

# Health Status of Nurses and Yoga - IV Experiment and Results

I.J. Walia, P. Mehra, P. Grover, C. Earnest,

S.K. Verma and Sanjeev

(This is fourth of the series of communication of a project funded by I.C.M.R. First three introductory articles were published in this journal in the months of September, October, and November, 1989.)

## Introduction

A nurse on duty is exposed to variety of stresses which result in psychological and physical disorders. Such a professional has low energy, low enthusiasm, high anxiety, irritability and strained interpersonal relations. This effects work efficiency and patient care. Unfortunately, the treatment of these medically less serious problems remain inadequate. The common tendency is to regard these symptoms as indication of debility for which tonics could be the answers (Jindal et al, 1978). This prescription at best serves as a temporary unstable placebo (Davidson, 1968).

An alternative is much needed. A review of literature gave support to the subjective impressions that yoga may be the answer to the problems. Thus the research plan was drawn to ascertain the efficacy of yoga in alleviating the psychological and physical problems of the nurses. Yoga therapy administered to 71 nurses with problems showed significant improvement in their mental health, when compared to the 80 control group nurses.

\*Dr. Walia, I.J., Lecturer, College of Nursing, P.G.I., Chandigarh.

Ms. Mehra P., Associate Professor, NIHFV, Mehrauli Road, Delhi.

Ms. Earnest, C., Chief Nursing Officer, Nehru Hospital, P.G.I., Chandigarh.

Dr. Verma, S.K., Associate Professor, Psychiatry Department, P.G.I., Chandigarh.

Dr. Sanjeev, Anatomy Department, P.G.I. Chandigarh,

Dr. Grover, P., Psychology Department, P.G.I., Chandigarh.

## Material and Methods

An epidemiological survey of the entire staff nurses of Nehru Hospital, PGI(MER), Chandigarh was conducted to ascertain their physical and emotional problems by using six psychological tests. Five socio-demographic variables of the nurses were also studied on a socio-demographic proforma (Walia, et al. 1989). Total of 52 (90.2%) of the entire nursing staff could be studied. Of these 169 (37.3%) nursing personnel were found to have significant health problems using Cornell Medical Index Health Questionnaire (Walia, et al. 1989).

Nursing having health problem (N 169) were randomly divided into two groups namely Experimental (E) and Control (C). Further each experimental and control group got divided into three groups (group of 26 to 30 number of nurses) for facilitating work of yoga therapist.

All three experimental groups were given yoga therapy for three months (daily for a week, then alternate days for a month followed by weekly follow up session). However all E and C groups were administered 6 psychological tests and six points scale questionnaire (on health complaints assessment) before start of treatment and then thrice after every six months as given in Figure. I.

Yoga therapy (Walia, et al. November, 1989) was administered by a Trained Yoga Therapist.

## Observations

As given in Table I, thirteen subjects

of E group and 4 subjects of C group dropped out at various stages of the experiment/evaluation due to various reasons (long leave, pregnancy, etc.)

Both experimental and control group were found to be matched with regard to marital status and age of the youngest child. However, the subject in experiment groups were found significantly ( $P < .01$ ) older and having had longer service than control group. Experimental subjects had significantly more ( $P < .05$ ) number of children than subjects in control group.

At intake, the E and C groups obtained comparable ( $P < .05$ ) mean scores on all the psychological tests (Table 2). This table also gives scores on all psychological tests indicating a significant improvement in physical and emotional health of experimental subjects in comparison to the control group. Attitude towards yoga in E subjects increased positively with increase in time.

Health status questionnaire (six point scale) showed that obesity, backache, headache, fatigue, hypertension, joint pains and gastro problems (Table - 3) were the major health problems of the nurses at pre-treatment evaluation. But these problems comparatively improved after treatment. The overnight subjects lost 1-7 kg. weight in three months of yoga therapy. Their hypertension was controlled and they had relief from headache, backache, joint pains, fatigue and gastric problems.

**Figure - 1**  
**Material and Method**

|              |                                     |                        |
|--------------|-------------------------------------|------------------------|
| Experimental | - E1 (10)<br>- E2 (28)<br>- E3 (29) | Yoga therapy given     |
| Control      | - C1 (30)<br>- C2 (28)<br>- C3 (26) | Yoga therapy not given |

Psychological tests (Walia, et al, 1989)

| Names                                                  | Time of Use                        |
|--------------------------------------------------------|------------------------------------|
| 1. CMI Health Questionnaire (Wig, et al., 1983)        | I Pre treatment                    |
| 2. P.G.I. Health Questionnaire (Verma, 1978)           | II Six months after treatment      |
| 3. Amritsar Depressive Inventory (Singh, et al., 1974) | III Twelve months after treatment  |
| 4. P.G.I. Well Being Scale (Verma & Verma, 1989)       | IV Eighteen months after treatment |
| 5. ORS Scale (Pareek, 1983)                            |                                    |
| 6. Yoga Attitude Scale (Grover et al, 1988)            |                                    |
| 7. Health Complaints Questionnaire                     |                                    |

