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## **A quasi experimental study to assess the effect of laughter therapy on stress level among the 1<sup>st</sup> year B.Sc. Nursing students of a selected institute of nursing and paramedical sciences (U.P.)**

**Anindita Mandal and Indresh Gupta**

### **Abstract**

**Background:** Stress is any challenge to homeostasis. It is a self-reported mental state that challenges the body's internal sense of balance. Various precipitating factors have been identified to cause stress. Among them physiological, emotional, biological, cultural etc. cause stress and manifested as anxiety, depression, inability to concentrate, helplessness etc. Students in all ages and time have been found to be a population vulnerable to stress. Factors like academic pressure, new environment, time management, disciplinary life style etc. are the causes of stress for students. Researchers revealed that nursing students top the list of students in experiencing stress. Objectives: The research was conducted to assess the effect of laughter therapy on stress level of 1<sup>st</sup> year nursing students of a selected college of nursing.

**Methodology:** A quasi experimental research work was undertaken to analyze the effectiveness of laughter therapy on the stress level of the study subjects. The data was collected from 36 1<sup>st</sup> year B.Sc. Nursing students selected by convenience sampling technique. A pretest post-test design without a control group was adopted in the study. A questionnaire was developed for assessing the stress of students. The tool was validated and reliability tested.

**Result:** The findings of the research showed significant reduction of stress after 5 days laughter therapy. The percentage of subjects experiencing significant stress before the therapy reduced from 8.3 to 5.5%. Laughter therapy reduced the moderated level of stress from 30.6 to 16.7%.

**Conclusion:** The present based on the findings of the current study we can draw the conclusion that laughter as a therapy can be used in reduction of stress, In addition it can be also concluded from the study that the phenomena of stress is common among selected nursing students.

**Keywords:** Stress, nursing students, laughter therapy

### **Introduction**

Laughter is a natural part of the best medicine. Laughter is a powerful antidote to stress and conflict. Laughter lightens the burden, inspires hopes, connects someone to others, and keeps the individual, focused and alert. "Laughter is the sun that drives winter from the human face" Victor Hugo. In this fast world of stress and achievements it is "laughter" which can effectively drive the cloud of stress from the life of men. Although many proponents of laughter including Charlie Chaplin has motivated us to laugh and face the world but we seldom do it. The reason of diminished laughter in our life may be due to our inability to appreciate situations and experiences with a sense of humour. But when scientists like Dr. Fry suggested that human can benefit from the very act of laughing without the humour, it was readily adopted by Dr. Madan Kataria of India. He started the laughter yoga which has become very popular among the elderly citizens of Urban India. The investigators in their position as under graduate students felt that nursing students in their initial days of students' life are maximally challenged by stress. Review of literature in the relevant field validated their belief. Their search for a remedial measure to reduce their stress brought them face to face with the "laughter therapy" which they felt to be suitable and convenient for the students. In order to test the effectiveness of this particular therapy, the investigators undertook the research and initiated the activities of the research.

Stress has harmful psychological and physiological effects on employees. Stress is a major cause of employee turnover and absenteeism. Stress is experienced by one employee can affect the safety of other employees.

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By controlling dysfunctional stress, individual and organization can be managed more effectively. Job stress may directly and indirectly affect the production and turn over.

### Objectives

1. To assess the stress level among the study subjects prior to the intervention.
2. To implement the protocol for intervention of laughter therapy.
3. To assess the stress level after intervention.

### Methods

#### Study design

In this study, A hospital based quasi experimental study design was adopted.

#### Study population

The Target accessible of the study includes the 1st year students of B.sc Nursing Course at studying, institute of nursing and paramedical sciences Shikohabad Firozabad Uttar Pradesh and who met the criteria that the researcher established for a study.

#### Study area

The study was conducted in Shikohabad Firozabad (Uttar Pradesh)

#### Sample size

As documented in different literature, the proportion of various heterogeneous (10% - 65%) pattern in knowledge level of student of B.sc Nursing course Therefore a sample size is thought to be maximum by assuming the prevalence of 50%. Therefore by adapting the expected 50% of prevalence at 5% of absolute precision and 95% of desired confidence level, the require sample size is 36 student of B.sc Nursing course.

#### Sampling method

A convenient Sampling Technique was adopted to select students.

