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Effect of lifestyle counselling on stress resistance among COVID-19 patients

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Abstract

India has seen its worst possible outbreak of coronavirus during the second wave. In a few months, the number of coronavirus cases is decreasing steadily and life is coming to near normal. But the danger has not been averted as yet and people are still apprehensive about the possible future outbreak of coronavirus. The unpleasant consequence on the physical and mental health of corona virus has been documented in several studies. One such study conducted reported that the prevalence of stress among coronavirus patients is whooping 41.6%. Hence it is essential to manage stress among coronavirus patients. This study was conducted to see the impact of lifestyle-related individual counselling on the management of stress among COVID-19 patients. To conduct the study 100 coronavirus patients from both sexes were selected. The study area was the Raipur district of Chhattisgarh. The age range of these patients falls between 30 to 45 years of age. To assess stress among subjects, Stress Resistance Scale prepared by Ajwani and Varwandkar was used. FANTASTIC, a checklist to assess lifestyle was used. Individual counselling was given to each subject based on lifestyle modifications with timely follow-up. The data were collected thrice i.e. pre-test, after 15 days and after 30 days (post-test) for this single group experimental design. ANOVA for several measures at fixed time interval was used for data analysis. It was found that the individual counselling of one month significantly enhanced the stress resistance in COVID-19 patients and the post-test gain score on the stress resistance scale and lifestyle modification checklists also correlated statistically and positively. It was concluded that lifestyle modification through individual counselling is an effective method to manage stress among COVID-19 patients.

Keywords: COVID-19, Counselling, Lifestyle, Stress.

Introduction

The second wave of the COVID-19 has subsided to a great extent barring a few states. Still, the cases are over 10000 per day and the threat of the third wave is still looming because some parts of Europe is experiencing even the fourth wave of this pandemic. The pandemic is not only detrimental to overall growth and development but is also a major cause of mental health issues.

A study conducted by Brooks et al. reported that Covid-19 comes with mental stress that cause depression and anxiety[1].

Several studies have been conducted on COVID-19 patients to understand their psychological problems. It has been observed by Wang et al. that during the H1N1 epidemic that isolation can lead to severe stress[2]. So it is natural that when an epidemic comes with severe stress, a pandemic like COVID-19 generates significantly more stress in affected individuals. It has been noted that COVID-19 infected individuals are pre-disposed to several psychological problems such as depression, mental stress, hostile aggression or feeling stressed even after being recovered from the deadly corona virus. Some common causes increase stress among affected corona virus patients. Lack of social support, physical discomfort, isolation and post corona complications respectively. The other source of stress in coronavirus patients is disruption of their routine life.

Without a normal routine, COVID-19 patients think about his/her medical condition or life after getting cured. It is normal to have stress for a brief period because it enables us to rethink our lifestyle patterns. On the flip side chronic stress negatively affects individuals physically. Stress is also bad for mental health and overall productivity. This is where changes in lifestyle patterns may come in handy. Scientific evidence are also available about the association of wellbeing with healthy lifestyle.

WHO defined a healthy lifestyle as following regular eating habits, physical activity and limiting alcohol intake while staying away from smoking. Healthy lifestyle-related behavioural aspects are not only good from a physical health point of view but also provide support to mental wellbeing[3]. It has been highlighted in several studies that regularly doing moderate physical activity, maintaining normal body weight etc. are beneficial not only for physical health but it acts as a buffer to reduce anxiety and depression[4,5]. People affected by coronavirus feels isolated from society and cause psychological distress that results in negative health behaviours.

This may include lack of physical activity, increase in alcohol and tobacco consumption, irregular sleep patterns and overeating. Although the beneficial effect of lifestyle changes have been observed in terms of proper nutrition and other healthy behaviours, the impact of lifestyle counselling has not been observed on stress resistance among COVID-19 patients. To fill this research gap, the investigators chose this topic for research.

