

## Effectiveness of Jacobson's progressive relaxation technique on level of stress among HIV positive patients in a selected AIDS care center at Kasaragod

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### Abstract

A major challenge facing healthcare workers today is that of coping with the increasing number of individuals suffering from Acquired Immunodeficiency Syndrome (AIDS) or those infected with Human Immunodeficiency Virus (HIV). One of the special features of HIV infection is that once infected it is probable that a person will be infected for life. AIDS can be called our modern pandemic affecting both industrialized and developing countries. India had an estimated 1.8 – 2.9 million HIV positive persons in 2007, with an estimated adult HIV prevalence of 0.34%. People with HIV disease continue to experience significant stressors in living with this potentially catastrophic chronic illness. Jacobson's Progressive Relaxation Technique is an effective method to reduce the stress and thereby improves the quality of life. This study was conducted to find out the effectiveness of Jacobson's Progressive Relaxation Technique on the reduction of level of stress among HIV positive patients in selected AIDS Care Centers at Kasaragod.

### Objectives:

1. To determine the level of stress among HIV positive patients in experimental group and control group before Jacobson's progressive relaxation technique as measured using stress rating scale
2. To determine the level of stress among HIV positive patients in experimental group and control group after the interventional period
3. To compare the pre-test and post-test stress level of experimental group.
4. To compare the level of stress among HIV positive patients in experimental group and control group after the Jacobson's progressive relaxation technique

**Material and Methods:** An evaluatory approach with pre-test - post-test control group design was used for the study. The sample consisted of 40 HIV positive patients (20+ 20) selected by random sampling technique. Data were collected by administering a stress scale prepared by the investigator. Patients in the experimental group were practiced meditation for 21 days. Post-test was conducted among both the groups after 21 days. Data were analyzed by using descriptive and inferential statistics.

**Results:** The mean percentage of post-test stress score 12.78 was less than the pre – test stress score 51.61 in experimental group. The 't' value computed between the pre – test and post- test stress score of experimental group was statistically significant at 0.05 level ( $t = 16.849$ ,  $df=19$ ). The mean percentage of post – test stress score of experimental group (12.78) was less than the post – test stress score of control group (45.83). The 't' value computed between the experimental group and control group after the intervention was statistically significant at 0.05 level ( $t = 14.955$ ,  $df= 38$ ). The findings showed a highly significant difference in stress score in the experimental group suggesting that meditation was effective in reducing the stress level of HIV positive patients. There was no association between the pre-test stress score and variables like gender, age, education, occupation, and marital status, type of family, habits and duration of illness.

**Keyword:** Jacobson's progressive relaxation technique, stress, HIV

### Introduction

AIDS stands for Acquired immunodeficiency syndrome. Acquired means you can catch it; immunodeficiency means a weakness in the body's system that fight diseases. Syndrome means a group of health problems that make up a disease. AIDS is caused by a virus called human immunodeficiency virus (HIV). HIV disease becomes AIDS when the immune system is so damaged that you have less than 200 CD4+ cells or you get an opportunistic infection.

People with HIV disease continue to experience significant stressors in living with this potentially catastrophic chronic illness. Stressful disease management issues accompany the ongoing psychological stressors associated with such factors as stigmatization, illness related uncertainty and existential

issues related to diagnoses with a life threatening chronic illness [4].

A study was conducted on acute stress reactions to recent life events among 64 HIV/ AIDS patients and result showed that 31.3% participants reported acute stress reaction that met all symptom criteria. It concluded that individuals with HIV/ AIDS experiences stress related to their life events.

Mindfulness is living in the present moment. In meditative practice, it is the ability to fully return to the present after contemplating the past or future. Jacobson's progressive relaxation technique. Has been practiced for over 5,000 years. It is a practice wherein there is constant observation of the mind; it brings awareness, harmony and natural order into life. It helps to dig deep into the inner self to discover the

wisdom and tranquility lie within. Mindfulness based stress reduction (MBSR) is one of the best method to reduce stress which can be applied to every body. The reduction of stress in HIV/AIDS is essential to improve their quality of life. Many studies have proved that MBSR is effective to reduce the stress in the HIV/AIDS patients.

