LIFE EVENT IN ANXIETY NEUROSIS: A STUDY
OF THE EFFECT OF INTERVENING VARIABLES

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SUMMARY

This study was conducted on 84 patients of anxiety neurosis selected according to stringent selection criteria. PSE scale was utilised for eliciting information regarding experience of life events during life time and past 6 months. Life time stress score correlated positively with Hamilton anxiety score, while family jointness, social support and socio-economic status correlated negatively with the Hamilton anxiety score. Life time stress score, socio-economic status correlated positively with economic status and social support and social correlated positively with family jointness. 5 variables, life time stress score, recent stress score, socio-economic and economic status and social support, when considered, accounted for 50% of the variability in the magnitude of illness. Amongst these variables life time stress score and family jointness turned out to be the most important. These findings highlight the significance of experience of stresses over life time in the production of anxiety of symptoms and also suggest that the joint family is a support system in our country and dilutes the effect of stressful life events on the individual.

Psychosocial stresses form an inseparable part of life and upto a degree may be essential for adequate personality development. However, if these stresses become too severe or too numerous they may affect the psychic equilibrium, producing maladaptive patterns and possibly mental disorders. A review of the literature on life events in psychiatric disorders shows that majority of them have been conducted on psychosomatic and psychotic patients, schizophrenia and depression. Few studies have been reported on neurotic patients. This is despite the fact that life event research may be more meaningful in neurosis, in which, psychosocial factors as compared to biological factors as compared to biological factors may be of more etiological significance.

Neurotic patients have been found to experience significantly more life events during the period of 3 months (Cooper & Sylph 1973, Miller et al. 1976) and one year (Bhatti and Channabasavanna 1985) prior to the onset of illness. Uhlenhuth and Paykel (1973) in their study on neurotic patients observed that symptom intensity was directly related to the amount of recent life stress. Stress, however, did not appear to be related to any particular symptom constellation as measured by a 72 items symptom profile comprising five checklist factor scores. In a controlled study by Miller et al. (1976) in 34 subjects sampled from the list of patients who had consulted one general practitioner in the past week, it was observed that the number of threatening events experienced in the past 3 months was strongly related to the severity of the psychological symptoms (anxiety, depression, tiredness and irritability) and only weakly if at all to the severity of the physical symptoms (back ache, palpitation, dizziness and breathlessness). People with few friends tended to have higher symptom levels.

It has often been contested and rightly so that merely exposure to stressful life events is not in itself a sufficient explanation for the onset of psychiatric illness in ordinary human experience. There are several intervening variables, which greatly modify the effect of stressful life events on the individual. Rabkin and Struening

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(1976) described them as:

1. Characteristics of the stressful situation.

2. Individual and psychological attributes.

3. Characteristics of the social support systems available to the individual which act as buffers.

The buffering model posits that stress has a greater impact on those with limited as opposed to adequate sources of social support. A major alternative posits a more active role for support. The purpose of support is beneficial and its absence is itself a source of stress. The work of Aneshensel and Stone (1982) in depressives suggests that the second alternative is more tenable than the buffering model.

Henderson & co-workers investigated social bonds through the study of the primary group. The primary group is considered important because it is a major source of 'support', the presence of which acts as a buffer against adversity, whereas a deficient system probably contributes to neurosis. Henderson et al. (1978) observed that neurotic patients have a deficient primary group in terms of size and affective quality. Sethi et al. (1981) found that neurotic patients do not have deficient primary group, rather they appear to be less active in making contacts whith members outside the household. Further work in a community based project showed that whereas the primary group of the rural respondents was richer, the average urban member spent more time in interaction and thus utilized the support better (Shasma et al. 1984).

Several studies from our country have reported on the association between neurosis and nuclear family (Veeraghavan 1978, Agarwal et al. 1978). Possible factors may be related to the fact that a change from a joint to a nuclear family implies reduction in a very vital component of an individual's social orbit, and the observation that a joint family rather than a nuclear family is better source of security and support to the vulnerable individuals specially in adversity (Sethi et al. 1981).

It is apparent that the common theme in the two groups of work is the concern with the commodity called 'support' at its source, i.e. primary group in Henderson's work and 'family' in Indian studies. It may be pointed out that since the primary group is defined as being composed of all kin, nominated friends, work associates and neighbours, the family automatically becomes a part of the primary group. Family is the most important part of our social orbit, whereas in western countries it is not vested with such severe emotion.

