



ENHANCING METACOGNITIVE THINKING OF BELL'S PALSY SUBJECTS WITH MINDFULNESS BASED STRESS REDUCTION (MBSR) TECHNIQUE: AN INTERVENTION STUDY

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ABSTRACT

The research focuses on the effectiveness of psychological intervention using Mindfulness Based Stress Reduction (MBSR) Technique among low Resilience Bell's Palsy subjects in relation to their Metacognitive Thinking. 14 Subjects (9 male and 5 female) were identified as having low Resilience on the bases of median scores. The age range of the subjects was between 20- 45 years. Metacognitive Thinking Scale (MCTS) by Sandhu and Goel (2010) and Bharathiar University Resilience Scale (BURS) Form A by Annalakshmi (2009) were used. 'Pre-Test and Post-Test' research design and "Wilcoxon Sign Ranked (Z) Test" was used to study the effectiveness of Mindfulness Based Stress Reduction (MBSR) Technique. The research has its implications to support, assist and develop confidence in subjects suffering from any illnesses and cope up with the various psychological problems faced by such individuals and have a positive outlook of life. Further it is proposed that Psychological interventions are successful to treat many psychological problems of individuals, especially chronically ill patients.

KEYWORDS: Mindfulness Based Stress Reduction (MBSR) Technique, Metacognitive Thinking, Resilience, Bell's Palsy.

INTRODUCTION

Bell's palsy is one of the emerging neurological illnesses that affects individual's personality, cognition, emotions and bring change in individual's life in the form of facial nerve malfunctioning and deformity. Bell's palsy occurs in the form of facial malfunctioning and facial disfigurement in which individual may experience severe psychological and social problems. It gives a feeling of inferiority, emotionality, deterioration in cognitive process, as well as experiences of subjective stress. In day to day life every individual have to face numerous situations, interact with others, share ideas and views in varied social settings. In each such situation, the facial malfunctioning and deformity hinders with individuals self-esteem, self-confidence, social and emotional competencies. Consequently, patients with facial deformity often experience negative self-image, low self-esteem, and social isolation, including psychological, physical, emotional challenges, fluctuating mood and lower emotional balance. A long recovery period and delayed complete healing of a client with Bell's palsy could lead to a negative effect on many aspects of an individual's life. To avoid such situations Bell's palsy patients should work on their intrinsic desire to bounce back from adverse situations and bring revolution to their thoughts so that they may enhance their endurance to Resilience, which is the ability and a form of motivation of an individual to confront problems with more positive manner. Bell's palsy patients may also bring change in their cognition and thoughts which are best performed by the means of Metacognitive Thinking. Enhancing metacognition will make Bell's palsy patients more capable to introspect about their own cognitive process. Moreover, Psychological intervention like Mindfulness Based Stress Reduction (MBSR) Technique would further benefit the individuals suffering from Bell's palsy to enhance their metacognition, and Resilience to grow into balanced individuals with enhanced quality of life and mental health. Kabat-Zinn brings a



revolution in the application of mindfulness meditation in the form of behavioral intervention for clinical problems and explored the use of mindfulness meditation in treating patients with chronic pain (Kabat-Zinn, 1982), presently the intervention is known as Mindfulness-Based Stress Reduction (MBSR). Although it was administered primarily for stress management, but it has evolved to incorporate the management of a various disorders that may include anxiety, depression, diabetes, pain, immune disorders, hypertension, Parkinson and many other chronic illnesses. All over the world MBSR has become extremely prevalent as psychological technique to benefit people.

REVIEW OF LITERATURE

Rashmi and Vanlalhruii (2023) explored the role of metacognitive processes in cancer patients. A total of 31 articles were selected and analyzed. This review article established that patients with cancer and caregivers experience metacognitive beliefs, which are associated with emotional distress, and the effectiveness of metacognitive therapy in reducing distress. The study by **Mitsea, Drigas and Skianis (2022)** provided evidence regarding the effectiveness of mindfulness training strategies on the development of metacognitive skills for people with special education needs. The results revealed that mindfulness training improves the metacognitive skills needed for people with disabilities. **Heshmati and Maanifar (2018)** conducted a study to find the relationship among metacognition, mindfulness and spiritual well-being. The sample size in 114 i.e gifted students in Tabriz, Iran. The sample was collected through systematic random sampling method. Meta-cognition questionnaire, Five Facet Mindfulness Questionnaire and spiritual well-being questionnaire were administered. The results reveals that there is a significant positive relationship between mindfulness and spiritual well-being ($r=0.31$). On the basis of the findings it was concluded that the meta-cognition components, the positive beliefs about worry were more influential in the determination of mindfulness.