**Need for the study**

The first AIDS case in India was detected in 1986 and since then HIV infection has been reported in all states and union territories. India had an estimated 1.8 – 2.9 million HIV positive persons in 2007, with an estimated adult HIV prevalence of 0.34% (0.25%–0.43%). National AIDS Control Organization (NACO) marked Karnataka as a ‘high prevalent state’. The state has 245,000 infected people and 333,000 suffering from AIDS, according to Karnataka State AIDS Prevention Society (KSAPS).

According to research studies, Jacobson’s progressive relaxation technique. helps patients with chronic illness to reduce their symptoms and improve their quality of life. Patients also reported that dramatically improved abilities to cope with stress, improved sense of well being reduced body tension and mental clarity.

The investigator from her past experience of taking care of the HIV positive patients in the hospital setup found out these patients have high level of stress than patients with other diseases. Mindfulness Jacobson’s progressive relaxation technique. is one of the best methods to reduce stress, which can be applied to everybody. The investigator felt that reduction of stress in HIV/AIDS is essential to improve their quality of life. Therefore, the investigator planned to conduct a study on effectiveness of mindfulness Jacobson’s progressive relaxation technique. to reduce stress among HIV positive patients.

**Material and Methods**

**Research Approach:** An evaluative research approach was adopted for the study

**Research Design:** The research design adopted for the study was experimental (pretest- posttest control group design)

**Table 1**

Groups	Pre test	Intervention	Post test
Group I	O <sub>1</sub>	X	O <sub>1</sub>
Group II	O <sub>1</sub>	-	O <sub>1</sub>

O<sub>1</sub>- Pretest

X – group I, group II

Group I: Experimental Group

Group II: Control Group

X: Jacobson’s progressive relaxation technique.

O<sub>1</sub>: assessment of level of stress before introducing intervention in both groups by using stress rating scale.

O<sub>2</sub>: assessment of level of stress after interventional periods in both groups by using stress rating scale.

**Settings:** The study was conducted among AIDS Care Center at Kasaragod.

**Population**

Population is the HIV positive patients in the selected AIDS care center.

**Sample**

**Sampling techniques:** In this study, simple random sampling

technique was adopted to select the sample and subjects were randomly assigned to experimental and control group.

**Sample Size:** The sample size of the study The sample for this study comprised of 40 HIV positive patients (experimental group 20 and control group 20).

**Sampling criteria**

**Inclusion criteria**

- Patients are diagnosed as HIV positive
- Patients between the age group of 20-60 years
- Patients can understand Kannada or English
- Patients are willing to participate in the study
- Patients who are staying in AIDS Care Centers

**Exclusion criteria**

- Patients who are critically ill
- Patients who are having hearing impairment

**Description of the Tool**

It consists of two section i.e section A and section B

**Part A**

**Section A**

It deals with socio demographic variables like sex, age, religion, education, previous occupation, marital status, type of family, habits, and duration of the illness.

**Section B**

Deals with the stress rating scale

**Content validity of the tool**

Content validity refers to the degree to which an instrument measures what it is supposed to measure. To establish the content validity of the tools, the prepared tool, along with objectives, operational definitions, blueprint and criteria checklist was submitted to 15 experts.

**Reliability**

Reliability was established by split-half method using Karl Pearson’s Correlation Coefficient. The reliability obtained was 0.89, which proved that the tool was reliable.

**Pilot Study**

Pilot study is a small scale version or trial run of the major study. Its function is to obtain information on improving the project or for assessing its feasibility. The principal focus was the assessment of the adequacy of the, measurement. Pilot study was conducted in AIDS Care Center at Kasaragod from 11-07-16 to 01-08-16. The investigator obtained written permission from the concerned authority prior to the study.

The purpose of the study was explained to the subjects and confidentiality was assured. Subjects were selected by random sampling technique with three in each group. The written consent was obtained from them and a pretest was conducted. The time taken to complete the stress rating scale was 20-30mts. The techniques of Jacobson’s progressive relaxation technique. Taught by the investigator to the patients in the experimental group on the first day. The following 21 days, the patients were practicing Jacobson’s progressive relaxation technique. at 7.30am, which was supervised by the investigator. On the 22nd day, post test was conducted for both the groups with the same tool to assess the level of stress.

Data analysis was done using descriptive and inferential statistics. The tool and Jacobson’s progressive relaxation technique. techniques were found to be feasible and practicable. No further changes were made in the tool after the pilot study and the investigator proceeded for the main study.

