanced (Alter and Schiff 2001; Donatella 2002). Women cancer patients are the half of the total diagnosed with cancer, out of which 42.8% are diagnosed as cases of breast cancer (Parkin *et. al.* 1997).

In the research study of Khan (2000), it is estimated 200,000 new cancer cases annually with highest rate of breast cancer for any Asian population accounting to 40,000 deaths per year. Another researcher Bhurgri in 2004 stated about 57 new cases of breast cancer among every 10,000 women, with 90,000 plus cases of breast cancer in Pakistan annually. Karachi cancer registry declared breast cancer as a common disease where 100,000 victims of breast cancer have been reported in 2005.

The current study is aimed to examine the impact of stress and type A personality in the development of breast cancer.

METHOD

The sample was 140 women, 70 diagnosed with breast cancer, aware of their diagnosis receiving chemotherapy, radiation

or both. Among these patients were included who could understand Urdu language so that they could comprehend and respond to the questionnaire. The patients ranged in ages from 30-65, and 70 patients of same age range not diagnosed with breast cancer.

THE QUESTIONNAIRE

In this study, the Urdu translation of a Type A behavior questionnaire (Jeremy Stranks 2003) was used.

The questionnaire comprised 16 questions about Type A personality traits. The respondents had to tick the appropriate column from No denoting the low or Yes denoting high traits of Type A personality. With each item of questionnaire for example, 'Do you always feel rushed?', 'Do you always walk fast?', the responses were scored as per scoring key of the questionnaire. The obtained scores were statistically analyzed. The independent two sample t-test was applied to determine whether there any significant difference between the responses of participants diagnosed breast cancer and the participants without the diagnosis of breast cancer on the overall questionnaire. The statistical analysis was carried out by using the statistical package for social sciences (SPSS).

The questionnaire was individually administered, to which the subject had to respond. The data for breast cancer patients been collected from the waiting room of a local hospital with the consent of concerned authority, while the data of participants not diagnosed breast cancer was collected from friends, family members and acquaintances.

RESULTS

The findings as shown in Table-1 ($t = 3.795$, $df=138$, $p<0.01$) indicate a significant difference between the obtained score of breast cancer diagnosed participants and not diagnosed participants. The overall results on the study as given in Table-1, reveal that participants with diagnosis of breast cancer received high score on type A personality questionnaire than participants without diagnosis of breast cancer.

TABLE-1
MEAN, STANDARD DEVIATION AND T – VALUE OF THE
DIAGNOSED AND NON DIAGNOSED PARTICIPANTS SCORE
ON TYPE A BEHAVIOR QUESTIONNAIRE

Participants	Number	Mean	S.D	T-Value
Diagnosed with breast cancer	70	44.7320	9.7231	3.795**
Not diagnosed with breast cancer	70	32.6414	8.0624	

Df=138 **p<0.01

DISCUSSION

The result of present study aims to investigate the impact of stress and type A personality in the development of breast cancer in females. Differences between type A personality and non-type A personality proved that type A personalities were more prone to breast cancer than non-type A personality because of their increased stress level.

A woman suffers chronic stress, constant worries, anxiety, underlying tension, nagging fear and sleep disturbance raising the risk of degenerative disease, later in life. Several researches conducted on stress and breast cancer suggests that those women who experience stress a lot have two times more chances of breast cancer

In this context, Sahlgrenska Academy in Gothenburg, Sweden, carried out a longitudinal study of almost 1500 women, it took 24 years. The group of healthy women aged 38 to 60 were examined by doctors, after the final checkups doctors compared which women had suffered more breast cancer. Women reported stress for a month or so during the five years preceding the start of the study had double the risk.

Continuous stress causing drastic changes in immune system, eventually weakens the ability to kill the cancerous cells; therefore, the disease is proliferating in the body. Research also indicates that stress, such as anger, fear and feelings of hopelessness are more susceptible to cancer.

The type A people are more at risk to stress due to mental alertness, which can easily develop aggressive behavior, permanent impatience with people and situations. Their behavior

pattern is characterized by excessive competitiveness, hard drive, impatience and hostility, moreover, their body is in a chronic state of stress.

CONCLUSION

Exposure to stress increases breast cancer risk due to release of cortisol. At the various stages of age, cortisol has important and necessary functions in the development of breast tissues. Continuous stress leads to prolonged exposure of breast tissues to cortisol, causing the over-activation of various biological processes at inappropriate times. This over-exposure to cortisol appears to lead number of actions such as blocking the removal of genetically damaged cells, stimulating invasiveness, suppressing the ability of the immune system to detect tumor cells and reducing the ability of DNA repair.

This study clearly presents that stress among type A personality is a key factor in breast cancer risk, development and progression.

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