

PSYCHOSOCIAL ASPECTS OF NASOPHARYNGEAL CARCINOMA PATIENTS

L P Kok

SYNOPSIS

Extensive research has been done on the psychosocial aspects of cancer and it is now felt that social class, occupational, environmental, personality and emotional factors may play a role in the aetiology of cancer (1). Centuries ago, Galen first noticed that melancholic women were more prone to develop breast cancer than women of other temperament (2). In the late nineteenth century this idea was revived, and loss and bereavement as a causal agent of cancer was thought to be possible. In the fifties and sixties cancer was viewed as a possible psychosomatic illness and present day research is exploring the relationship between cancer and factors like a loss or lack of closeness to an important childhood figure (usually a parent) and a personality type characterized by difficulty in the expression of hostile emotions, by being submissive, repressed, non-aggressive, and having to adjust to a non-rewarding interpersonal relationship (3). There is a possibility that such factors may be related to the development of cancer in later life, perhaps through modulation of the immunological function of the hypothalamus (4) or the anterior pituitary (5) or decreasing the responsiveness of the immune system (6).

This study seeks to study psychosocial factors in a group of nasopharyngeal carcinoma patients to find out what, if any factors, set them apart from a group of controls.

METHOD

A group of 20 patients, 19 males and 1 female, all suffering from nasopharyngeal carcinoma (NPC), and a group of normal controls, matched for age, sex and race were seen. Fifty per cent of the cancer group had been ill for less than a year, and the rest between 1 to 2 years. In 75% of them, metastasis had occurred. The sample and control groups were given a structured interview, and the Zung Depression Scale and the Eysenck Personality Inventory were administered.

Department of Psychological Medicine
Faculty of Medicine
National University of Singapore
College Road
Singapore 0316

L P Kok, MBBS, DPM, MRC Psych, FRANZCP
Assoc Professor

RESULTS AND DISCUSSION

**TABLE 1
FAMILY FACTORS**

	Sample	Control	Significance
Parental death	18	15	$X^2 = 1.558$ df = 1 N S
Loss of a parent prior to 15 years of age	11	10	$X^2 = 1.022$ df = 1 N S
Good relationship with parents	9	15	$X^2 = 3.75$ df = 1 N S
Ability to depend on a sibling	12	16	$X^2 = 1.904$ df = 1 N S

Eighteen (90%) of the sample group had experienced parental death, as compared to 15 (75%) of the controls but the difference was not significant. The 2 groups also did not differ significantly in the number of those whose parents died prior to their fifteenth birth. Chen (7) 20 years ago, stated that a broken home either through death or separation of parents might contribute to disease. Muslin et al (8) in a study of women with breast cancer found that there was no significant difference between the sample and control groups with regard to the experiencing of permanent separation from an important person in childhood. But Paffenberger et al (9) in their study of ex-Harvard University students who later developed Hodgkins's disease, found that these had a greater number of early parental deaths.

Nine (45%) of the NPC group considered that their relationship with their parents was good compared to 15 (75%) of the control group, but the difference just failed to reach a level of significance ($X^2 = 3.75$, df = 1, N S). Thomas (10) studying a cohort of medical students who later developed cancer found that they had lower mean scores of closeness to parents.

Less of the NPC patients (55%) reported a good relationship with their siblings than the controls (80%). Also less of the sample group (60%) felt that they could rely on their siblings to help them when they were in difficulties. However the differences were not significant. Peters-Golden (11), found that breast cancer patients had less social support than expected and they adjusted less well because of this.

Marital Factors

**TABLE 2
MARITAL FACTORS**

	Sample	Control	Significance
Not married	16	14	$X^2 = 0.4395$ df = 1 N S
Those with working spouses	7	5	$X^2 = 0.4761$ df = 1 N S
Good relationship with spouses	11		$X^2 = 0.4166$ df = 1 N S

More of the sample group were married and more had spouses who were working. Fewer reported a good relationship and closeness to their wives, but differences were not statistically significant.

**TABLE 3
OCCUPATION AND JOB SATISFACTION**

	Sample	Control	Significance
No. employed	11	16	$X^2 = 2.849$ df = 1 N S
No. with job satisfaction	8	10	$X^2 = 0.404$ df = 1 N S

Fifty-five per cent of the sample group were working and of these 40% were satisfied with their work. Forty-five per cent were not working, and 6 (30%) had left their jobs since the onset of their illness as they were unable to cope.