Review of literature: Lin et al. reported the beneficial effect of behavioural counselling on lifestyle changes[6]. Park and Park reported that healthy lifestyles are mandatory for maintaining and living a fruitful life with good physical and mental health[7]. A study of Moore et al. shows that the Covid-19 pandemic has resulted in an increasingly sedentary lifestyle in adults[8]. Lazzerini et al. reported that COVID-19 affected the normal lifestyle and it has shown in decreased quality of life[9]. Ahorsu et al. reported that the social distancing, quarantine rules created panic and fear and lead to psychological distress and mental stress in individuals[10]. Park et al. in their study found a considerable decline in physical and recreational physical activity during the Covid-19 pandemic[11]. Although no significant variation was observed in nutritional facts the quality of life was significantly reduced after the onset of the Covid-19 pandemic. Bueno-Notivol et al.; Ettman et al.; Kowal et al. and Holman et al. linked stress perception to socio economic status[12-15]. Calina et al. and Ingram et al. reported that COVID-19 gives rise to increased alcohol consumption as coping mechanism to stress[16,17]. Pfefferbaum and North concluded that COVID-19 gives rise to several mental health issues[18].

Objectives of the study: i. To appraise the impact of counselling on stress resistance among COVID-19 patients. ii. To appraise the impact of individual counselling on lifestyle changes among COVID-19 patients. iii. To establish an association between healthy lifestyle behaviours and stress resistance in COVID-19 patients.

Methodology

Hypothesis: i. First hypothesis states that the individual counselling will significantly enhance stress resistance in COVID-19 patients. ii. Second hypothesis states that the individual counselling will significantly enhance healthy lifestyle behaviours in COVID-19 patients. iii. Third hypothesis states that the lifestyle behaviours of COVID-19 will be significantly associated with their ability to resist stressful situations.

Sample: To conduct the study 100 coronavirus patients from both sexes were selected. The study area was the Raipur district of Chhattisgarh. The age range of these patients falls between 30 to 45 years of age. Care was taken to select COVID-19 patients across different socio-economic strata.

Tools: To assess stress among subjects, Stress Resistance Scale prepared by Ajwani and Varwandkar was used[19]. It consists of two parts. Part A consists of 15 items with both positive and negative worded are included. Five points Likert scale was used for scoring. Part B consists of 15 items with three alternatives. The minimum score on this scale can be 30 while the maximum score can be 120. This scale is highly reliable and valid. The higher the score better the stress resistance in the direction of scoring.

Fantastic Lifestyle Assessment Checklist was used to assess the lifestyle of COVID-19 patients. The Fantastic Lifestyle Assessment Tool by Wilson and Ciliska of the Department of Family Medicine at the McMaster University in Canada[20]. The checklist determine lifestyle through factors such as family / friends, physical activity, nutrition related data, use of tobacco and alcohol, sleep pattern, temperament / behaviour, insight and career. A higher score on this checklist indicates better lifestyle choices.

Individual Counselling: Based on the lifestyle assessment checklist, a one-month individual counselling program was prepared.

Procedure: 100 coronavirus patients from both sexes were selected. Stress Resistance Scale and FANTASTIC lifestyle assessment checklist was administered to each subject by following COVID-19 protocol and prior permission from consulting physician. One month of individual counselling was given to each subject by calling them periodically after every five days. The data on stress resistance and lifestyle assessment checklist was gathered again after 15 days from commencement of study period and after 30 days (post-test).A suitable statistic was used to analyse the data.

Results and discussion

Table-1: Descriptive Statistics of Scores on Stress Resistance in Three Different Experimental Conditions - Repeated Measures ANOVA.

Conditions	N	Stress Resistance	
		Mean	S.D.
Pre-test	100	57.80	7.10
After Ist Counselling	100	64.82	7.21
Post Test	100	71.92	9.18
F=174.09, p<.01			

Repeated Measures ANOVA revealed that mean score on the stress resistance scale for selected Covid-19 patients did differ significantly in three experimental conditions namely pre-test (M=57.80), after Ist counselling (M=64.82) and post test (M=71.92) respectively.

This fact is statistically proved by F=174.09 at .01 level. The F ratio was significance and it calls for further analysis through Least Significant Difference Method.

