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Psychological Factors in the Development of Breast Cancer: A Review of the Literature

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PSYCHOLOGICAL FACTORS IN THE DEVELOPMENT OF BREAST CANCER: A REVIEW OF THE LITERATURE

by

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VITA

The author, Monique Ann (Levy) Gillis, is the daughter of Peter C. Levy and Marga (Mendel) Levy. She was born on July 15, 1961, in Chicago, Illinois.

She obtained her secondary education at Niles North High School in Skokie, Illinois, where she graduated in 1979.

In September of 1979, she entered the University of Illinois at Urbana-Champaign, and in May of 1983, received the degree of Bachelor of Science with a major in psychology. While attending the University of Illinois, she worked as a research assistant, workshop leader, and crisis counselor in order to obtain experience in her field. Extracurricularly, she was Rush Chairman of Alpha Epsilon Phi sorority, and a Rush Counselor for the Panhellenic Council.

In September of 1983, she entered graduate school at Loyola University of Chicago, where she chose to major in community counseling. While there, she took an interest in health psychology, and the effects of stress on the immune system and disease.

In January of 1986 she began working as a social worker at Little City Training and Treatment Center in Palatine for mentally retarded and emotionally disturbed children.

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CHAPTER I

INTRODUCTION

Recently there has been increasing interest in the role that psychological factors play in the development of disease in general, and cancer in particular. Basically, there are two different ways in which psychological factors are investigated as independent variables in disease. One is by personality characteristics thought to predispose to certain emotional states. Another is by stressful life situations or events demanding increased coping efforts, which may result in negative emotional states or create strain in other areas of life functioning (Stone, Cohen & Adler, 1979). Even though these two foci have generated separate research approaches, this separation is somewhat artificial. The consequences of undergoing certain stressful life experiences or of having certain personality traits may be highly interactive (Stone, Cohen & Adler, 1979). Therefore, many researchers suggest that it may be useful to look at life experiences and personality characteristics in combination, rather than separately. The purpose of this thesis is to examine the role that stress and personality play in the development of cancer in general, and breast cancer in particular. This introductory chapter will

briefly cover some of the problems involved in this type of research, how the body is affected by psychological states that in turn may produce cancer, the difference between stress and strain, and the difference between acute and chronic stress in the development of cancer.

As in most research, there are some problems in investigating the role that psychological factors play in the development of cancer. First of all, there are methodological weaknesses, including the use of retrospective rather than prospective (predictive) studies, inadequate control groups, and the failure to rule out alternative explanations (Millon, Green & Meagher, 1982). This will be discussed in a later section.

Susan Sontag (1983) criticizes this type of research due to the fact that it "labels" people, and makes them responsible for their disease and its course. She does not believe that is is fair to make the cancer patient a culprit. Sontag states, "Widely believed psychological theories of disease assign to the ill the ultimate responsibility both for falling ill and for getting well. And conventions of treating cancer as no mere disease, but a demonic enemy make cancer not just a lethal disease but a shameful one" (p. 82).

It is also important to understand how psychological factors influence the development of cancer. Fox (1978) contends that personality factors and stress can influence either the development or promotion of a neoplastic lesion

(cancerous tumor) through two processes. These two processes are called "carcinogenesis" and "immunosuppression." Carcinogenesis refers to the mutation of normal cells into abnormal, malignant cells, or the formation of a cancerous tumor. Immunosuppression refers to a condition of the organism in which the immune system functions inadequately. The surveillance theory of malignancy links immunosuppression and the development of cancer, and contends that neoplastic cells proliferate and establish themselves as tumors when the host has a diminished capacity to identify and destroy abnormal cells.

Cooper (1983) discusses Eysenck's position on the concepts of "stress" and "personality." He believes that the notion of "stress" cannot be understood without the specification of the particular organism involved in the supposedly stressful situation. Stress, he claims, can only be defined in terms of "strain" experienced by the individual, and identical situations may or may not give rise to strain in different individuals.

There is also some evidence that acute stress produces tumor growth, while chronic stress produces tumor reduction (Cooper, 1983). Eysenck labels this the "inoculation effect." It is as if the previous experience of stress inoculates the human or animal against subsequent stress, making it less effective, or even reversing the biological changes produced. Eysenck's research suggests a negative link between cancer and psychosis. This could be due to the

fact that these patients will have experienced a high degree of chronic stress in the past, and would consequently benefit from the inoculation effect. This topic will be discussed at the end of the next chapter.

The following chapter will review the various psychological precursors to cancer, the negative relationship between psychosis and malignancy, and slow vs. fast tumor growth. Chapter 3 will cover the psychological precursors to breast cancer, including the role that defenses may play in the development of breast cancer. Chapter 4 will cover implications and conclusions for this type of research including problems in methodology, validity, and ethical implications. Appendices A & B will summarize the research reviewed according to author, subjects used, design, psychosocial factors involved, and significant results.

Since there are implications that psychological factors may be among those involved in the process of carcinogenesis, it is significant to examine the role of these factors in the development of cancer. If more conclusive evidence is found relating stress and personality factors to the etiology and development of cancer, then further steps can be taken as far as preventive counseling and treatment. This could take place in the form of stress management groups, psychotherapy, and medical and helping professionals being aware of psychological components involved. Support groups are also essential for quality of

life in cancer patients and their families, and this concept can also be further developed.

CHAPTER II

PSYCHOLOGICAL PRECURSORS OF CANCER

Overview

This chapter will cover the various psychological precursors to cancer. In considering the development of cancer, it has, for example, been suggested that those who develop cancer are unable to express hostile feelings (Bacon, Renneker & Cutler, 1952), have an abnormal release of emotions (Watson, Pettingale & Greer, 1984; Greer & Morris, 1975; Pettingale, Greer & Tee, 1977; Morris, Greer, Pettingale & Watson, 1981; Greer, 1979; Greer, 1976; Kissen, 1963), make extensive use of repression and denial as defenses (Bahnson & Bahnson, 1969; Dattore, Shontz & Coyne, 1980), report less closeness to parents (Bacon, Renneker & Cutler, 1952), are hopeless and depressed (Grossarth-Maticek, 1980; Grossarth-Maticek et al, 1983; LeShan, 1966), or have suffered a significant loss or separation from a significant person (LeShan, 1966; Jacobsen, 1954; LeShan & Worthington, 1955). Some of these ideas are presented in Stone, Cohen & Adler (1979). These factors along with others, will be discussed in the following chapter. The material will be presented more or less in order of publication. This will be followed by a section on the negative

relationship between psychosis and malignancy, and slow vs. fast tumor growth.

Chronological History

The idea that the mind plays an etiologic role in cancer dates back at least to Galen, who in the second century is reputed to have observed that melancholic women were more prone to the disease than women of sanguine temperament (Goldberg, 1981). A nineteenth century statistical study by Snow (1893) reported that a majority of the patients had suffered "immediately antecedent trouble," such as the loss of a relative prior to the onset of the disease. Evans (1926) suggested that one of the leading causes of cancer was the loss of a love object or an important emotional relationship. Her analysis of cancer patients led her to believe that some people experiencing grief directed their psychic energy inward, against their own natural body defenses. However, this is not thought to be a conscious process.