Mirsaeidi, Zahrani and Sadeghi (2017) conducted a study to compare the skills of mindfulness, metacognitive beliefs and perceived stress in hypertension patients. The study was administered on 90 hypertension patients with high blood pressure. The sample was selected through purposive sampling. Kentucky's Mindfulness Skills Questionnaire, Metacognitive Beliefs Questionnaire and Perceived Stress Questionnaire were used. Data was analyzed by t-test and multivariate analysis of variance. Results showed that there was a significant difference between mindfulness skills and metacognitive beliefs in hypertension and control group. This study concluded that mindfulness skills, metacognitive beliefs and perceived stress may help to understand the psychological issues of patients with high blood pressure.

Rahmani, Talepasand and Motlagh (2014) compared the metacognition treatment and the mindfulness-based stress reduction treatment on life quality among women with breast cancer. 36 patients were diagnosed with breast cancer in Tehran, 43 were selected in accessible way and were assigned randomly to three experimental groups. The first group included 12 subjects receiving meta-cognition treatment, the second group consisted of 12 subjects receiving mindfulness-based stress reduction program, and the other was the control group. Global Life Quality Questionnaire and Specific Quality of Life Questionnaire were used. Findings showed that the mindfulness-based stress reduction treatment was found to excel in functions and roles in comparison to the metacognition treatment.

The study by **Morck (2009)** was conducted to examine the relation between metacognition and mindfulness. The study was conducted on 98 university students with median age of 22 years. Metacognitive Awareness Inventory by Schraw and Dennison (1994) and Philadelphia Mindfulness Scale by Cardaciotto, Herbert, Forman, Moitra, and Farrow (2008) were used. The results indicated that mindfulness was significantly related to metacognition. **Watkins and Teasdale (2000)** proposed that mindfulness facilitated metacognitive insights and reduced risk of psychological disorders like depression.

Aim: To study the effectiveness of psychological intervention using ‘Mindfulness Based Stress Reduction (MBSR) Technique’ among low Resilience Bell’s Palsy subjects in relation to their Metacognitive Thinking.

HYPOTHESIS

There would be a positive effect of Psychological intervention using MBSR Technique on Metacognitive Thinking among low Resilience Bell’s Palsy subjects.



TOOLS

Metacognitive Thinking Scale (MCTS) by Sandhu and Goel (2010): The scale consists of 80 items and based on Likert Type Scale. The split- half reliability of this scale is 0.87 and content validity of the scale is 0.78.

Bharathiar University Resilience Scale (BURS) Form A by Annalakshmi (2009): The scale consists of 30 items. All the items in the scale are based on a Likert scale. The test- retest reliability of the scale is $r = 0.72$ and Cronbach Alpha for the scale was found to be $r = 0.82$. The scale has adequate concurrent validity.

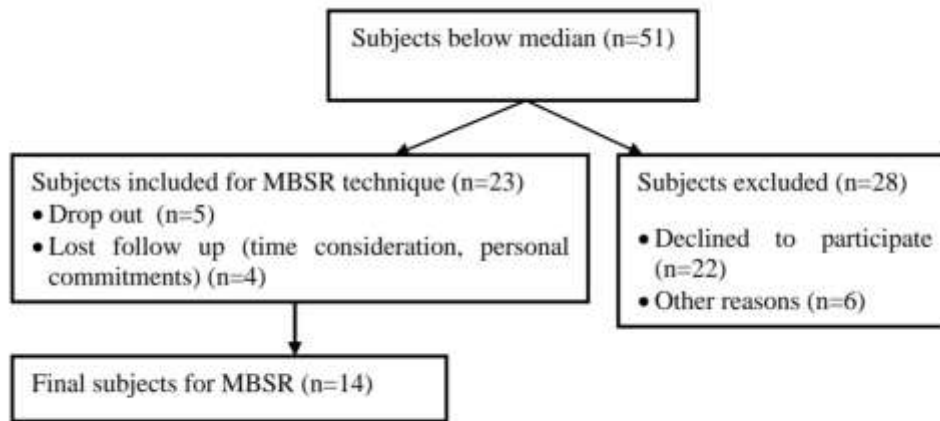
PROCEDURE

Initially, permission was sought from the head of the hospitals/ clinics where Bell’s Palsypatients were getting treatment. The participants were contacted to give their consent to participate in the study. They were requested to fill up the proforma to give all the relevant information about themselves and their consent to participate in the study. A rapport was established and they were informed about the purpose of the study that it will reveal some interesting facts about Metacognitive Thinking, and Resilience. At the early phase itself, the researcher assured about the confidentiality of the data provided by them. So the respondents were requested to co-operate for the present research. Then the booklets containing the Psychological tests were provided to the respondents, standardized instructions were given to the participants and they were requested to fill them out. There was no time limit for filling the questionnaires, but approximately 45 minutes were taken. Subsequently, test booklets were collected and scoring was done as per the manual.

SAMPLE FOR PSYCHOLOGICAL INTERVENTION

14 Subjects (9 males and 5 females) suffering from Bell’s Palsy were identified as having low Resilience on the bases of median scores obtained by Bharathiar University Resilience Scale (Burs) Form A. The researchers also ensured that scores on Metacognitive Thinking were low or average. The selected subjects were suffering from Bell’s Palsy since past 1 year with severity more than 50% and above; between the age range of 20- 45 years.

