

Research Article

A study to assess the effectiveness of stress reduction techniques among caregivers of special children in selected school, Chennai.

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ABSTRACT

Background: Caregivers play a crucial role in supporting and enhancing the well-being of individuals who need assistance due to illness, disability, or ageing. Caregiver stress is often-overlooked yet profound challenge faced by individuals who dedicate their time and energy to support their loved ones in need. The study aims to assess the effectiveness of stress reduction techniques among caregivers of special children in selected school, Chennai.

Methods: The study adopted one group pretest design involving 30 caregivers of special children in selected school through purposive sampling. Stress levels were assessed by using the Modified Kingston Caregivers Stress Scale and stress reduction techniques were introduced. After 5 days of practicing these techniques, a post-test was carried out. Data analysis used frequency, percentage, mean, and standard deviation to assess demographics and stress levels.

Results: The findings indicated a substantial reduction in stress, with the paired t-test producing results less than 0.001, confirming statistical significance. The research shows a substantial and reliable reduction in stress for caregivers who take part in stress relief activities while helping special children in selected School in Chennai. The comparison of overall level of stress after intervention was reduced when compared to pretest score.

Conclusions: The study concluded that, caregivers of special children in selected who received stress reduction techniques had significant reduction in their stress level.

Keywords: Caregivers, stress reduction techniques.

INTRODUCTION

In United States, about 40% of caregivers report high level of stress related their caregiving responsibilities. The World Health Organization (WHO) indicates that caregiving for elderly individuals with health issues can lead to high stress levels.

Globally, it is estimated that 50-70% of caregivers experience emotional or psychological stress due to the burden of caregiving.

Stress, derived from Latin 'Stringere', is a common term in daily life and physical sciences. It originated from the perception of external stimuli and later as a response to disturbances. Stress is a non-specific body response to environmental events or forces that threaten an organism's existence and well-being.

In developing countries and low-income regions, the percentage of stress is higher due to lack of formal healthcare support, caregiving responsibilities, and limited access to mental health resources.

The hypothalamus perceives stressors and performs specific functions, such as activating the autonomic nervous system and secreting arginine vasopressin. Stress affects all body systems, including cardiovascular, respiratory, endocrine, gastrointestinal, nervous, muscular, and reproductive systems.

METHODOLOGY

It was a pre-experimental one group pre-test and posttest design. The study was done at Sathyalok School in Chennai with caregivers of special children, who attended the school. The sample was chosen with a total of 30 caregivers who met the inclusion criteria. Therefore, the participants were chosen purposively to ensure that those who satisfy the study's requirements as well as those who were directly involved with special children were included. However, an intervention was implemented to assess the effects of the change in the knowledge levels of the caregivers before and after the intervention.

Inclusion criteria

Caregivers who were available and Tamil speaking at the time of data collection were included in the study.

Exclusion criteria

Caregivers who were unwilling to participate, had previously undergone training programs such as yoga or meditation, suffered from physical health issues, or experienced severe levels of stress were excluded from the study. These exclusions were necessary to maintain the reliability of the findings and ensure that the participants could fully benefit from the intervention.

Tools

The tool used in the study consists of demographic information and Modified Kingston Caregiver Stress Scale to assess caregiver stress.

Ethical Considerations

The caregivers were explained about the purpose and need for the study. They were assured that their details and answers will be used only for the research purpose. Further, they were ensured that their details will be kept confidentially. Privacy will be maintained. Their routine activity was not disturbed. Thus the investigator followed the ethical guidelines which were issued by the ethical clearance.

Data collection procedure

The researcher obtained prior consent from the school authorities during their investigation at Sathyalok School in October 2024. The research included 30 caregivers who met specific requirements through purposive sampling. The investigators explained both the study purpose and research methods to each participant before obtaining their informed consent. The research started with an initial test which was followed by a 20-minute training on stress reduction procedures. A post-test evaluation took place five days after implementing the intervention.

Statistical Analysis

The analysis methods included frequencies and percentages for demographic variables, mean and standard deviation for stress scores, Pearson chi-square test for associations, paired t-test for pre-test and post-test comparisons, and visual representations using bar diagrams, pie charts, doughnut diagrams, and box plots.