Once again, in relation to loss, Jacobsen (1954) found that individuals with cancer tend to have a shorter period of being the youngest child than do their cancer-free siblings. He hypothesized that this was because the birth of a sibling, with the consequent perceived loss of parental energy and time, is a traumatic event. Other things being equal, the earlier this occurs, the greater the trauma. The child has had less time to be the baby, and is younger, and therefore less able to cope with his emotions. The younger

the child, the more his feelings are on a preverbal level, and therefore more difficult to deal with. Consequently, this is perceived as a loss, although in a somewhat different sense than has been discussed previously.

LeShan and Worthington (1955) compared 152 cancer patients and 125 patients with other or no illness, using a projective test developed by Worthington. The cancer group differed from the control in three ways. They had difficulty expressing hostile feelings, they suffered the loss of a loved one prior to diagnosis, and they showed greater potential anxiety about the death of a parent. This study suffers from being retrospective in nature, and it may be possible that persons suffering from other illnesses will have certain psychological traits in common with cancer patients.

LeShan and Worthington (1958) hypothesized that the loss of a crucial cathexis will often precede the development of a neoplasm. He used the example of marital status, and hypothesized that the highest cancer mortality should be for the widowed group, followed by divorced, married, and single in that order. At that time, no statistical studies were found to be inconsistent with their hypothesis.

Kissen (1963) carried out a study among 335 patients, of whom 161 had been diagnosed as having lung cancer, while the others had a less severe illness. His instrumentation included a personality inventory and a childhood behavior disorder questionnaire. Kissen found that the cancer

patients suffered from having a diminished outlet for emotional discharge, both in their childhood experiences and in their present adult lives. This study has the same weaknesses as that reported by LeShan and Worthington (1955).

More recent personality studies of cancer patients note a characteristic life history pattern. In a 12 year study involving 450 cancer patients, LeShan (1966) found an early strong physical and psychic energy investment in a central emotional relationship, and the subsequent loss of this relationship through death or separation in 72% of cancer patients and in only 10% of noncancer controls drawn from a population of patients in a general hospital. This pattern of development will be described below:

> Early in life, apparently during the first seven years, damage was done to the child's developing ability to relate. Often this was accentuated by a physical event, such as the loss of a parent, the death of a sibling or something of this sort. From his experience at this time, the child learned to feel that emotional relationships brought pain and desertion. Loneliness was his doom. In the usual manner of children, this was attributed to some fault of his own, rather than to the result of accidental forces. Guilt and self-condemnation were the inevitable response (LeShan, 1966, p. 781).

LeShan (1966) also notes that after this early child development period marked by feelings of isolation, hopelessness and despair, there is generally a characteristic second period in which a meaningful relationship exists, and the individual enjoys a sense of acceptance by others, and a meaningful life. The third period starts with the loss of the central relationship, and a sense of utter despair, and a conviction that life holds nothing more for them. This was the basic pattern found in the majority of cancer patients.

In a recent review by Stone, Cohen and Adler (1979), they discuss how some researchers, rather than looking at cancer patients as a whole, have investigated the different personality patterns involved with patients who have cancer at different sites. For example, Kissen suggests that lung cancer patients tend to bottle up emotional difficulties and have a diminished outlet for emotional discharge, although others have failed to find similar patterns. Others report that breast cancer patients show an abnormal release of anger and other feelings, are more inhibited, more orally fixated, and have an inner turmoil that is "covered by a facade of pleasantness," as compared with patients with cancer of the cervix, who are more impulsive and more overt in their sexual maladjustment (dislike sexual intercourse, show high rates of divorce, extramarital affairs, etc.). However, these differences have not always been confirmed by subsequent studies.

The most recent studies in the 1980's reveal some interesting results. Grossarth-Maticek (1980) developed a prospective study where 1353 inhabitants of a Yugoslavian town were tested on the following variables: blocked expression of feelings and needs; psychosocial stress in the form of either lasting depression and hopelessness, or lasting anger and irritation; harmonization and idealization, with negation of self (for the sake of harmonious or even ideal relations to others); rational orientation with repression of emotions; psychopathological symptoms; "exposive behavior," including exposure to adverse environmental conditions, abuse of medicines, ignoring signs of illness, and hyperactivity. These variables were related to the incidence of cancer and internal diseases over the next 10 years. The author hypothesized that:

> If a person is subject to psychosocial stress such that the social expression of his feelings and needs is blocked; and if this is not transformed into psychopathological symptoms as substitute needs and satisfactions, but rather into "exposive behavior" to wit: abuse of food, alcohol, etc. and medicines; ignoring signs of illness; lack of relaxation and recreation; acceptance of adverse environmental conditions; hyperactivity; then, if there is a long-lasting depression and hopelessness, especially as a consequence of adverse life events, connected

> with a tendency of self-negation for the sake of harmonious or even ideal relations to others, and with a rational, anti-emotional attitude, there is a predisposition to cancer; while if there is a long-lasting irritation and anger, especially as a consequence of adverse life events, connected with a lack of harmonious interpersonal relations, and with felt dependence of others upon self, there is a predisposition to other internal diseases (Grossarth-Maticek, 1980, p. 123).

A discriminant analysis correctly classified 93% of the subjects into their appropriate groups. The mediators were to be neurohormonal processes influencing cell function and organization and cell immunology. However, there were no detailed ideas given about the mechanisms involved. The relevance of psychosocial conditions for cancer and other diseases may open up new possibilities for preventive and curative therapies. This will be discussed in a later section.

In a continuation of Grossarth-Maticek's Yugoslav study, Grossarth-Maticek, Kanazir, Vetter and Schmidt (1983) studied the role of psychosocial stress in carcinogenesis. The found that psychosocial stress in terms of high hopelessness, depression, and antiemotionality has a strong relevance for cancer incidence which does not act via one of their physiological variables associated with cancer. In

addition, they found that psychosocial stress is substantially associated with a low lymphocyte percentage, which in turn is a relatively strong risk factor for cancer. Results show that certain psychosocial and medical variables are good predictors of cancer, and that there are interactions or synergetic effects between the two groups of factors. Thus, it is evident that a monocausal, and even a monodisciplinary approach to carcinogenesis is inappropriate. Grossarth-Maticek et al (1982) suggest a multidisciplinary approach to carcinogenesis, emphasizing the interaction between psychosocial and molecular biological factors.

Dattore, Shontz and Coyne (1980), tested the hypothesis of cancer proneness in a sample of 200 men; 75 of whom had cancer, while the remaining 125 did not. Premorbid MMPI records were collected for the subjects in each group. The results showed that the group with cancer (irrespective of site) was significantly separated from the noncancer group, primarily on the basis of lower scores on Byrne's Repression-Sensitization scale (i.e. greater repression), and on the Depression scale of the MMPI (i.e. less self-report of depression). Scores on the Lie scale were not noted in this study. These findings are consistent with the Bahnson and Bahnson (1964) position, in which repression is the hallmark of the premorbid cancer personality. In addition, since depression represents such a threatening emotion to the cancer patient, one would expect to see relatively little acknowledgment of depression by subjects

in the cancer group. This is consistent with the author's findings.

