

Health Status of Nurses and Yoga

I: Baseline Data

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Abstract

In this ongoing ICMR project on "Effect of Yoga on the Health of Nurses", some baseline data on the health of nurses of Nehru Hospital, P.G.I., Chandigarh are reported. This was obtained before the start of yoga therapy in selected cases and collected with the help of six psychological tools. Out of a total of 501 nurses, 452 (90.2%) could be contacted and studied. Mean age was 30.43 years and mean years of service 9.93 years. Mean scores on the psychological tests indicated poor health status of nurses, average neuroticism, depressive tendencies and role stress. Sense of Well-Being was high in them. The data is discussed in the light of researches in this area. This is the first of a series of three articles to be published in the *Journal*.

Introduction

The present work is a part of an Indian Council of Medical Research enquiry entitled "Effect of Yoga on the Health of Nurses", being conducted in Post-Graduate Institute of Medical Education and Research, Chandigarh, in its Nursing department. Pareek (1983) reported that among various working women's groups, nurses experience the greatest organizational role stress followed by women bank employees, is being least in women university teachers. Increased organizational role stress among nurses deteriorates the physical and mental health, which in turn it effects their job efficiency. They cannot do full justice in patient health care. A similar condition "burn-out" was described by Freiden Berger (Ansell, 1981) in professional workers, which indicate low energy, low enthusiasm and sustained stress. Unfortunately, the treatment of these medically less serious problems remains inadequate.

In a previous unpublished study, some improvement in their health status was reported by doctors

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and nurses undergoing yoga training at PGIMER, Chandigarh. Thus the present research plan was drawn to know whether yoga helps in reducing physical and mental health problems giving positive mental health and reducing the organization role stress. The present paper is a baseline data which consists of socio-demographic and clinical (six psychological tests) variable of the total population of nurses working in PGIMER, Chandigarh. This data was completed before starting the yoga therapy.

Materials and Methods

Sample: Out of a total of 501 nurses working in the Nehru Hospital, PGIMER, Chandigarh, a total of 452 (90.22%) could participate in the study. The two groups were roughly comparable. The remaining 49 (9.88%) could not be included due to various reasons (as summarised in Table-1) like being on long leave, unwillingness to co-operate for complete study, incomplete data, etc.

Tools: Five socio-demographic variables namely age, number of years in service, marital status, number of children and age of youngest child were studied on a socio-demographic proforma. Six psychological tests were got filled in order to know their health status, level of neuroticism and depression, general well being and role stress. As this study is a part of yoga therapy study, so a separate yoga attitude scale was also supplemented. The six psychological tests are described below of these being well standardized on Indian population:

1. *Cornell Medical Index (CMI) Health Questionnaire* (Wig, Persad and Verma, 1983): This scale contains 195 questions in informal English language. After each question a 'Yes' and 'No' is written. A 'Yes' answer to the item indicates that the subject claims to have that symptom. It is adopted from Brodman, Erdmann and Wolff (1949), to the Indian conditions. CMI is divided into two broad sections: (A) A-L describes physical problems; (B) M-R describes emotional problems. As all the subjects were females, the 'women form' was used.

2. *PGI Health Questionnaire—N₂* (Verma, 1978): The test contains 60 items, out of these the first 50 pertain to the symptoms of neuroses. The neuroticism score is obtained by counting the member of items ticked 'Yes'. The higher the score, greater is the severity of neurosis. In addition there are 10 items which form the lie scale. This gives an index of the patient's tendency to give socially desirable responses rather than to present a true picture about himself.

The PGI Health Questionnaire N-2 has been developed and standardised on 644 normal subjects and

630 neurotic patients attending the psychiatry department of Nehru Hospital attached to the Postgraduate Institute of Medical Education and Research, Chandigarh. It has been extensively cross validated on 292 neurotic subjects in 14 different psychiatric centres throughout India (Verma, 1978). Various types of reliabilities and validities were studied and have been found to be high and satisfactory.

3. *Amritsar Depressive Inventory* (Singh, Verma and Verma, 1974): The Amritsar Depressive Inventory (ADI) has been developed using the signs and symptoms of depression as manifested by the Indian patients. The test contains 30 items, worded in a simple and colloquial language so that it can be understood by patients of even low education. A.D.I. has been standardised using 360 patients of different diagnostic groups and 100 normal subjects. It is effective in differentiating patients clinically judged to be suffering from severe or mild or no depression (Singh et al, 1974; Singh, Sachdeva, Verma and Kaur, 1981).

4. *PGI Well Being Scale* (Verma, Dube and Gupta, 1983): It is a short 20 item scale in simple English language. The reliability and validity of scale was established on 75 undergraduate female students. This scale helps to establish the positive mental health of the subjects.

5. *PGI Yoga Attitude Scale* (Grover, Verma, Persad and Verma, 1983): PGI Yoga attitude scale is a short, simple rating scale with 16 items. The reliability and validity of the scale was established on 71 subjects found satisfactory (Grover et al, 1983). Further data of 200 subjects confirmed its reliability and validity (Grover et al, 1986).