#### Inclusion criteria

- Students studying B.Sc Nursing 1<sup>st</sup> year.
- Student who attend the regular classes.
- Student who can speak and understand Hindi English.

#### Exclusion criteria

- Student who are unwilling to participate in the study.

#### Data collection tool

The study tool considered of two sections.

**Section I:** Demographic variables occupation, Socio economic status,

**Section II:** Structured knowledge questionnaire regarding selected aspects of effect of laughter therapy on stress level.

#### Development of tool

A structural questionnaire was used to assess the knowledge regarding assess the effect of laughter therapy on stress level among the 1<sup>st</sup> year B.Sc. Nursing student's written permission can be obtained authorities. Further consent can

be taken from samples regarding their willingness to participate in the study. The data will be collected by the investigator himself.

### Data collection

Data was collected by the investigator after obtaining permission from the concerned authorities of selected college. Prior to the data collection, the students were seated comfortably in a quiet environment. The investigator was introducing himself, explain the objectives of the study, for maximum cooperation. Each day around 5-6 students was interviewed using the closed-ended structured interview schedule.

### Statistical analysis

Data entered in Microsoft excel and analysis was done. Knowledge score of students their selected socio-demographic variables was done by mean median and standard deviation.

### Ethical clearance and informed consent

The study was carried out after obtaining approval from the institutional Ethical Committee of institute of nursing and paramedical sciences J.S. University Shikohabad. The participants were briefed about the purpose of the study and informed consent was obtained prior to the data collection.

### Results

The findings of the research showed significant reduction of stress after 5 days laughter therapy. The percentage of subjects experiencing significant stress before the therapy reduced from 8.3 to 5.5%. Laughter therapy reduced the moderated level of stress from 30.6 to 16.7%.

**Level of stress among the study subject:** Table no 1 describes the level of stress among the study subjects before and after laughter therapy. Before the intervention 3 (8.3%) out of 36 participants were having significant stress, 11 (30.6%) had moderate stress and 22 (61.1%) had normal level of stress. After 5 days of laughter therapy, 2 (5.5%) participants had significant level of stress, the number of participants having moderate level of stress was reduced to 6 (16.7%). The number of participants having normal level of stress was increased to 28 (77.8%) in the post-interventional phase than the pre-interventional phase (22, 61.1%).

**Mean stress score before and after intervention:** TABLE NO. 2 shown the mean stress score of study subject before laughter therapy was 24.39 (SD=8.132, SED=1.365). And the mean of stress score after laughter therapy was 29.25 (SD=9.153, SED=1.525).

### Testing hypothesis

Table No. 3 showing Paired t test was applied to test the difference in mean stress score before and after intervention. It was found to be highly significant ( $t = 4.6$ ,  $df = 35$ ,  $p = 0.000$ ). Therefore the null hypothesis is rejected at 0.05 level of significance. So, the difference in stress score before and after intervention is significant. Thus laughter therapy has significant effect on stress level of nursing students.

Distribution of subjects as per occupation of father. Self-reported data of father's occupation is show table no 4

among them 12(33.3%) were businessman 15(41.6%) service men 6(16.7%) were farmer 1(2.8%) factory worker, and 2 (5.6%) were unemployed. Distribution of subjects as per occupation of mother Self-reported data of mother's occupation is shown table no 5 among them 7(19.44%) are working and 29 (80.6%) are home maker.

### Per capita income family

Distribution of the study subject as per capita income is shown in tables no 6 among the 6 (16.7%) subject's family's per capita income was  $\leq 1000$ . there were 22(61.11) with 1001-5000, 6(16.7%) with 5001-10,000 and 2 (5.6%) with  $\geq 10,000$ .

### Discussion

The current study was done among 1\* year B.Sc. Nursing students in a selected college in Kolkata. The effect of laughter therapy on stress level assessed in the current study was found to be highly significant. Similar to the present study, the study done by Lakhwinder Kaur in Punjab, Chandigarh included forty two B. Sc. Nursing students of 1<sup>st</sup> year. Other studies reflected that most of them had young, college students as the participants. The study of Hamaideh in South Korea was done among university students and Chen *et al.* conducted a study to assess the stress level among the college students in China. Britz and Pappas included 124 college freshmen at James Madison University in USA as their sample whereas Laurence *et al.* conducted a survey of 453 graduate students in USA. In the present study thirty six B. Sc Nursing 1 year students were selected to evaluate the effect of laughter therapy on the stress level of nursing students. In her study Lakhwinder found that among her study subjects 28.6% experienced normal stress whereas 54.7% had moderate and 16.6% of them had significant level of stress.