Cooper (1984) reviews Booth's unpublished Rorschach work on 93 lung cancer patients and 82 tubercular patients. Booth found that cancer patients responded very differently to the inkblots than tubercular patients, emphasizing emotional repression, the inward direction of anger, and vulnerability to emotional loss.

In one of the most recent comprehensive literature reviews by Cox and Mackay (1982) entitled, "Psychosocial Factors and Psychophysiological Mechanisms in the Aetiology and Development of Cancers," the authors show that recent studies strongly suggest that psychosocial factors may play a role in the etiology of cancer and its development. They conclude that the possible important psychosocial factors are not unlike those suggested by the early research in this area. These include: inability to express emotion (particularly in relation to anger); experience of stressful life events, involving significant others, and possible depressive reactions; psychosexual disturbance; and early and unresolved problems with parents. The evidence suggests that inability to express emotion (especially anger) may be more of a factor in cancer etiology and development than the other factors previously mentioned, though.

Psychosis and Malignancy

There have been many studies that have shown an inverse relationship between psychosis and presence of

malignancy (Weinstock, 1977; Sohl, 1975). Weinstock notes that full blown psychotic depressions are surprisingly rare even among advanced cancer patients, who by life history and loss should be prime candidates for this. Therefore, it may be possible that cancer is a somatized psychotic depression. Sohl notes a study by Rassidakis (1972) who compared the incidence of four diseases (cardiovascular disease, diabetes melitis, tuberculosis, and cancer) that result in death, among the general population and the psychiatric population. All diseases, with the exception of cancer, were equal in percentage in both groups. Only the cancer group was significantly different in both populations. Fifteen percent of deaths in the general population were due to cancer, while only 4.9% were due to cancer in the psychiatric population. Bahnson and Bahnson (1969) proposed that repression and denial were the central dynamic in cancer, and that cancer, with the rapid growth of undifferentiated tissue might be an alternative to psychosis as a regressed effort to substitute for a recent loss of an important person or object.

Other studies have failed to indicate that depression increases cancer morbidity (Niemi & Jaaskelainen, 1978; Kashani & Hakami, 1982). It may be that depression is used as a substitute for cancer, even if it is not a full blown psychotic depression, as mentioned above. Boyd (1984) also suggests that many cancer patients may use the disease as a passive form of suicide. This is similar to the reasoning

used by Graves, Phil and Thomas (1981). In a prospective study, they found that the personality profiles of their cancer patients differed significantly from their peers who remained healthy or developed cardiovascular disease, but resembled those of men who later became mentally ill or committed suicide. Other studies have noted depression in patients with an already established cancer (Brown, Varsamis, Toews & Shane, 1974; Surawicz, Brightwell, Weitzel & Othmer, 1976), but we can not be sure if this is a result of the disease, or if it actually was a predisposing factor.

Slow vs. Fast Tumor Growth

Some investigators have studied personality factors which influence the rate of tumor growth. A detailed portrait of Klopfer's study on "Psychological variables in human cancer" is presented by Achterberg and Simonton (1976). Klopfer examined three cases of known fast growing tumor types and three slow growing types. This led to a quasi-statistical schema he calls "The Pathway of Diminishing Ego Strength." His schema evaluates the relationship between ego defensiveness and loyalty to reality. The slow growing tumor group was characterized by a nonchalant attitude toward reality, and they were lower in investment of ego defensiveness. The fast growing cases were all people who tried very hard to by loyal to reality and who invested too much ego defensive energy in attempts to be good and loyal. Klopfer cites several studies of a pre-

dictive nature in which the tumor type was predicted with 70-80% accuracy.

Blumberg, West and Ellis describe the patients with rapid growth of cancer as follows: "They were noted to be consistently serious, over-cooperative, over-nice, over-anxious, painfully sensitive, passive, apologetic personalities, and, as far as could be ascertained from family, friends, and previous records, they had suffered from this pitiful lack of self-expression and self-realization all of their lives" (Stone, Cohen & Adler, 1979, p. 106). Although these results are not entirely consistent, they suggest that emotional expressiveness may be more often associated with a longer survival rate from cancer.

In summary, the role of psychological factors in the etiology of cancer is becoming a growing body of research. Although it seems that these factors may have a direct or indirect effect on the development of cancer, most of the results are correlational in nature, making it difficult to state a cause and effect relationship. Refinements in methodology are needed to improve this type of research, and this will be discussed further in Chapter IV. It still seems essential to consider multifactorial etiology in the development of cancer, though. The next chapter will deal strictly with psychological factors in the etiology of breast cancer, and the reader will notice some of the same, but also different results.

CHAPTER III

PSYCHOLOGICAL PRECURSORS OF BREAST CANCER

Overview

At some time in their lives, close to 8% of American women will develop breast cancer (Goldberg, 1981), and at least 50% will be diagnosed as having fibrocystic breast disease (Kosch, 1982). Although the specific cause or causes of breast cancer are not known, it seems likely that psychological factors (including personality and life events) play an important role in the etiology of this disease. Fox (1978) contends that the relationship between hormones, personality factors, stress and cancer is the most reasonable and most probable on the basis of existing data. Breast cancer appears to be a disease that depends on an interrelationship between a number of factors, and some of these will be discussed, with an emphasis on the role that psychological factors play in the development of breast cancer and fibrocystic disease. Various studies will be presented more or less in order of publication, with a section following on the role that psychological defenses play in the development of breast cancer, and citations of recent doctoral dissertations on the subject.

Chronological History

As previously mentioned, Galen first noted that women with melancholic disposition were more likely than those of sanguine temperament to develop breast cancer (Murray, 1980). Bacon, Renneker, and Cutler (1952) provided one of the earliest suggestions of a cancer personality. They investigated 40 women with cancer of the breast, and constructed detailed psychoanalytic case histories of each of them. They concluded that these patients had six important characteristics. These included: a masochistic character structure; inhibited sexuality; inhibited motherhood; inability to discharge or deal appropriately with anger, aggressiveness or hostility (covered by a facade of pleasantness); an unresolved hostile conflict with the mother, handled through denial and unrealistic sacrifice; and delay in securing treatment. Subsequent studies have shown some of the same characteristics.

Tarlau and Smalheiser (1951) tested women with cancer of the breast and cervix using Figure Drawings, the Rorschach and an interview directed at the assessment of psychosexual adjustment. Both groups of women manifested immature sexual identification. Those with oral conflicts were more likely to develop breast cancer, whereas women with genital conflicts were more likely to develop cervical cancer. One should note though, that this study failed to use a control group of any kind.

Reznikoff (1955) using a battery of tests which

included the TAT, Sentence Completion and Murray's Family Relations and Childhood Memories Questionnaire, showed that maternal domination led to psychosexual maladjustment in women who developed breast cancer. A key factor in this study was the utilization of three comparison groups. The groups were comprised of breast cancer patients, women with benign breast disease, and women without breast pathology. The results of Reznikoff's study indicated that the women with breast cancer differed from women without breast pathology more than from women with benign breast disease. An inference that can be drawn is that women with benign breast disease are emotionally similar to women with breast cancer, and therefore a different control group (women without breast pathology) should be utilized. Although this study is retrospective in nature, it's major strength is the utilization of the three groups.