**Table - 1**

**Dropouts from experimental (E) and Control (C) groups**

| Experimental Groups | Comparison at                                 | Control Groups |
|---------------------|-----------------------------------------------|----------------|
| Nos E1 E2 E3        |                                               | C1 C2 C3       |
| N 30 28 27          | Starting point (pre-treatment evaluation - I) | 30 28 26       |
| N 26 25 23          | Evaluation - IV                               | 29 28 23       |
| N = 71              |                                               | N = 80         |
| Drop outs 4 5 4     |                                               | 1 0 3          |

**Table-2**

Difference of scores in various psychological tests between experimental (E) and Control (C) groups at pre-treatment evaluation (I) and at post-treatment evaluation (II, III and IV).

| Psychological                    | N = E = 71                   | C = 80                        | Unpaired 't' test tests       |
|----------------------------------|------------------------------|-------------------------------|-------------------------------|
|                                  | Pre-treatment evaluation-I   | Post treatment evaluations    |                               |
|                                  |                              | II                            | III IV                        |
| 1. Cornell Medical Index         | AL 1.92<br>MR .36<br>AR 1.36 | 3.40***<br>5.03***<br>4.84*** | 4.88***<br>6.74***<br>6.85*** |
| 2. PGI Health Questionnaire      | N 1.14<br>L -0.10            | 2.98**<br>0.52                | 4.24***<br>0.48               |
| 3. Amritsar Depressive Inventory | 1.05                         | 3.26**                        | -3.34***<br>-7.35***          |
| 4. PGI Well Being Scale          | 0.12                         | 2.36*                         | 4.35***<br>6.07***            |

|                                   |           |            |              |          |
|-----------------------------------|-----------|------------|--------------|----------|
| 5. Yoga Attitude Scale            | 0.17      | 4.91***    | 6.14***      | 8.15***  |
| 6. Organisation Roll Stress Scale | 0.05      | -2.68**    | -4.38***     | -6.85*** |
|                                   | * p = .05 | ** p = .01 | *** p = .001 |          |

**Table - 3**

**Comparison of scores of health complaints at pre and post-treatment of Experimental Groups - Noted on six point scale.**

| Complaints          | Pre-treatment N Score | After treatment N Score |
|---------------------|-----------------------|-------------------------|
| 1. Obesity          | 29 87                 | 29 48                   |
| 2. Backache         | 29 87                 | 27 48                   |
| 3. Headache         | 31 93                 | 23 45                   |
| 4. Fatigue          | 13 39                 | 06 13                   |
| 5. Hypertension     | 07 21                 | 05 09                   |
| 6. Joint Pains      | 25 75                 | 16 29                   |
| 7. Gastric problems | 09 27                 | 05 10                   |
| 8. Leg pains        | 08 24                 | 08 15                   |
| 9. Eye problems     | 04 12                 | 04 07                   |

#### Acknowledgements

The authors are grateful to Indian Council of Medical Research, New Delhi, for providing the necessary finances for carrying out this research, and to Principal, College of Nursing and Director, PGIMER, Chandigarh for permission and providing all the necessary facilities for it.

#### Bibliography

- Davidson, S. (1968): Textbook of Medical Treatment by Sir Derrick Dunlop, Alstead and Maogregar Publications, ELBS ed.
- Grover, P.; Verma, V.K.; Pershad, D. and Verma, S.K. (1988): Further date on PGI Yoga Attitude Scale. Indian Journal of Psychiatry. Accepted for Publication.
- Jindal, R.C., Rastogi, V.S. and Rana, S.S. (1978): General Weakness in Psychoneurosis - A Cultural Psychiatry, 20(3) 277-281.
- Pareek, U. (1983): Steadiness in normals before and after yogic practices. An exploratory study. Yoga Mimamsa XI(2)1-13.
- Singh, G.; Verma, H.C.; Verma, R.S. and Kaur, H. (1974): A new depressive inventory (Amritsar Depressive Inventory). Indian Journal of Psychiatry. 16. 183-188.
- Verma, S.K., Dubey, B.L. and Gupta, D.C. (1983): A general well being scale. Indian Journal of Clinical Psychology, Vol. 10(2), 299-304.
- Verma, S.K. (1978): Construction and standardisation of PGI health questionnaire, N-2, Pub. Agra Psychological Research Cell, Agra, India.
- Wig, N.N., Pershad, D. (1978): Cornell Medical Index Health Questionnaire Hindi Translation. Psychiatry Department, PGIMER, Chandigarh.
- Walia, I.J.; Mehra, P.; Grover, P.; Verma, S.K.; Sanjeev (1988a): Health Status of the nurses and yoga. The Nursing Journal of India; Vol. LXXX, September, 256-258. 235-237.
- Walia, I.J.; Mehra, P.; Grover, P.; Verma, S.K.; Sanjeev (1989b): Health Status of the Nursing and Yoga; The Nursing Journal of India, Vol. LXXX, October, PP. 256 - 258.
- Walia, I.J., Mehra P., Grover, P., Verma S.K., Sanjeev (1989c): Health Status of the Nurses and Yoga; The Nursing Journal of India, Vol. IXXX, November 283-286.