Andrews et al. (1978) studied life events stress, social support, coping style and risk of psychological impairment in neurotic patients. Persons with low events, good support and good coping had an illness risk of 12.8%. Persons with high events, poor coping and poor support had an illness risk of 43.3% and persons with intermediate combinations of the predisposing factors had intermidiate risks.

The possibility of interaction between stressful life events and other intervening variables, which greatly modify the effect of the stressful life events on the individual although well recognized has not been taken into consideration in the previous work done on Indian patients. Keeping in view the limitations of the previous research the present investigation was undertaken with the following aims:

1. To study the relationship between life events and magnitude of illness in patients of anxiety neurosis.

2. To study the effect of certain variables, family jointness, social support,

socio-economic/economic status and highest level of premorbid adaptive functioning during the past year, in modifying the effect of life on symptoms of anxiety neurosis.

Material and Methods

The sample of the present study consisted of 84 patients of anxiety neurosis attending the psychiatric section of the out patient section of the University Hospital, B.H.U., from September, 1984 to August, 1985. They were selected according to the following criteria.

1. Age between 16-40 years, having urban domicile and coming for the first time for consultation.

2. Diagnosed as per Feighner's Diagnostic criterial (Feighner et al. 1972).

3. Absence of any major physical illness.

4. Definite onset.

The patients were evaluated using a structured proforma. Detailed psychiatric and medical history, physical and mental status examination findings were recorded. Socio-economic status was assessed by the socio-economic scale for urban population developed by Gupta and Sethi (1978) and family jointness was evaluated by the family jointness scale devised by Agarwal et al. (1978). The latter measures family jointness in 3 relevant areas namely financial, living arrangement and decision making. Each is rated on a four point scale from 1-4. The highest level of premorbid adaptive functioning, for at least a few months during the past year, was evaluated on a 7 point rating scale as per axis V of DSM III (American Psychiatric Association 1982). Adaptive functioning is conceptualized as a composite of 3 major areas, (A) Social relations, (B) Occupational functioning and (C) Use of leisure time.

Coping has been defined as the cognitive and behavioural efforts made to master, tolerate or reduce external and internal demands and conflicts among them (Cohen and lazarus 1979). Pearlin and Schooler (1978) mention that little is known about the nature and substance of general coping repertoires and even less is known about their relative effectiveness. Direct assessment of coping is indeed a difficult task. In the present study the highest level of premorbid adaptive functioning during the past year was evaluated on the assumption that it would give an indirect measure of the strength of the general coping repertoires of the individual.

The Hamilton Anxiety Scale (Hamilton 1959) was administered to assess the severity of anxiety disorder.

Information regarding the experience of life events by patients was obtained with the help an open ended interview using the Presumptive Stressful Life Events Scale (PSE Scale) devised by Singh et al. (1981) for the Indian Population. Reliability testing of life events data collected from patients was done in a pilot study, by comparing this information with information about the patients given by a relative and was found to be satisfactory. Each event listed on the PSE Scale was inquired for unless it was clearly not applicable. Some probing had to be done to clarify information. In all the instances a significant member (relative or friend) was persuaded to take part in the interview as a coinformant. All events were dated as accurately as possible and cross-cheched with other family members as well as against medical records. Where dating was not immediately clear an attempt was made to relate events to anchor dates such as public holidays, a birthday, a death in the family, important political events etc., which often proved helpful. Whenever there was still doubt about the dating of an event a range of uncertainty was plotted and its midpoint

chosen. The time period for which life events were recorded was life time and past 6 months.

Social support was measured by the scale devised for this purpose by Aneshensel et al. (1982). Two measures of social support were assessed, an objective measure of the number of close relationships and a subjective measure of the perceived social support.

Another support system of particular relevance to a developing country like India is the economic support. We took the per capita income as the measure of economic status.