Muslin, Gyarfas, and Pieper (1966) carried out an investigation of 165 women who were about to have a breast biopsy. They were interviewed and given a life events questionnaire prior to diagnosis, and the authors were able to produce 37 matched pairs of malignant and benign subjects. They found that twice as many diagnosed cancer patients had a "permanent" loss of a first degree relative or other person whom the subject specifically stated was emotionally important to her, than did the benign group. This is one of the few studies on breast cancer that focused

solely on loss of a loved one, and came up with significant differences.

Schonfield (1975) interviewed 112 Israeli women on the day before biopsy of a breast mass. No significant differences were found between breast cancer patients and controls in terms of depression, loss, or separation. Although, a question that must be raised again is the use of benign breast disease patients as controls. Once again, it would be beneficial to utilize a non-lesion control group. The patients with malignant lesions did have higher scores on defensiveness, denial of aggression and overt anxiety than the patients with benign lesions. An interesting finding is that women with benign breast disease had significantly higher life stress during the preceding three years on Holmes and Rahe's Social Readjustment Rating Scale than did the patients with breast cancer. A comment can be made here regarding the role that acute stress has in the development of cancer. Perhaps the benign breast disease patients had experienced chronic stress over the past three years, and thus may have been less likely to develop malignant lesions.

Riley (1975) subjected various groups of female mice to environmental circumstances providing different degrees of chronic stress. The results showed that 92% of the mice under stress developed mammary tumors, while only 7% developed them in a protected environment. The data suggest that moderate, chronic or intermittent stress may predispose such

mice (C3H/He strain carrying the Bittner oncogenic virus) to an increased risk of mammary carcinoma. This argument would be in opposition to Eysenck's position in Cooper (1983) that acute stress (rather than chronic) would precede the development of a malignant tumor. On the other hand, this study is limited in the sense that its subjects are animals rather than humans, and in addition, only one strain of mice was used. Further research needs to be done in this area.

Becker (1979) conducted a study of "psychodynamic aspects of breast cancer", and the differences in younger and older patients. The results showed that the psychic component in the etiology of breast cancer plays a greater role with the younger patients than it does with the older ones. "The older patients in their life history and premorbid behavior are nearer to what passes for the psychic norm" (p. 294). Becker's results are similar to LeShan's (1966), in that the patients appear to have been exposed to an above-average degree to traumas in early childhood. The results are also similar to Reznikoff (1955) in that most of the patients report a difficult youth without love, affection, tenderness, or a caring environment. They were also called upon to perform tasks and assume responsibilities out of relation to their age.

In a comparison of women with fibrocystic disease and women without breast pathology, Kosch and Spring's (1980) study yielded the following results. They found that the breast diseased patients were shown to have experienced more

life stresses in the previous year, and were significantly more depressed than the women free of breast pathology. The idea of acute stress preceding the development of cancer, is once again in line with Eysenck's position. The women with benign breast disease characterized themselves as more tense than control group women. This association between fibrocystic disease and tension is important in light of the fact that cancer patients have been hypothesized to have an impaired capacity to discharge tension. Again, there is the possibility that breast cancer patients and fibrocystic disease patients share similar emotional makeups. Thus, the importance of a lesion-free control group.

Wirsching et al (1982), in an interview with 56 women admitted for breast biopsy, found certain traits to be more typical of women with breast cancer, than those with benign breast disease. These are: 1) being inaccessible or overwhelmed when interviewed; 2) emotional suppression with sudden outbursts; 3) rationalization; 4) little or no anxiety before the operation; 5) demonstration of optimism; 6) superautonomous self-sufficiency; 7) altruistic behavior; 8) harmonization and avoidance of conflicts. This identified psychological syndrome was found in all breast cancer patients, but also in a quarter to a third of patients with benign nodes. Once again, this study would have been more reliable with the use of a second control group.

Cooper and Cooper (1984) discuss the link between Type A behavior and breast cancer. They state that pilot studies

indicate a higher incidence of breast cancer in subjects with Type A behavior, and in working women. In addition, the death of a close family member may precede breast cancer onset in many cases. Cooper & Cooper present a case study of a 52 year old female whose breast cancer may have been triggered by stressful events in her life (death of a sister, pregnancy of daughter, and illness of father-in-law). This suggests that stress may play an important part in the development of cancer. More case studies such as these would be beneficial to the current research on breast cancer. Cooper & Cooper suggest that only prospective research will answer the question of whether personality and stressful life events are related to cancer onset.

In a recent retrospective study by Jansen and Muenz (1984) women with breast cancer were compared to women with fibrocystic disease, and healthy women to determine differences in self-perceptions of personality characteristics. Women with breast cancer were found to be more depressed, less aggressive, and less demonstrative than women in the other two groups. Women with fibrocystic disease and women with breast cancer were found to have higher needs for neatness and order, and were found to be less curious and analytical than women in the healthy group. Women in the healthy group described themselves as calm, relaxed, outgoing, and able to express anger. Women in the fibrocystic group described themselves as tense, restless, outgoing and expressing anger. Women in the breast cancer group des-

cribed themselves as timid, non-assertive, non-competitive, calm, easy going, and as keeping anger inside. This study utilized good methodology in the sense that two control groups were employed. Two major criticisms are that it is retrospective in nature, and self-perceptions are used for ratings. This could pose a problem, especially for breast cancer patients, in whom denial is thought to be a major defense used. Therefore, the ratings may not reflect the patient's true personality.

According to a recent landmark study in San Francisco called "The Boyd Project", sexual difficulties in women during adolescence, or young adulthood can "sow the seeds" for susceptibility to breast cancer later in life (Boyd, 1984). As the project revealed, a woman's attitude toward her body, her degree of satisfaction with her first sexual experience and current partner, and confidence in her sex-role identity, all have a far greater influence on her likelihood of contracting a breast malignancy than does her family medical history or environmental profile. Boyd claims that a woman is at much higher risk of contracting breast cancer if her physical maturity does not match her psychological and social development during adolescence. She calls this a "silent wound" which results from these inner tensions and disparity. Boyd's position should lead to further research in this area.

Wirsching et al (1985) examined 63 women the day before breast biopsy using psychological ratings, speech

analysis and a questionnaire-type personality test. The psychological ratings revealed that cancer patients were inaccessible, altruistic, suppressing feelings, rationalizing and harmonizing (striving to avoid conflict at all costs). The biopsy's result was predicted in 75% of all cases. The questionnaire-type personality test proved cancer patients to be more dependent, anxious, aggressive, health-conscious, family bound and antisexual. Speech analysis revealed only minor differences including fewer aggressive and more anxious utterences from cancer patients. It is interesting that these patients were labeled as "family bound," as most general cancer research shows opposite findings.