**Data collection instrument**

Data collection instrument is a vehicle that could obtain data pertinent to the study and at the same time add knowledge in the discipline. Tool was prepared based on the objectives of the study. In this study the data collection instruments used is:

**Section A:** Baseline Profoma for HIV positive patients.

**Section B:** Rating scale to assess the level of stress among HIV positive patients.

**Distribution of subjects according to the level of stress before Jacobson’s progressive relaxation technique.**

**Domain wise post intervention stress score of HIV positive patients**

**Table 4**

Domain	Experimental group		Control group	
	Mean	SD	Mean	SD
Physical	2.90	2.049	13.45	6.320
Psychological	5.50	2.23	17.80	8.108
Social	3.10	1.483	10	3.569
Over all	11.50	4.763	41.25	15131

**Mean median standard deviation and t value of pre and post intervention stress score of HIV positive patients in experimental group**

**Table 5**

Group	Mean		Mean difference	Sd		T value
	Pretest	Post test		Pretest	Post test	
Experimental group	462.45	11.50	34.95	12.07	4.763	16.849

T19 = 1.730, p<0.05 \* Significant

**Table 6**

Group	Mean		Mean difference	Sd		T value
	Pretest	Post test		Pretest	Post test	
HIV positive pts	34.950	1.600	33.350	9.246	3.662	14.955

T38 = 1.690, p<0.05 \* Significant

**Discussion**

**Effectiveness of Jacobson’s progressive relaxation technique. in reduction of level of stress**

The study result showed that the mean percentage of pre – test stress score (51.61) was higher than the post-test stress score (12.78) in experimental group. The calculated ‘t’ value (16.849) was higher than the table value (1.730) at 0.05 level of significance. So it is inferred that there was significant difference between the pre- and post-intervention stress score of the subjects in the experimental group. Hence the null hypothesis (H01) is rejected and research hypothesis is accepted (H1).

The present study showed that the post – test mean percentage of experimental group (12.78) was lower than that of the control group (45.83). This finding reveals that stress score significantly reduced in experimental group after Jacobson’s

**Table 2**

Grading	Experimental group		Control group	
	Frequency	%	Frequency	%
Mild	1	5.0	4	20.0
Moderate	14	70.0	13	65.0
Severe	5	25.0	3	15.0

Maximum score =90

**Domain wise pre intervention stress score of HIV positive patients**

**Table 3**

Domain	Experimental group		Control group	
	Mean	SD	Mean	SD
Physical	16.35	5.412	14.45	6.083
Psychological	20.70	6.350	19.05	8.413
Social	9.40	3.93	9.35	3.911
Over all	46.45	12.072	42.85	15.869

progressive relaxation technique. Whereas the stress score of control group remained almost same. The findings of the study suggest 78 that Jacobson’s progressive relaxation technique. was an effective method to reduce stress in HIV positive patients. The statistical analysis demonstrated a highly significant reduction in the stress level of HIV positive patients in the experimental group after the introduction of Jacobson’s progressive relaxation technique. (t =14.955, df-38, p<0.05). Hence, the null hypothesis (H02) is rejected and research hypothesis (H02) is accepted.

Results revealed that a repeated-measures analysis of variance indicated positive changes in well-being. The study concluded that Jacobson’s progressive relaxation technique. is an effective method to cope up with the stress of daily life among HIV/ AIDS patient.

**Association between pre-test stress score and selected variables**

Association between pre-test stress score and selected variables like gender, age, education, and previous occupation marital status, type of family, habits and duration of illness were tested using Chi-square. The findings showed that there was no significant relationship between pre-test stress score and selected variables.

**Conclusion**

The findings revealed the following.

- The pretest findings revealed that most of the patients in both groups (experimental and control group) experienced moderate level of stress. Area wise analysis revealed that the highly disturbed area was the psychological area.
- Jacobson’s progressive relaxation technique. was effective in reducing the stress level of HIV positive patients. The post - test stress score is lower than the pre – test stress score in experimental group.
- Experimental group showed a highly significant reduction in stress score after the intervention whereas in control group pretest and posttest stress score remained almost same.
- From the mean reduction in stress score, it was evident that Jacobson’s progressive relaxation technique. was highly effective in reducing stress of HIV positive patients in experimental group.
- There was no significant relationship between related variables like sex, age, educational status, occupation, marital status, duration of illness and duration of institutionalization and their pretest stress score. Therefore, it could be concluded that stress in HIV positive clients were caused by the nature of their illness and not due to any socio-demographic variables.

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