Results

1. The socio-demographic and other characteristics of the sample are shown in table 1.

Table 1
Sample Characteristics

		No.	%
1.	**Age**		
	16 – 20 years	10	11.9
	21 – 30 years	44	52.4
	31 – 40 years	30	35.7
2.	**Sex**		
	Male	59	70.2
	Female	25	28.8
3.	**Marital Status**		
	Married	72	85.6
	Unmarried	12	14.3
4.	**Education**		
	3rd – 5th	25	29.8
	6th – 12th	36	42.9
	Grad. & Postgrad.	23	27.4
5.	**S.E.S.**		
	IV – V	13	15.5
	VI – VII	53	63.1
	VII – IX	18	21.4

		No.	%
6.	**Family Jointness**		
	Wholly nuclear (1 – 4)	26	31.0
	Partially nuclear (5 – 8)	6	7.1
	Partially Joint (9 – 12)	11	13.1
	Wholly Joint (13 – 16)	41	48.8
7.	**Social Support System**		
	Poor (upto 3)	23	27.4
	Fair (4 – 6)	44	52.4
	Good (> 6)	17	20.2
8.	**Highest level of Premorbid Adaptive functioning**		
	V Good (8 – 14)	24	28.6
	Good (15 – 21)	60	71.4

2. A significant positive correlation was observed between Hamilton anxiety and life time stress score, while a significant negative correlation was obtained between Hamilton anxiety score and family jointness, social support and socioeconomic status. Correlation between some of the intervening variable was also observed. For example, life time stress score was positively related to recent stress score, socio-economic status correlated positively with economic status and social support, and family jointness correlated positively with social support (Table 2).

3. The combined effect of the various intervening variables was studied by calculating the multiple correlation coefficients (Table 4). A multiple correlation coefficient of 0.707 was obtained when 5 variables, life time stress score, recent stress score, economic and socio-economic status and family jointness were considered together. Thus, these variables when taken into consideration could account for 50% of the variability in the intensity of symptoms.

4. Multiple regression analysis was also done incorporating the 5 variables in the regression set. The regression formula is given in Table 4. In order to find out which

Table 2

Correlation between illness magnitude, life events and intervening variables

Correlation Matrix	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
X_1 (Hamilton Anxiety Score	1.00	.15	.25ˣˣˣ	-.25ˣ	-.11	-.28ˣˣ	-.52ˣˣˣ	.03
X_2 (Recent Stress Score)	.15	1.00	.42ˣˣˣ	-.00	-.17	-.20	.05	.12
X_3 (Life Stress Score)	.55ˣˣˣ	.42ˣˣˣ	1.00	-.051	-.21	-.17	-.19	.14
X_4 (S. E. S.)	-.25ˣ	-.00	-.05	1.00	.48ˣˣˣ	.39ˣˣ	.21	.02
X_5 (Econom. Status)	-.11	-.17	-.2	.48ˣˣˣ	1.00	-.04	-.13	-.08
X_6 (Social Support)	.28ˣˣ	-.20	-.17	.32ˣˣ	-.04	1.00	.39ˣˣˣ	-.13
X_7 (Family Jointness)	.52ˣˣˣ	.05	-.19	.21	-.13	.39ˣˣˣ	1.00	.02
X_8 (Highest premorbid adaptive functioning)	.03	.12	.14	.02	-.079	.129	.023	1.00

x p > .05; xx > .01; xxx p > .001

Table 3

Relationship of illness magnitude with life events and intervening variables

Multi Correlation Coefficients

R		R^2	Df	F	P
$R_{1.3}$	= .549	.30	82	35.31	< .001
$R_{1.32}$	= .557	.31	81	18.22	< .001
$R_{1.325}$	= .557	.31	80	12.31	< .001
$R_{1.3254}$	= .609	.37	79	11.65	< .001
$R_{1.32547}$	= .707	.50	78	15.6	< .001
$R_{1.325476}$	= .707	.50	77	12.8	< .001
$R_{1.3254768}$	= .707	.50	76	10,84	< .001

Table 4

Regression analysis of life events and intervening variables

Variable Name	Regression Coefficient	Standard Error	
X_2	-0.0007552	0.00176172	ESS = .000765938
X_3	0.0049325	0.000949723	Residual Error = .0313364
X_4	-0.0108165	0.00728173	Multi Correl = .707
X_5	0.0001904	0.00489408	Intercept Term = 31.8984524
X_7	0.4538008	0.101481	

$$X_1 31.8984524 - .0007552\ X_2 +$$
$$.0049325\ X_3 \quad - .018165\ X_4 +$$
$$.0001904\ X_5 \quad - .4538008\ X_7$$

variables were the most important the partial correlation coefficients of each variable were also calculated. Amongst the 5 variables only life time stress score and family jointness turned out to highly significant predictors of the level of anxiety, their partial correlation coefficients were $r = 0.51$ $(t = 5.19;\quad p < 0.0017\quad and\quad r = -0.45;$ $(t = 4.47; p < 0.001)$ respectively.