Table-1(a): Least Significant Difference Test with Significance Level .05

Mean (I)	Mean (J)	Mean Difference (I-J)
Pre-test	After Ist Counselling	-7.02*
	Post test	-14.12*
After Ist counselling	Post test	-7.10*

* Significant at .05 level.

Interpretation of data given in Table-1, 1(a) gives the following inferences: i. The stress resistance in COVID-19 patients was showed to be significantly increased after Ist counselling (M=64.82) in comparison their pre-test stress resistance (M=57.80). The mean difference of 7.02 also signifies this fact at .05 level of statistical support. ii. The stress resistance in COVID-19 patients was showed to be significantly increased after posttest (M=71.92) in comparison their pre-test stress resistance (M=57.80). The mean difference of 7.02 also signifies this fact at .05 level of statistical support. iii. The stress resistance in COVID-19 patients was showed to be significantly increased after post test (M=71.92) in comparison their pre-test resistance to stress after Ist counselling (M=64.82). The mean difference of 7.10 also signifies this fact at .05 level of statistical support.

Table-2: Descriptive Statistics of Scores on fantastic Lifestyle Assessment Checklist in Three Different Experimental Conditions - Repeated Measure ANOVA.

Conditions	N	Fantastic Lifestyle Assessment Checklist	
		Mean	S.D.
Pre-test	100	53.96	7.84
After Ist Counselling	100	63.84	9.49
Post Test	100	72.06	10.49
F=259.73, p<.01			

Repeated Measures ANOVA revealed that mean score on fantastic Lifestyle Assessment Checklist for selected Covid-19 patients did differ significantly in three experimental conditions namely pre-test (M=53.96), after Ist counselling (M=63.84) and post test (M=72.06) respectively. This fact is statistically proved by F=259.73 at .01 level. Since F ratio was statistically significant, Least Significant Difference Method was used to evaluate the difference in lifestyle modifications in three experimental conditions.

Table-2(a): Least Significant Difference Test with Significance Level .05

Mean (I)	Mean (J)	Mean Difference (I-J)
Pre-test	After Ist Counselling	-9.88*
	Post test	-18.10*
After Ist counselling	Post test	-8.22*

* Significant at .05 level.

The following inferences leads to drawn from an interpretation of the data presented in Table-2, 2(a): i. The lifestyle pattern in COVID-19 patients was found to be significantly healthier after Ist counselling (M=63.84) as compared to their pre-test lifestyle pattern (M=53.96). The mean difference of 9.88 also signifies this fact at .05 level of statistical support. ii. The lifestyle pattern in COVID-19 patients was found to be significantly healthier after IInd counselling/post test (M=72.06) as compared to their pre-test lifestyle pattern (M=53.96). The mean difference of 18.10 also signifies this fact at .05 level of statistical support. iii. The lifestyle pattern in COVID-19 patients was found to be significantly healthier after IInd counselling/post test (M=72.06) as compared to the lifestyle pattern after Ist counselling (M=63.84). The mean difference of 8.22 also signifies this fact at .05 level of statistical support.

Table-3: Value of Correlation (r) between Stress Resistance and Lifestyle Modifications in Group of Covid-19 Patients (N=100).

	Stress Resistance	Lifestyle Modifications
Stress Resistance	1	0.348**
Lifestyle Modifications	0.348	1

** Significant at .01 level.

Computation of the correlation coefficient given in Table-3 revealed a significant positive association between stress resistance and lifestyle modifications. It shows that the meaningful changes in lifestyle patterns increase the resistance in COVID-19 patients to stress.

Discussion: The findings of the current research point to the fact that stress resistance among COVID-19 patients can be enhanced with the help of lifestyle counselling. A lifestyle counselling program reduces poor nutritional choices as well as motivate a person to pursue some kind of physical activity. Lifestyle counselling also advises on healthy behaviours and their beneficial effect on physical and mental health.

Velten et al. also proved the benefits of following a healthy lifestyle for good psychological wellbeing and reduced mental health issues[21].

Conclusion

Based on the analysis and observations it can be concluded that the individual counselling educates COVID-19 about healthy lifestyle choices which are reflected in their enhanced stress resistance. It may also be concluded that lifestyle counselling may be the answer to mental health risks among COVID-19 patients.

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