In recent years, a great deal of sustained work has been carried out by Greer and his colleagues (Watson, Pettingale & Greer, 1984; Greer & Morris, 1975; Pettingale, Greer & Tee, 1977; Morris, Greer, Pettingale, & Watson, 1981; Greer, 1979). The majority of these studies show an abnormal release of emotions in breast cancer patients as their main finding. Most of Greer et al's research defines "abnormal release of emotions" as "extreme suppression of anger and other feelings." Greer (1976) labels this suppression of feelings, "bottling up".

Greer and Morris (1975) investigated the psychological attributes of women who develop breast cancer. Their subjects were 160 women admitted to the hospital for breast tumor biopsy. Their principal finding was a significant

association between the diagnosis of breast cancer and a behavior pattern, persisting through adult life, of abnormal release of emotions. The abnormality was, in most cases, extreme suppression of anger, and in patients over 40, extreme suppression of other feelings. Extreme expression of emotions, though much less common, also occurred in a higher proportion of cancer patients than controls.

Morris, Greer, Pettingale and Watson (1981) attempted to explore their earlier finding of a significant association between breast cancer and abnormal release of emotions, particularly the extreme suppression of anger. Results of this study followed the same pattern as the previous one. Cancer patients reported experiencing feelings of anger or losing control of anger less frequently than did patients with benign breast disease. As in the early study, this tendency is more marked among younger patients. They also found that cancer patients are more stressed by impending biopsy, and that young cancer patients are more likely than other patients to use denial in the face of stress.

Pettingale, Greer, and Tee (1977) found serum IgA (type of serum immunoglobulin synthesized locally in the exocrine glands) levels to be significantly higher in patients who habitually suppressed anger than in those who were able to express anger. They demonstrated that the serum IgA level may be a useful prognostic indicator, as there is a significant correlation between serum IgA and advancing metastatic spread of breast cancer. Since altered

expression of anger is much more frequent in breast cancer patients, and serum IgA levels may correlate to some extent with tumor mass, it seems possible that we are observing a psychobiological link which may play some part in the pathogenesis of breast cancer.

In a study including 30 breast cancer patients and 27 "healthy" controls, Watson, Pettingale and Greer (1984) found that breast cancer patients were more likely than others to control emotional reactions, particularly anger. They also responded to stress using a repressive coping style. Emotional state reported at different points throughout the procedure suggested that the breast cancer group experienced more anxiety and disturbance, but were more inclined to inhibit their reactions.

In summarizing Greer and his colleagues' findings, it seems that there is a significant correlation between a diagnosis of breast cancer and a behavior pattern persisting throughout adult life of abnormal release of anger (extreme suppression of anger). This significant finding is summarized in Greer (1979). Greer suggests that psychological and psychobiological studies can make a useful contribution to cancer research, providing they are based on rigorous scientific methods. This will be elaborated on in a later section.

Psychological Defenses

Recently there has been increasing research on the effects of psychological stimuli on endocrine functions. Of

particular interest and importance are a number of studies which have demonstrated that effectiveness of psychological defenses is associated with corticosteroid production. The following studies will illustrate the role that psychological defenses may play in the development of cancer.

Katz et al (1970, 1980) have shown that important changes in endocrine status in women with breast masses are related to the effectiveness of psychological defenses. Katz (1982) reviews this "psychobiological perspective", and arrives at the same conclusions evidenced in prior studies. Katz and his colleagues interviewed women awaiting breast tumor biopsy, and also assessed their hydrocortisone production rates and levels of subjective distress. They found that even when these women faced a severe cancer-related threat (i.e. removal of a breast), their ego defenses served "effectively" to buffer them against the stress of their ordeals. Therefore, psychological and physiological indicators of stress were rather unremarkable. In fact, Katz et al found that six defensive patterns were employed, all of which, with the exception of projection and displacement, were highly effective in reducing the level of stress reactions. Of great importance also was the fact that some women who successfully used denial with rationalization actually jeopardized their chances for survival by waiting the longest to consult their physicians. So, as one can see, defenses may be effective from a physiological point of view (buffering stress reactions), but damaging when viewed

from the perspective of physical survival (when denial leads to delay in seeking treatment).

A study of breast biopsy patients by Magarey, Todd and Blizard (1977) found that the presence of malignancy was related to a low level of reported anxiety coupled with, anxiety shown non-verbally. According to the authors, these patients' delay in seeking treatment and performing breast self-examination was influenced by unconscious psychological processes, including the use of denial and suppression. It was also noted that these patients reported being depressed. It is interesting that they do not deny being depressed, but tend to deny most aspects of their illness.

Worden and Weisman (1975) noted that breast cancer patients with longer lagtimes (time elapsing from initial symptoms of cancer until first professional consultation) were more dissatisfied with the information given by their physician, were more tense, angry, fatigued and confused. They were not explicitly depressed. Nevertheless, while denying their incapacity and facts about a threatening illness, they were not discouraged, but hopeful about returning to work. This also seems to include an element of denial though, in thinking that they are well enough to work. As a group, the breast cancer patients were disinclined to use the word "cancer", even tending to minimize the significance of their operation. Denial seems to play a major role in many of the cancer patients' thinking processes.

Doctoral Dissertations

Included in the recent research on psychological factors in the development of breast cancer are a great deal of doctoral dissertations. Some researchers have arrived at significant results (Boyd, 1983; Sheehan, 1978; Hurlburt, 1975; Frank, 1978); others have arrived at mixed results (Siegel, 1982; Richards, 1977); and a few have arrived at non-significant results (Mackintosh, 1980). This continues to be an important area for future research, and a brief summary of these dissertations will follow.

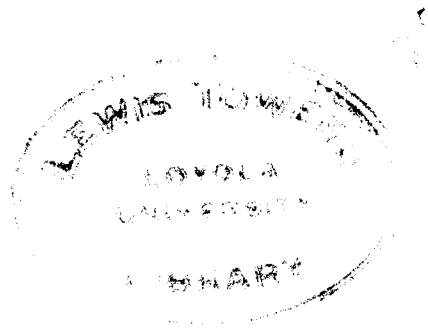
Boyd's (1983) study points to the cumulative effects of unresolved social and psychological conflicts recurring during menopause and becoming factors associated with breast cancer. Sheehan (1978) found that breast cancer patients as compared to benign breast-diseased patients were more depressed and less intimate. Hurlburt (1975) discovered a significant relationship between life change events and onset of symptoms of breast cancer. Frank (1978) found that women with breast cancer tended to be more extraverted than healthy women. Siegel (1982) compared breast cancer patients with benign breast disease patients and found that the groups did not differ with regard to depression and loss, but cancer patients did present with more use of denial and repression. Richards (1977) found no significant difference between breast cancer and medical groups (other than cancer) on internal versus external orientation, but did find a significant difference on direction of hostility.

Women in the breast cancer group tended to "gloss over" frustrating situations while women in the medical group tended to direct their hostility onto other persons and things. Mackintosh (1980) found no significant differences among three groups of patients (breast cancer, cervical cancer, and no cancer) on nine variables investigated. These included family history of cancer, number of children, socioeconomic status, loss of significant person or situation, religion, relationship satisfaction, relationship with mother, sexual adjustment and depression. It is important for research to be continued in these areas, and hopefully the topic of psychological factors in the development of breast cancer will be the focus of many doctoral dissertations in the future.