Schonfield (12) found that 28% of a group of mastectomy patients were employed 5 years after the operation, while 16% were unable to work or do normal activities. After the onset of their illness 21.4% were unemployed.

Religion

**TABLE 4
RELIGION**

	Sample	Control	Significance
No. professing a religion	15	15	N S
No. praying frequently	8	8	N S

Equal numbers of the sample and control groups professed a religion. The majority were Taoists. Equal numbers also prayed more than 10 times a month. Also the NPC patients did not derive more or less support from religion than the control group. Peters-Golden (11) found in her group of breast cancer patients that only 8% of her patients depended on religion.

Suicidal Behaviour

None of the nasopharyngeal carcinoma group had a history of attempted suicide, either as a result of their illness or for other reasons. However less of the sample group (40%) felt that it was wrong to kill oneself compared to 65% of the control group. A chi-square test did not reach a level of significance. Suicidal behaviour does occur in cancer patients. Chia (13) found in a study of 1,283 cases of suicides that 41 had done so because of their malignancy, which they felt were incurable. Louhivuori (14) also found that in a group of Finnish cancer patients, the suicide rate was higher for both males and females.

Depression

The Zung Rating Scale was used to compare the two groups on the degree of depression.

The NPC group had a mean higher score on the Zung Rating Scale than the controls, but the difference was not significant.

TABLE 5
ZUNG RATING SCALE FOR DEPRESSION

	Sample N = 20	Control N = 15	t-value
Mean (Zung Depression Scale)	51.4	46.33	1.503
S.D (Zung Depression Scale)	10.6	8.02	(1 tailed test) N S

All of the sample group were aware of their diagnosis and most of them used the term "cancer" to describe their illness. They had been informed of their condition by their doctors treating them. Gottheil (15) found that in his group of cancer patients only 61.4% were aware of their diagnosis.

The majority (65%) of the cancer patients felt they had very little knowledge of the nature of the illness and only 1 (5%) admitted that his illness was serious. Sixty-five per cent felt that their future was hopeful, and only one viewed it as being bleak. Denial is not uncommon in cancer patients and is often associated with a delay in seeking help (16).

Personality

The personality of the sample group was tested using the Eysenck Personality Inventory.

TABLE 6
PERSONALITY (EYSENCK'S PERSONALITY INVENTORY)

	Sample Mean S D N = 20		Singapore Mean S D N = 890		t-value
Neuroticism	8.611	2.7313	10.01	4.9	1.893 (2 tailed) N S
Extroversion	9.278	4.5802	10.7	1.3897	(2 tailed) N S
Lie Score	4.944	2.9339	3.4	0.7614	(2 tailed) N S

There was no significant difference on the scores of Neuroticism, Extroversion and Lie between the sample group and the normal population. The findings are similar to that obtained by Greer & Morris (17) who found no difference between breast cancer patients and controls on the EPI with regard to extroversion or neuroticism scores and felt that as neuroticism scores indicated 'greater emotional lability and emotional overresponsiveness' his lung cancer patients probably bottled their emotions and had less outlet for emotional discharge.

Other studies on female patients showed that they had higher extroversion scores than controls. Coppen (21) found this in a group of breast cancer patients and Bond (22) in those with cervical cancer. The neuroticism score was lower in these patients than controls.

CONCLUSION

In conclusion it can be seen that there are no psychosocial factors that differentiated this group of nasopharyngeal carcinoma patients from the control group. However though statistical significance was not reached there was a suggestion that these patients had experienced more parental deaths, and fewer had satisfactory relationships with their parents and support from their siblings. They did not derive more or less support from their religion and were not more suicidal than controls. But they were slightly more depressed than the control group, and were less neurotic and less extroverted.

ACKNOWLEDGEMENT

The author wishes to thank Dr N. Kunaratnam, Head of the ENT Department for his help in this project.

REFERENCES

1. Cox T, Mackay C: Psychosocial factors and psychophysiological mechanism in the aetiology and development of cancer. *Soc Sci Med* 1982; 16:381-96.
2. Murray JR: Psychosomatic aspects of cancer: An overview. *J of Genetic Psychol* 1980; 136:185-94.
3. Grossarth-Maticek R, Siegrist J, Vetter: Interpersonal repression as a predictor of cancer. *Soc Sci Med* 1982; 16:493-8.