Flow Chart for Sample for Intervention on the bases of Median for those who scored low on Resilience



RESEARCH DESIGN AND STATISTICAL ANALYSES

‘Pre-Test and Post-Test’ research design was used and ‘Wilcoxon Sign Ranked (Z) Test’ was applied to study the effectiveness of Psychological intervention.



Table-1: Wilcoxon Signed Rank Test for Metacognitive Thinking among Low Resilience Bell’s Palsy Subjects

	N	MetacognitiveThinking		Z	Level of significance
		Mean	SD		
Pre-Test	14	236.71	4.216	3.237	0.01
Post-Test	14	245.28	6.254		

The calculated $Z = 3.237$ was found to be significant at 0.01 level. This suggested that formulated hypothesis stating that, “There would be a positive effect of Psychological intervention using MBSR Technique on Metacognitive Thinking among low Resilience Bell’s Palsy subjects” is accepted. This implies that the difference between the means of Pre-Test (Mean=236.71) and Post-Test (Mean= 245.28) on Metacognitive Thinking was found significant and cannot be attributed to chance factors. The difference between Pre-Test and Post-Test in Metacognitive Thinking clearly indicates that mean scores of subjects in Post-Test increased after the intervention was given. In this reference Garland (2007) conducted a research stating that Stress-related illness presents an ever-increasing burden to society and thus has become the target of numerous complementary and integrative medicine interventions. Mindfulness meditation have potential efficacy in reducing stress and improving health outcomes. The therapeutic mechanisms of mindfulness contribute to stress, metacognition, and coping. Additional, Sarita (2017) proposed that mindfulness plays an important role in improving meta-cognitive skills. In her view mindfulness is an optimally receptive state for new learning and experience by enhancing the likelihood for appropriate metacognitive skills for implementation. Mindfulness is the best technique for treating physical and Psychological difficulties. Mindfulness contributes to consciousness; promote wellbeing by using meta-cognitive skills by changing emotion, health and illness. A mindful individual maintains unique adjustment with own thoughts to view them impartially. Mindfulness helps individual to improve cognitive flexibility which include meta-cognitive insight. Thus, these studies are in line with the acceptance of the hypothesis which stated that, there is a positive effect of Psychological intervention using MBSR Technique on Metacognitive Thinking among low resilience Bell’s palsy subjects.

IMPLICATIONS OF THE STUDY

The study on “Enhancing Metacognitive Thinking of Bell’s Palsy Subjects with Mindfulness Based Stress Reduction (MBSR) Technique: An Intervention Study” for many angles the following points in the form of conclusion and implication are listed below.

- Mindfulness practices, as employed in MBSR, can contribute to enhancing self-regulation, self-awareness, self-monitoring and self-control among Bell's palsy subjects. This, in turn, can promote resilience and aid in achieving optimal recovery and well-being.
- MBSR's potential to calm the mind and enhance various cognitive functions, such as memory, attention regulation, cognitive functioning, abstract reasoning, and mental flexibility, can positively impact the mental health of Bell's Palsy patients.
- MBSR can serve as a powerful complementary tool alongside medications, psychotherapy, behavioral therapy, self-monitoring procedures, stimulus control procedures, and cognitive therapies in the treatment of Bell's palsy. Integrating mindfulness practices can enhance the overall effectiveness of the treatment program.
- By addressing psychological and emotional issues, the study implies that patients with Bell's palsy can live a more normal and healthy life while also maintaining good mental health. This can lead to better coping with the challenges of the condition and overall improved quality of life.
- Offering mindfulness-based interventions like MBSR to Bell's palsy subjects can provide them with psychological support and coping mechanisms to deal with the emotional impact of the condition.
- The potential benefits of MBSR on cognitive functions can have broader implications for individuals with Bell's palsy, as it may improve their ability to think, reason, and engage in abstract thought.
- The study suggests that treatment programs for Bell's palsy should diversify their approach, considering both the physical and psychological aspects. This could lead to more personalized and effective treatment plans.



CONCLUSION

The study reveals that psychological intervention using Mindfulness Based Stress Reduction (MBSR) Technique is an effective technique to enhance Metacognitive Thinking among low Resilience Bell's Palsy subjects. Hence, MBSR technique will be also effective to develop positivity in patients with psychological illnesses and chronic illnesses.

LIMITATIONS AND SUGGESTIONS

Every research is limited and has a scope for further improvement; therefore, a few suggestive measures are proposed to upgrade the present research for future research endeavors-

- The study was conducted only on unilateral Bell's palsy subjects. It is suggested that further research can be conducted on bi-lateral Bell's palsy subjects as well.
- The study was conducted on limited sample of 14 Bell's palsy subjects only. It is suggested that further research can be conducted on a larger sample.
- The study has not been done on below twenty and above forty five years of age group. So results cannot be generalized on all age groups. It is suggested that in future other age groups can be also included.

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