

Health Status of Nurses and Yoga - V Precision Matching

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This is the fifth of the series of communication of a project by I.C.M.R., first three articles of the series were published in this journal in the month of September, October, and November 1989, the fourth in February 1992.

An experimental study of the effect of yoga on the health of nurses reveals that practice of yoga improved health of the nurses. However, the analysis of socio-demographic factors showed that experimental and control group did not match. To test reliability of the results, precision matching of 15 pairs of both groups were done. Results confirmed the findings that yoga has positive effect on the health of the nurses.

It is essential that characteristics of both experimental and control subjects be similar to draw conclusion on the experiment. At times this is not possible for studies conducted on human beings even though the sample is selected randomly. This gives a point to raise argument on the reliability of the experimental results. Such an instance occurred when in a study on effect of yoga on the health of nurses, the randomly selected sample for both experimental and control groups, did not match in demographic characteristics except for their marital status and age of their youngest child. Experimental subjects were found to be a little older in age than the control subjects. Mean age of experimental subject was 36.34 years and for control subjects it was 31.51 years. This difference was significant ($P < .01$).

Both group subjects also did not match in regard to number of children. Mean number of children of experimental subjects were 1.81 and of control subjects were 1.41. The difference was significant ($P < .05$). These differences therefore need to be taken into consideration while interpreting results of the study which showed that at the intake the physical and emotional problems, neuroticism, depression and role stress and attitude towards yoga were comparable ($P < .05$) in both the experimental and control group subjects. But at the end of experiment (yoga therapy for experimental subjects), the experimental subjects had significantly less ($P < .01$) physical and emotional problems, less neuroticism,

depression and less role stress. Also their attitude improved towards yoga.

Objectives

To test reliability of the results (though statistically significant) of experiments because subjects of experimental and control group did not match (statistically) in respect to age, years of service and number of children.

Methodology

Fifteen subjects from experimental group and fifteen subjects from control group were chosen, by matching their socio-demographic characteristics.

Observations of these fifteen pairs on psychological tests conducted four times during the study were compared as given in Table 1.

Results

Comparison of reports of psychological tests confirm the findings that significant difference among the two groups on all the psychological variables showed that not only the negative mental health improved but the positive mental health also indicated desirable changes which were evident in third and fourth evaluation, given in Table 2.

Table 1
Socio-demographic variables of sample pairs subjects
Socio-demographic variables

Sr.No. of Pair	Age (Yrs)		Years of Service		Marital Status		No. of Children		Age of Younger Child	
	E	C	E	C	E	C	E	C	E	C
1.	24	24	2	2	S	S	0	0	-	-
2.	24	23	2	2	S	S	0	0	-	-
3.	35	35	13	13	M	M	2	2	5	5
4.	31	31	8	8	M	M	1	1	4	4
5.	39	39	19	19	M	M	2	2	5	5
6.	46	47	23	23	M	M	2	2	4	4
7.	47	48	25	25	M	M	3	3	8	8
8.	25	25	2	2	S	S	0	0	-	-
9.	37	36	17	16	M	M	2	2	9	8
10.	23	23	2	2	S	S	0	0	-	-
11.	34	35	12	12	M	M	2	2	9	9
12.	43	42	20	20	M	M	2	2	7	7
13.	35	35	15	15	M	M	2	2	1	1
14.	34	35	14	17	M	M	2	2	4	4
15.	27	27	2	2	S	S	0	0	-	-

E: Experimental

C: Control

S= Single M= Married

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Table 2
Comparison of precision matched (N=15 each)
experimental and control groups

		Pre-treatment evaluation I	Post-treatment II	Evaluation III	IV
1. Cornell Medical Index	A-L	.83	1.65	4.28***	4.11***
2. PGI Health Questionnaire		1.08	1.14	3.69***	4.14***
	N-2 L	.39	.17	.48	.57
3. Amritsar Depressive Inventory		1.08	.56	1.21	3.66***
4. PGI Well Being Scale		.24	.021	2.25*	2.06*
5. Yoga Attitude Scale		1.16	4.52***	2.48*	2.52*
6. Organizational role stress scale		.33	.65	.77	1.99*

Test: *P < .05 **P < .01 ***P < .001

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Contribute for a Good Cause

The Trained Nurses' Association of India has decided to establish a Central Institute of Nursing (CIN) at the national level in or around Delhi. A preliminary blueprint has already been published in the August, 1990 issue of the Journal. The main aim of the CIN is to promote professional development of nurses through education, service, and research activities for the improvement of Nursing Care. The overall objective is based on the principle that progress in Nursing and Health fields depends, to a considerable extent, on enhancing the abilities of the Nurses who are in service so that they can more effectively meet the demands of the health care system. To have such an Institute in India is a matter of pride for the whole nursing community.

The estimated cost of its establishment would be about Rs. 2 crores. To give a practical shape to this project, the TNAI is approaching several funding agencies. At the individual level, we request our member/non-member friends to donate funds generously towards this noble cause in the larger interest of the nursing profession.

Donations can be made payable to the Trained Nurses' Association of India, New Delhi, in the form of demand draft/cheque, etc., mentioning "Donation towards CIN Fund".

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