RESULTS

Table 1 revealed that most participants were aged between 22-30 years (36.7%), with a fairly equal distribution across 31-40 years (30%) and above 40 years (33.3%). The majority were female (56.7%). Regarding occupation, 40% were homemakers, 30% worked in daily wages, and the rest were employed in the government (6.7%) and private sectors (23.3%). Most participants lived in nuclear families (66.7%), and a large proportion had secondary education (53.3%), followed by primary education (26.7%) and college education (20%). None of the participants had no formal education.

The table 2 and table 3 presents the percentage distribution of stress levels in both the pretest and posttest. In the pretest, the majority of caregivers experienced moderate stress (66.7%), while 20% had low grade stress, and 13.3% reported mild stress. No participants reported severe stress. After the intervention, there was a notable shift: 40% of caregivers had low grade stress, and 50% reported mild stress, indicating a reduction in stress levels. Only 10% of participants continued to experience moderate stress, and no one reported severe stress in the post-test, highlighting the effectiveness of the intervention in reducing caregiver stress.

The table 4 presents the comparison of stress levels before and after the intervention among caregivers of

special children. The mean stress score decreased significantly from 18.43 to 12.83, with a corresponding reduction in the standard deviation from 5.98 to 4.83. The paired t-test yielded a t-value of 9.885 and a p-value of 0.000, indicating that the reduction in stress levels was statistically significant. This suggests that the stress reduction techniques implemented were effective in alleviating caregiver stress.

Table 1: Demographic Variables of caregivers of special children

Demographic variables	Sample =30	
	n	%)
1. Age in years		
a. Below 21 years	0	0.0
b. 22 – 30 years	11	36.7
c. 31 – 40 years	9	30.0
d. Above 40 years	9	33.3
2. Gender		
a. Male	13	43.3
b. Female	17	56.7
3. Occupation		
a. Home maker	12	40.0
b. Daily wages	9	30.0
c. Government sector	2	6.7
d. Private sector	7	23.3
4. Family type		
a. Nuclear	20	66.7
b. Joint	10	33.3
5. Educational status		
a. Primary	8	26.7
b. Secondary	16	53.3
c. College	6	20.0
d. No formal education	0	0.0

Table 2: Percentage distribution of level of stress in pre-test.

Level of stress	Stress in Pre-test	
	Frequency	Percentage
Low grade stress	6	20
Mild stress	4	13.3
Moderate stress	20	66.7
Severe stress	0	0
Total	30	100

Table 3: Percentage distribution of level of stress in post-test.

Level of stress	Stress in post-test	
	Frequency	Percentage
Low grade stress	12	40.0
Mild stress	15	50.0
Moderate stress	3	10.0
Severe stress	0	0
Total	30	100.0

Table 4: Effectiveness of stress reduction techniques among caregivers of special children.

Stress level	Pre-Test	Post-Test	t-value	p-value
Mean	18.43	12.83	9.885	0.000
Standard Deviation	5.98	4.83		

DISCUSSION

The study found that prior to the intervention, caregivers of special children experienced varying levels of stress, with 20% reporting low-grade stress, 13.3% mild stress, and 66.7% moderate stress. After the intervention, the distribution shifted, with 40% experiencing low-grade stress, 50% mild stress, and only 10% moderate stress, indicating a reduction in stress levels.

Bazzano et al. (2023) similarly reported a significant reduction in perceived stress among caregivers, with a 33% decrease in stress levels ($p < 0.001$). Participants also showed increased mindfulness and well-being, further supporting the positive impact of stress reduction interventions.

The study concluded that stress reduction techniques are highly effective for reducing stress among caregivers of special children. Furthermore, no significant associations were found between demographic variables. However, occupation and number of children did show a significant relationship with the stress levels, suggesting that these factors may influence caregiver stress more than others. Waqar & Ali (2024) also found that younger caregivers and those with lower education levels reported higher levels of stress, aligning with the current study's findings on the influence of demographic factors on caregiver stress.

CONCLUSION

Stress is a universal concern, and understanding stress reduction techniques is crucial for preventing stress-related issues and improving overall health. This study highlights that stress reduction techniques are safe and effective in alleviating stress. The caregivers in the sample exhibited various levels of stress. After the intervention, their stress levels significantly decreased, demonstrating the effectiveness of stress reduction techniques. This approach not only enhances well-being but also serves as a valuable measure to reduce caregiver stress.

RECOMMENDATION

Future studies can explore the long-term impact of stress reduction techniques on caregivers using a larger sample size. Implementing structured stress management programs in special schools can further support caregiver well-being.

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