Conclusions

In conclusion, it seems as if psychological characteristics may play an important role in the development and promotion of breast cancer. There continue to be many methodological problems inherent in this type of research, and they will be addressed in the following chapter. In reviewing the psychological factors involved, the most prominent factor seems to be the suppression of anger, or abnormal release of emotions. Others include, inhibited sexuality and motherhood, inability to deal appropriately with aggressiveness and hostility, use of denial, and delay in seeking treatment. These factors seem to be the major ones involved in women with breast cancer. Loss does not

seem to be as much of a factor in the development of breast cancer. Studies such as the one reported by Schonfield (1975) show no significant relationship between malignancy and either recent loss or stress-related events. Therefore, it seems likely that factors such as suppression of anger and denial play more of a role in the development of breast cancer than loss or stressful life events, which seem more prevalent in the development of cancers other than breast. Nevertheless, this area is a fruitful one for future research, and the next chapter will discuss the implications of the findings reported above.



CHAPTER IV

IMPLICATIONS AND CONCLUSIONS

Overview

Research into the psychological aspects of cancer has been questioned because of faulty methodology. These methodological defects are described in detail by Crisp (1970), Fox (1978), and Greer and Morris (1978). Meyerowitz (1980) states, "further research that guards against the methodological problems common to this body of literature is clearly needed to document and better understand these essential psychological variables" (p. 127). This chapter will review problems in methodology, along with validity of this type of research, the role of professionals, and a section following on conclusions.

Problems in Methodology

A major methodological problem in this body of research is the lack of prospective studies. Greer (1979) suggests the need for large scale prospective studies with more sophisticated control groups. Kissen (1969) says that a need for confirmatory prospective studies is evident. Then further steps can be taken in the direction of preventive counseling, stress management groups and support groups. Kissen believes that the possibility is real that a

variety of measures may be integrated to provide a means of discriminating the cancer-prone individual from the non-cancer prone individual with reasonable precision. This idea was not expanded on in his article, however it merits some attention.

On the subject of control groups, Perrin and Pierce (1959) have suggested that ideally two control groups should be used in each study. One should consist of a group of subjects who have some noncancerous chronic and progressive illness of sufficient severity to cause the patient concern for his/her health, and another control group comprised of "healthy" individuals. This, it would seem, could allow the investigator to ascertain that the findings of his study were not the result of the secondary association of serious disease alone. Jansen and Muenz (1984) criticize many of the early studies for not using control groups without breast disease. It would be worthwhile to use two control groups; one consisting of "healthy" individuals, and one of fibrocystic disease patients.

Another problem discussed by Schwarz and Geyer (1984), Murray (1980), and Greer and Silberfarb (1982) is whether these psychological characteristics present in cancer patients are reactions to the threat or presence of cancer, or are actually present in the premorbid individual. In using the prebioptic design for measuring psychological characteristics, Schwarz and Geyer (1984) propose that depression, denial, and other cancer-related properties are

reactions to the anticipated cancer diagnosis rather than premorbid factors of etiological value. Greer and Silberfarb (1982) criticize the assessment of depressive illness among cancer patients, since many of the scales used to measure depression contain items such as tiredness, loss of appetite, and sleep disturbance, which may be symptoms of the cancer process itself. Murray (1980) says that is has rarely been possible to determine whether cancer-related personality characteristics had been present in the pre-morbid individual. This will continue to be a problem, unless more prospective studies are conducted.

Jansen and Muenz (1984) have criticized studies investigating the relationship between psychological factors and breast cancer due to the fact that they have relied on small samples and projective techniques. Greer and Morris (1978) have criticized the way that records are gathered. They suggest that future studies might concentrate on the measurement of individual psychological and physiological responses to defined stressors. Kosch (1982) suggests that profitable studies to undertake will be those that look at fibrocystic disease as one risk factor, and also look at other factors that lower host resistance, and make the development of a malignant neoplasm more likely.

The lack of operational definitions utilized in this type of research must also be criticized. Todd & Magarey (1978) and Frank (1978) have acknowledged a need for accessibility to operational analysis of concepts such as

ego defenses and personality traits, so that the results are empirically meaningful or valid. Todd & Magarey (1978) illustrate how it is possible to operationally define and measure such concepts as ego defenses and affects. They believe that, with further refinements, the operational definitions outlined in their paper will provide at least a preliminary paradigm for the measurement of ego defenses and affects in naturally occurring life-crises, illness, and stressful situations.

As is obvious, there are many inherent problems in this type of research. Cooper (1984) has summarized the problems as: 1) lack of, inadequate, or inappropriate control groups; 2) vagueness in description of method of measurement of psychological factors; 3) use of psychological measures which are often inadequately validated; 4) dependence on recall responses of patients. Once again, it is also evident that the lack of prospective studies in this field of research poses a major problem.

Of the 72 articles reviewed in this thesis, only six of them could be considered as truly prospective studies (see Appendices A & B). Of these six studies, only one could be considered as truly experimental, and this involved mice as subjects. In addition, there are ethical considerations involved with humans as participants in studies such as these. Much of the research cited in this thesis is correlational in nature, so no statements can be made about cause and effect relationships. In order to state a cause-

effect relationship, one must manipulate variables experimentally (Bachrach, 1981). This brings one back to the question of ethics. It would not be humane or ethical to expose humans to stress. Bachrach (1981) states that one could perhaps ethically experiment on animals, but this brings to mind the question of generalization. Would these results generalize to human beings? Thus, it seems as if the direction to go with this type of research should be in the way of more prospective studies, not necessarily experimental ones, due to ethical complications.

Validity of Research

Greer and Morris (1978) have concluded that certain conditions must be present in order to increase the validity of this type of research. These include: 1) that control subjects are used (matched on age and social situation); 2) that interviews and psychological examinations take place under identical conditions; 3) that there are either independent observations or that there is a permanent record of the data so that the application of rating criteria is not subject to the vagaries of individual judgments; 4) that investigators when rating criteria do not know the diagnosis of their subjects; and 5) that adequate account is taken of the possible effects of a) the disease, and b) the social processes which diseased patients may have experienced prior to the investigation. Greer and Morris (1978) believe that these conditions are essential in this type of research. The use of 2 control groups (including 1 healthy group)

should also be utilized, and it would also be important to design a study that is prospective in nature.

Although there are various methodological flaws and problems in this field of research, there are also some very important and significant findings. Cooper (1984) calls the area of stressful life events and the pathogenesis of cancer a potentially fruitful field of future research. Haney (1977) argues, "In spite of the methodological vagaries, differences, and shortcomings of this body of research, the findings must be taken seriously" (p. 226).