In the current study it was found that among the study subjects 61.1% experienced normal stress whereas 36.6% had moderate and 8.3% of them had significant level of stress. In contrast, the study done Pa

Britz and Pappas reported high level of stress among 50% of students. The finding of Tajularipin *et al.* was similar to the present study findings revealing 29% of students experiencing moderate level of stress. The findings of the current study showed that laughter therapy reduced stress significantly among the study participants, This finding was similar to the findings reported by Lakhwinder and Dr. M. Kataria, In her study Lakhwinder reported that laughter therapy reduced moderate level of stress from 54.7% to 42.8%. In the current study laughter therapy reduced moderate level of stress from 36.6% to 16.7%. However in her study laughter therapy showed no effect on significant level of stress among the study subjects whereas in the present study laughter therapy reduced significant level of stress from 8.3% to 5.5%. Dr. M. Kataria in his pretest post-test control design study revealed that the stress level was reduced significantly (28%) in the experimental group and by 16% in the control group. Another study, by Janine Grobler reflected 11% reduction in perceived stress level after three weeks of laughter session. There were many studies done by Dr. M. Kataria, Dr. Lee Berk, Dr. Michael Miller, Dr. Stanley Tan etc. which also agree to the findings of the present study laughter therapy is effective in the reduction of stress.

**Table 1:** Level of stress among the study subject, N=36

| Stress Level | Pre-Intervention |      | Intervention |      |
|--------------|------------------|------|--------------|------|
|              | F                | %    | F            | %    |
| Significant  | 3                | 8.3  | 2            | 5.5  |
| Moderate     | 11               | 30.6 | 6            | 16.7 |
| Normal       | 22               | 61.1 | 28           | 77.8 |

**Table 2:** Mean stress score before and after intervention, N=36

| Mean stress score before and after intervention | Mean  | N  | Std deviation | Std Error Mean |
|---|-------|----|---------------|----------------|
| Pre intervention test                           | 24.39 | 36 | 8.132         | 1.355          |
| Post intervention test                          | 29.25 | 36 | 9.153         | 1.525          |

**Table 3:** Testing hypothesis

| Testing hypothesis                    | Paired differences |                |                 |   |       |     |    |       |
|---------------------------------------|--------------------|----------------|-----------------|---|-------|-----|----|-------|
|                                       | Mean difference    | Std. deviation | Std. Error Mean | 95% confidence interval of the difference |       | t   | df | Sig   |
|                                       |                    |                |                 | Lower                                     | Upper |     |    |       |
| Pre & post intervention stress scores | 4.86               | 6.347          | 1.057           | 7.009                                     | 2.713 | 4.6 | 35 | 0.000 |

**Table 4:** Distribution of subject as per occupation

| Distribution of subject as per occupation | Frequency(f) | Percentage (%) |
|---|--------------|----------------|
| Business                                  | 12           | 33.3%          |
| Service                                   | 15           | 41.6%          |
| Farmer                                    | 6            | 16.7%          |
| Factory worker                            | 1            | 2.8%           |
| Not worker                                | 2            | 5.6%           |

**Table 5:** Distribution of subject as per occupation of mother

| Types of occupation | Frequency (f) | Percentage (%) |
|---------------------|---------------|----------------|
| Worker              | 7             | 19.4%          |
| House maker         | 29            | 80.6%          |

**Table 6:** Per capita income of family

| Per capita income | Frequency (f) | Percentage (%) |
|-------------------|---------------|----------------|
| $\leq 1000$       | 6             | 16.7%          |
| 1001-5000         | 22            | 61.1%          |
| 5001-10,000       | 6             | 16.7%          |
| $\geq 10000$      | 2             | 5.5%           |

### Conclusion

The present based on the findings of the current study we can draw the conclusion that laughter as a therapy can be used in reduction of stress, In addition it can be also concluded from the study that the phenomena of stress is common among selected nursing students.

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**Declarations**

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Conflict of interest: None

Ethical approval: The study was carried out after obtaining approval from the institutional Ethical Committee of J.S. University Shikohabad (Firozabad).

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