6. *Organizational Role Stress-Scale (ORS)* (Pareek, 1983): ORS consisted of 50 items (5 each for 10 role stresses). Ten role stresses are mentioned below:

IRD	— Inter Role Distance
RS	— Role Stagnation
REC	— Role Expectation Conflict
RE	— Role Erosion
RO	— Role Overload
RI	— Role Isolation
PI	— Personal Inadequacy
SRD	— Self Role Distance
RA	— Role Ambiguity
RIN	— Resource Inadequacy

It is a 5 point scale, thus the scores for each role stress range from minimum of 0 to a maximum of 20 and total organizational role stress may range from 0 to 200. Its reliability and validity were calculated for a group of 500 employees from 3 banks.

Analysis of Data: The data was using mainly descriptive statistics, like percentages, means, standard deviations, range, etc.

Observations and Discussion

The socio-demographic characteristics of the 452 nurses who participated in this study are shown in

Table—2. The mean age of the sample was 30.43 years with range of 20-50 years. The average duration of service was 9.93 years. Majority of the nurses were married (73.23%). Amongst the married nurses, 13.17% did not have any children, the remaining 86.83% had 1 to 4 children. More than 50% nurses had children, who were 1-5 years old.

The mean scores on various psychological tests of the 452 nurses have been given in Table—3. General Medical Index has mean scores of its two sub-sections, A-L, (12.50 ± 8.93) and M-R (6.16 ± 5.03) and total score of both sub-sections i.e. A-R, (18.76 ± 9.82). Present scores are higher than the scores reported by Wig et al (1978) for the normal subjects, indicating relatively poor health of the nurses. The mean scores of the two sub-sections of PGI Health Questionnaire—N₂ are ($N=5.30 \pm 4.81$; $L=2.97 \pm 2.86$) which are close to normal subjects rather than the scores of patient population (Verma, 1978).

Amritsar Depressive Inventory has mean scores of 4.37 ± 4.26 , which represents the scores of normal subjects (Singh et al 1974). This suggests that on the whole the group was normal with low emotional disturbances, low depression, etc. except for the poor overall general health.

The mean scores of PGI Well Being Scale are 14.52 ± 5.19 as compared to scores (9.45 ± 8.12) given by Verma et al (1983) for the normal female students. Yoga attitude scale has mean score of 37.88 ± 7.28 as compared to the scores (32.85 ± 13.81) given by Grover et al (1983). This suggests high subjective well being and higher acceptance rate for yoga or, more favourable attitude towards yoga. This is a good sign and suggests that response to yoga therapy is likely to be better in this group.

Organizational Role Stress Scale has mean scores (67.41 ± 27.44) of its 10 sub-sections. The mean score of different sub-sections is given in Table—4. Present scores are less than the scores given by Pareek (1983) of the nurses (95.1 ± 22.9). But number of subjects in the study were only 40 as compared to 452 in the present study. Further work is in progress and will be reported later.

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Table 1
Sample taken for baseline data

1. Total Number of Nurses working at PGIMER	501
(a) Included in the study	45 (90.22%)
(b) Not included due to following reasons:	
(i) On long leave	13
(ii) Unwilling to cooperate	12
(iii) Left cases in between (incomplete data)	17
(iv) Absent without leave	7
Total	49 (9.88%)

Table 2
Socio-demographic characteristics

		Total No.	Percentage
1. Age (Years)	20-29	183	40.49
	30-39	200	44.25
	40-49	63	13.94
	50	6	1.33
		452	
	Range	20-50	
	Mean	30.43	
	S.D.	6.32	
2. Sex	All females		
3. Occupation	Nursing		
4. Years of service	1- 5	115	25.44
	6-10	123	27.21
	11-15	85	18.81
	16-20	89	19.69
	21	40	8.85
		452	
	Range	1-21	
	Mcan	9.93	
	S.D.	5.69	
5. Marital status	Married	331	73.23
	Single	118	26.11
	Separated	2	0.44
	Widowed	1	0.22
		452	

6. Number of children of married nurses	0	44	13.17
	1	105	31.44
	2	150	44.91
	3	32	9.58
	4	3	0.90
	Total	334	
7. Age of the youngest child	1- 5	161	55.52
	6-10	88	30.34
	11-15	36	12.41
	16-20	4	1.38
	21	1	0.35
	Total	290	

Table 3
Mean and Standard Deviation of six psychological tests

Sr. No.	Test	N=52	Mean	S.D.
1. Cornell Medical Index	A-L		12.50	8.93
	M-R		6.16	5.03
	A-R		18.76	9.82
2. PGI Health Questionnaire				
	N ₂			
	Neuroticism (N)		5.30	4.81
	Life (L)		2.97	2.86
3. Amritsar Depressive Inventory			4.37	4.26
4. PGI Well Being Scale			14.52	5.19
5. PGI Yoga Attitude Scale			37.88	7.28
6. Organizational Roles Stress Scale			67.41	27.44

Table 4
Score of Sub-sections of Organizational Role Stress Scale

Sr. No.	Sub-Sections of Scale	Present Study n=452	
		Mean	SD
1. Inter Role Distance		7.26	4.24
2. Role Stagnation		7.00	3.76
3. Role Expectation Conflict		6.21	3.48
4. Role Erosion		7.22	3.59
5. Role Overload		6.97	3.86
6. Role Isolation		7.14	3.82
7. Personal inadequacy		7.15	4.10
8. Self Role Distance		6.66	5.35
9. Role Ambiguity		4.67	3.65
10. Resource Inadequacy		7.10	3.88