4. Stein M, Keller S, Schleifer S: Role of the hypothalamus in mediating stress effects on the immune system. In 'Mind and Cancer Prognosis' Ed. by Slott B A, Wiley, London 1979.
5. Stein M, Schiavi RC, Carmerino MS: Influence of brain and behaviour response. *Science* 1977; 196:207-28.
7. Chen E, Cobb S: Family structure in relation to health and disease. *J Chron Disord* 1960; 12:544.
8. Muslić HL, Gyarfas K, Pieper WJ: Separation experience and cancer of the breast. *Ann N Y Acad Sci* 1966; 125:802-13.
9. Paffen Berger R, Wing AI, Hyde RT. *J Nat Cancer Inst*, 1977; 58:1489.
10. Thomas CB, Duszynski KR: Closeness to parents and the family constellation in a prospective study of five disease states: suicide, mental illness, malignant tumour, hypertension and coronary heart disease. *John Hopkins Med H* 1974; 134:251-70.
11. Peters-Golden H: Breast cancer: Varied perceptions of

- social support in the illness experience. Soc Sci Med 1982; 16:483-91.
12. Schonfield J: Psychological and life experience differences between Israeli women with benign and cancerous breast lesions. J Psychosom Res 1975; 19:229-34.
 13. Chia B H: Suicidal behaviour in Singapore. 1981 Seamic Publication.
 14. Louhivouri LA, Hakama M: Risk of suicide among cancer patients. Am J Epid 1979; 109:59-65.
 15. Gottheil E, McGurn WC, Pollak O: Awareness and disengagement in cancer patients. Am J Psych 1979; 136:5, 632-6.
 16. Worden JW, Weisman A: Psychosocial components of lagtive in cancer diagnosis. JI Psychosom Res 1975; 19:69-79.
 17. Greer S, Morris T: Psychological attributes of women who develop breast cancer. JI Psychosom Res 1975; 19:147-53.
 18. Kissen DM, Eysenck HJ: Personality in male lung cancer patients. J Psychosom Res 1962; 6:123-7.
 19. Kissen DM: Personality characteristics in males conducive to lung cancer. Br J Med Psychol 1963; 36:27-36.
 20. Kissen DM: The significance of personality in lung cancer in men. Ann N Y Acad Sci 1966; 125:820-36.
 21. Coppen A, Metcalfe M: Cancer and extraversion. Br Med J 1963; 2:18-9.
 22. Bond MR, Pearson IB: Psychological aspects of pain in woman with advanced cancer of the cervix. J Psychosom Res 1969; 13:13-9.



You can identify rapidly and specifically bacteria with Pharmacia Phadebact COA System. The most extensive range of reagents for straight-from-the-plate testing!

Phadebact® coagglutination tests

- *Streptococcus* groups A, B, C, D and G
- *Neisseria gonorrhoeae*
- *Haemophilus influenzae* type b and types a, c-f
- *Streptococcus pneumoniae*

NEW! CSF Direct tests for —

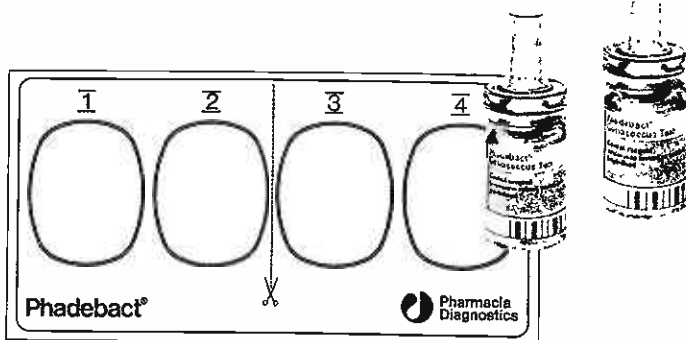
- Strep group B
- Haemophilus type a, c-f
- Pneumococcus
- Meningococcus

Easy to do. Easy to read.

1. Pick a colony straight-from-the-plate. Mix with a drop of reagent.
2. Rock the slide slowly for a minute.
3. Read the blue reaction.

Try it yourself. Send for a free test sample.

* Stated as the method of choice for identification of streptococci in the Manual on Diagnostic Methods for Streptococcal Infections and their Sequelae by J. Rotta & R.R. Facklam, published by WHO (WHO/BAC/80.1).



TRANSMEDIC PTE LTD

4 Chang Charn Road, Singapore 0315.
 Telephone: 4748260, 4757150
 Telex: RS 39275 TMEDIC
 Attn: Susan Lee