Role of Professionals

Due to the fact that it is becoming increasingly clear that the mind plays a role in the etiology and development of disease, it is important that doctors, psychologists, and helping professionals become aware of these psychological components. As Todd and Magarey (1978) suggest, "Doctors concerned with the early detection of breast cancer should be aware that women reporting depression and showing non-verbal signs of anxiety are likely to delay reporting any breast symptoms, especially when they express a bland or indifferent attitude to the subject of breast cancer or breast self-examination, indicating their use of denial or suppression. These women should be regarded as a high-risk group for the purposes of breast cancer screening and for regular medical breast examination" (p. 188).

In terms of support, Meyerowitz (1980) suggests that psychologists should be aware of the importance of psycho-

social variables in the quality of life of breast cancer patients, and be prepared to provide much needed support and information to patients and medical personnel. LeShan (1966, 1977) also suggests that psychological status of a patient may affect the development of his/her tumor. It is his strong impression that psychotherapy may slow the development of a neoplasm, but no definitive proof can be given at this time. Presently, this is another growing area of research, and it seems as if one will see more of psychological techniques in conjunction with medical ones for treatment of cancer in the future.

Final Conclusions

The role of psychological factors in cancer and its development continues to be the focus of a growing body of research. Although it seems that cancer in general (and breast cancer in particular) is a disease that depends on an interrelationship between a number of factors, it is becoming increasingly clear that psychic factors may be among those involved. In considering the development of cancers other than breast, it seems that loss may play an etiological role, while factors such as suppression of anger and denial may play more of a role in the development of breast cancer. Thus, the importance of investigating the different personality patterns involved with patients who have cancer at different sites. This type of research also needs to overcome methodological weaknesses, as mentioned earlier. The lack of prospective studies and the inability to state

cause-effect relationships are among the major problems involved. Doctors, psychologists and helping professionals all need to be aware of the psychological components involved, so they may integrate a medical and psychological approach. This involves: 1) a clear indication of the direct or indirect effects of psychological distress on the etiology of breast cancer; 2) a clear understanding of the reciprocal nature of physiological and psychological events; 3) a differentiation between those psychological forces that are markers for the etiology of the disease as opposed to those that exacerbate disease processes once started; and 4) a clearer understanding of the cognitive, intrapsychic social, interpersonal, environmental and physiological variables that together serve as markers for resilience and vulnerability to breast cancer. One also needs to clarify when to therapeutically address denial in breast cancer patients, and examine more closely the long term indexes of self, marital, and career satisfaction among breast cancer patients. Nevertheless, this body of research continues to be an important one, and hopefully will be expanded on in the future.

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APPENDIX A

Results of Studies of the Relationship Between Stress, Personality, and Cancer

Study	Subjects	Design	Psychosocial Factors	Relevant Findings
LeShan (1966)	450 adult cancer patients.	Retrospective	Medical, vocational marital and family history.	Pattern of development and relationships found in 72% of cancer patients and 10% of controls.
LeShan & Worthington (1955)	152 cancer patients; 125 patients with other or no illness.	Retrospective	Personality, loss, anxiety.	Cancer patients had difficulty expressing hostile feelings, suffered the loss of a loved one prior to diagnosis and showed greater potential anxiety about the death of a parent.
Kissen (1963)	Men; 161 with lung cancer, 174 with other less severe illness.	Retrospective	Personality.	Cancer patients suffered from a diminished outlet for emotional discharge.
Niemi & Jaaskelainen (1978)	191 patients who had been hospitalized with depression.	Prospective	Depression.	Study failed to indicate that depression increased cancer morbidity (or development of cancer).
Graves et al (1981)	319 white male students.	Prospective	Human relationships.	Relationship potential among future cancer victims was found to differ significantly from that of their fellow students who remained healthy or who developed a cardio-vascular disorder, but resembled that of those who later became mentally ill or committed suicide.

Results of Studies of the Relationship Between Stress, Personality, and Cancer (continued)

Study	Subjects	Design	Psychosocial Factors	Relevant Findings
Kashani & Hakami (1982)	35 children and adolescents.	Retrospective	Depression.	17% of subjects showed signs of depression; higher than general population.
Watson & Schuld (1977)	Men.	Prospective	Stress, anxiety, psychiatric illness.	None of tests approached significance; does not support psychogenic origin of neoplasms.
Grossarth-Maticek (1980)	1353 inhabitants of a Yugoslavian town.	Prospective	Personality, stress, abuse of body.	93% correct predictions; cancer patients possessed more psychosocial stress, a blocked expression of needs, rational orientation with repression of emotions, psychopathological symptoms and "exposive" behavior, among other things.
Dattore et al (1980)	200 male cancer and non-cancer patients of a VA hospital.	Retrospective	Defenses, depression.	Cancer patients showed greater repression, and less self-report of depression.
Grossarth-Maticek et al (1983)	1353 inhabitants of a Yugoslavian town.	Prospective	Psychosocial stress.	Psychosocial stress is associated with a low lymphocyte percentage, and has a strong relevance for cancer incidence. Cancer patients were more likely to affirm pleasant, socially desirable and non-threatening emotions than other individuals in the study.

Results of Studies of the Relationship Between Stress, Personality, and Cancer (continued)

Study	Subjects	Design	Psychosocial Factors	Relevant Findings
Bahnson & Bahnson (1969)	Cancer patients, patients with other medical disorders and healthy patients.	Retrospective	Defenses used.	Repression and denial are the central dynamics in cancer, and that cancer may be an alternative to psychosis.

APPENDIX B

Results of Studies of the Relationship Between Stress, Personality, and Breast Cancer

Study	Subjects	Design	Psychosocial Factors	Relevant Findings
Jansen & Muenz (1984)	Women - healthy, breast cancer, fibrocystic disease.	Retrospective	Age, personality, education, income, marital status, employment.	Women with breast cancer were more depressed, less aggressive and less demonstrative.
Bacon, Renneker and Cutler (1952)	Women - 40 with cancer of the breast.	Retrospective	Personality.	Women with breast cancer were described as having a masochistic character structure, inhibited sexuality, suppressing anger, unresolved hostile conflict with the mother and delay in securing treatment.
Pettingale, Watson and Greer (1984)	Women - 30 with breast cancer and 27 with no sign of breast cancer.	Retrospective	Stress (manipulated through videotapes), personality, behavior, mood state.	Cancer patients were more emotionally inhibited, but more anxious and disturbed as a result of stress manipulation.
Todd & Magarey (1978)	Women - 90 who presented with breast symptoms.	Retrospective	Defenses, depression, anxiety.	Delay by women in reporting breast symptoms was strongly related to a combination of non-rational, psychological factors.
Greer & Morris (1978)	Women - 160 admitted for breast biopsy.	Prebioptic	Personality and life event factors.	Women with breast cancer exhibited a behavior pattern of "abnormal release of anger" (in most cases - extreme suppression of anger).