Discussion

Several investigators have drawn attention to the fact that the relationship between stressful life events and onset of psychiatric illness is not a simple one. There are certain other factors which need consideration as they greatly modify the effect of life events on the individual. The present study examined the role of some of these factors namely, family support, social support, socio-economic/economic support and highest level of premorbid adaptive functioning in the past one year, on neurotic symptoms in anxiety neurosis.

There are few studies that have attempted correlation of life events with severity of neurotic presentation. Laurer

(1973) found a significant relationship between manifest anxiety scale and SRRS scores for the American sample, but not for the English sample. This inference was drawn from chi-square analysis. Other studies have reported correlation coefficients which were typically below 0.3 suggesting that life events may account at best for 9% of the variance in illness (Rabkin and Struening 1976). These studies have primarily focussed their attention on the study of recent life stresses in psychiatric illness. Although it is conceivable that life time stresses may have an important role to play in the causation of neurotic illness, the same has not received sufficient attention. In the present study a significant correlation was observed between intensity of symptoms as measured by the Hamilton anxiety score and life time stress score (r = 55). This finding highlights the significance of experienced life stresses over life time in the eiology of anxiety disorder. Life time stress score alone accounted for 30% of the variability in the intensity of symptoms (r^2 = 0.3). Amongst the other variables studied the most important turned out to be family jointness, social support, and socio-economic status. All of them were negatively related to the intensity of symptoms. These findings are in keeping with buffering model of support systems which has already been discussed, and suggest that the most important support for our patients comes from the joint family followed by his social circle and socio-economic status.

In order to explore further the relationship between life events and illness magnitude the combined effect of life events, recent and life time, and other intervening variables was studied by calculating multiple correlation coefficients. This was needed particularly because we find that several of the intervening variables are interrelated. 5 variables, life time and recent stress score, socio-economic and economic status and family jointness, were helpful in predicting the intensity of illness and when considered could account for 50% of the variability in the intensity of symptoms. Further analysis aimed at delineating the relative contribution of each of the variables re.vealed 2 variables, life time stress score and family jointness, to be highly significant. Thus, it may be concluded the life time stress score is an important and better predictor of the magnitude of illness than the recent stress score. The findings of the present work also strongly support the observation of earlier workers (Sethi et al. 1981) that the joint family is a major source of support to the neurotic individual and suggest that life events have greater impact on those with limited family support as opposed to those with good family support. Sethi and Manchanda (1978) claim that the joint family perpetuates greater emotional stability except in 'hysteria' and suggest that a strong 'built in' resistance exists within the joint family set up which ensues lesser vulnerability towards development of an illness.

It would well be in order here to enumerate some of the important limitations of the present work. Although cases with only definite onset were taken and special attention paid to accurate dating of events, there remains a possibility of the confounding of the results. Also, retrospective contamination, i.e. the need to justify past illness, would be to some extent be responsible for this source of error.

The scale utilized for evaluating economic status was not an ideal one as it did not take into account certain sources of material wealth such as land, house, jewellery etc. which can be mobilized to meet several stresses such as illness of family member, marriage, financial crisis etc.

The highest level of premorbid adaptive functioning was studied on the assumption that it would give an indirect global measure of the coping repertoire of the individual

There is a need to study life events in relation to direct measures of coping. The results of the study should be regarded as tentative as the study sample was not truly representative of the general population. There is a need to replicate the study in the general population. Further work must also be directed at studying the relation between life events and various symptom constellations and also include several other variables which have not been taken up in the present inquiry.

Finally, the purpose of life event research is not to undermine the role of other biological and predispositional factors which also have an important bearing in the etiology of psychiatric illness. Only well planned prospective studies mounted on high risk individuals and invulnerable controls would elucidate the exact nature of casual link between life events and psychiatric illness.

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