Results of Studies of the Relationship Between Stress, Personality, and Breast Cancer (continued)

Study	Subjects	Design	Psychosocial Factors	Relevant Findings
Schwarz & Geyer (1984)	Women - 83 prior to biopsy.	Prebioptic	Reaction to stress.	Found that social-psychological factors were most likely consequences, rather than causes of cancer.
Frank (1978)	Women - 41 with breast cancer, 43 in good health.	Retrospective	Extraversion.	Found that breast cancer patients were more likely to be extraverted.
Hurlburt (1975)	Women - 84 newly admitted to cancer clinic.	Retrospective	Life change events.	Presents implications for preventive health (descriptive study).
Richards (1977)	Women - 30 breast cancer, 30 with medical diseases other than cancer.	Retrospective	Hostility, external vs. internal orientation.	No significant difference between the cancer group and medical group on internal-external orientation; women in the cancer group tended to "gloss over" frustrating situations, while women in the medical group tended to direct their hostility onto other persons or things.
Sheehan (1978)	Women - 182 prior to biopsy.	Prebioptic	Depression, intimacy, interpersonal world.	Breast cancer patients showed a longstanding depression, a lifestyle of self-encapsulation, and their interpersonal world was devoid of emotional nourishment.

Results of Studies of the Relationship Between Stress, Personality, and Breast Cancer (continued)

Study	Subjects	Design	Psychosocial Factors	Relevant Findings
Boyd (1983)	Women - 180 with breast cancer, 180 sisters without cancer.	Retrospective	Sexual conflicts.	Study points to the cumulative effects of unresolved social and psychological sexual conflicts in women with breast cancer.
Siegel (1982)	Women - 89 prior to biopsy, 35 healthy controls.	Prebioptic	Defenses.	The malignant group expressed less hostility directed outward, less temper loss, less indirect expression of anger, and more repression and denial.
Mackintosh (1979)	Women - 56 women from SC having either breast, cervical, or no cancer (208 questionnaires were distributed).	Retrospective	Family, socioeconomic status, loss, religion, relationships, sexuality, and depression.	No significant differences were found between the 3 groups of women; low return rate of questionnaires, also.
Greer (1979)	Women - 160 prior to biopsy.	Prebioptic	Anger, extraversion, denial, depression, stress.	Main finding was a significant correlation between breast cancer patients and an abnormal release of anger (extreme suppression of anger).
Worden & Weisman (1975)	Various cancer patients.	Retrospective	Lagtime, delay.	Only breast cancer patients who delayed had cancer at a more advanced stage when diagnosed; also used the most denial.

Results of Studies of the Relationship Between Stress, Personality, and Breast Cancer (continued)

Study	Subjects	Design	Psychosocial Factors	Relevant Findings
Magarey, Todd & Blizard (1977)	Women - 90 prior to biopsy.	Prebioptic	Defenses used.	Delay was determined by unconscious processes; presence of malignancy was related to a low level of conscious anxiety before biopsy.
Gorzynski et al (1980)	Women - 30 prior to biopsy; 10 left to evaluate 10 yrs. later.	Prebioptic	Ego defenses.	Ego defenses and endocrine responses are relatively stable characteristics over a period of time (10 years) and are possibly relatively independent of a threatening situation.
Katz et al (1970)	Women - 30 prior to biopsy.	Prebioptic	Stress.	"Stress" does not necessarily evoke comparable "distress"; the latter is contingent upon how the former is perceived, interpreted and defended against.
Boyd (1984)	Women - 180 women with breast cancer compared with their sisters.	Retrospective	Sexuality.	A woman's attitude toward her body, degree of satisfaction with first sexual experience and current partner, and confidence in her sex-role identity, all have a far greater influence on her likelihood of getting a breast malignancy than does her family medical history or environmental profile.

Results of Studies of the Relationship Between Stress, Personality, and Breast Cancer (continued)

Study	Subjects	Design	Psychosocial Factors	Relevant Findings
Wirsching et al (1982)	Women - 56 prior to biopsy.	Prebioptic	Personality, defenses used.	The identified psychological syndrome was found in all breast cancer patients, but also in 1/4 to 1/3 of all patients with benign nodes. There is also a long-standing defensive pattern adopted in the face of extreme stress.
Wirsching et al (1985)	Women - 63 prior to biopsy.	Prebioptic	Family, sexuality, personality.	Cancer patients were more depressed, anxious, aggressive, health-conscious, family-bound, antisexual, inaccessible, altruistic, suppressing feelings, rationalizing and harmonizing; fewer aggressive and more anxious utterances from breast cancer patients.
Pettingale, Greer & Tee (1977)	Women - 160 prior to biopsy.	Prebioptic	Serum IgA level, expression of anger.	Altered expression of anger (usually extreme suppression) is much more frequent in b.c. patients, and serum IgA levels may correlate to some extent with tumor mass.
Morris et al (1981)	Women - 71 prior to biopsy.	Prebioptic	Stress, defenses used.	Cancer patients are more stressed by impending biopsy, and younger cancer patients are more likely to use denial in the face of stress.

Results of Studies of the Relationship Between Stress, Personality, and Breast Cancer (continued)

Study	Subjects	Design	Psychosocial Factors	Relevant Findings
Greer & Morris (1975)	Women - 160 prior to biopsy.	Prebioptic	Personality (anger).	Significant association between diagnosis of b.c. and a behavior pattern persisting through adult life of an abnormal release of emotions (most cases - extreme suppression of anger).
Riley (1975)	Female mice - stress was manipulated.	Prospective	Stress (manipulated).	Moderate, chronic, or intermittent stress may predispose such mice to an increased risk of mammary carcinoma.
Becker (1979)	Women - 49 breast cancer patients.	Retrospective	Family, loss, sexuality, trust, pregnancy, child-birth.	Psychic component plays a greater role with younger patients; older patients in their life history and premorbid behavior are nearer to what passes for the psychic norm.
Schonfield (1975)	Women - 112 prior to biopsy.	Prebioptic	Loss, ego defenses.	Patients with malignant tumors had higher scores on the MMPI "Lie" scale (greater need for denial) and higher scores of covert anxiety.
Cooper & Cooper (1984)	52 year old woman with breast cancer.	Retrospective (case study)	Life stress.	Breast cancer may have been triggered by stress (death of family member, pregnancy of daughter, illness of father-in-law.)

Results of Studies of the Relationship Between Stress, Personality, and Breast Cancer (continued)

Study	Subjects	Design	Psychosocial Factors	Relevant Findings
Greer (1976)	Women - prior to biopsy.	Prebioptic	Expression of anger.	Less than 33% of cancer patients evidenced normal expression of anger and other emotions (mostly suppression of anger).
Muslin, Gyarfas & Pieper (1966)	Women - 160 prior to biopsy.	Prebioptic	Loss, life events.	Twice as many cancer patients had a "permanent" loss of an emotionally important person than the benign group.
Reznikoff (1955)	Women - some with breast cancer, some with breast disease, and some healthy.	Retrospective	Psychosexual maladjustment.	Women with breast cancer differed more from women without breast pathology than from women with benign breast disease.
Tarlau & Smalheiser (1951)	Women - some with breast cancer, some with cervical cancer.	Retrospective	Psychosexual adjustment.	Both groups manifested immature sexual identification. Those with oral conflicts were more likely to develop breast cancer; those with genital conflicts were more likely to develop cervical cancer.

APPROVAL SHEET

The thesis submitted by Monique A. Gillis has been read and approved by the following committee:

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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

11/25/87
Date

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