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Effect of Home-made curd on Quality of Life of patients with mixed anxiety and depression

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Abstract

The study investigated the impact of home-made curd on the quality of life (QoL) among individuals with Mixed Anxiety and Depression (MAD) in India. Seventy-five participants, aged 18-55, with a primary diagnosis of MAD were selected. Participants were randomly assigned to one of three groups: Group 1 received escitalopram 10 mg (pharmacotherapy), Group 2 received escitalopram 10 mg along with brief cognitive-behavioral therapy (CBT) of 8 sessions (conventional therapy), and Group 3 received escitalopram 10 mg, CBT, and regular consumption of 100 grams of homemade curd (integrative therapy). Quality of life was assessed using the Quality-of-Life Scale before and after the interventions. Statistical analyses were conducted using non-parametric tests (Man Whitney U test and Kruskal Wallis test) due to the small sample size. Results indicated significant improvements in QoL were observed after treatment in all three groups. Integrative therapy showed the most significant improvement, followed by conventional therapy and pharmacotherapy alone. These findings suggest that integrative therapy, which combines pharmacotherapy, CBT, and dietary intervention with probiotics, may offer the most comprehensive approach to improving QoL in individuals with MAD. Research evidence supported the effectiveness of all three treatment approaches in enhancing QoL, with integrative therapy ie., conventional therapy along with home-made curd, showing the most promising results. Further research is warranted to explore the specific mechanisms underlying these interventions and their long-term effects on QoL in individuals with MAD.

Keywords

Mixed Anxiety and Depression, Home made curd, Quality of life, Mental health, Gut brain axis.

Introduction:

Mental health is a critical component of overall well-being, influencing an individual's cognitive, emotional, and social functioning. Among the myriad of mental health disorders, Mixed Anxiety and Depression (MAD) present a unique and challenging landscape. Defined by the coexistence of symptoms traditionally associated with both anxiety and depression, MAD often leads to substantial impairments in daily functioning and a diminished quality of life. This complex interplay of symptoms warrants focused attention, particularly in the context of India, where mental health remains a growing concern. is a mental health condition characterized by the simultaneous presence of symptoms associated with both anxiety and depression. Individuals experiencing MAD often grapple with a unique combination of emotional and cognitive challenges, making the assessment of anxiety, depression, and stress levels a multifaceted endeavour. The quality of life of individuals with Mixed Anxiety and Depression (MAD) is significantly affected by the interplay of symptoms associated with both anxiety and depression. Quality of life, in the context of mental health, encompasses various aspects of an individual's well-being, including physical health, psychological health, social relationships, and overall life satisfaction. The impact of curd (also known as yogurt) on mental health is an interesting area of study that involves the interaction between diet, gut health, and mental well-being. Curd is a natural source of probiotics, which are beneficial bacteria that contribute to a healthy gut microbiome. There is increasing evidence supporting the connection between the gut and the brain, known as the gut-brain axis. Probiotics in curd may have a role in influencing the gut-brain communication, impacting mood and emotional well-being. The assessment and management of anxiety, depression, and stress levels typically involve a combination of therapeutic interventions, including psychotherapy, pharmacotherapy, and lifestyle modifications. Tailoring treatment approaches to address the unique presentation of MAD in each individual is crucial for effective and holistic management.

Materials and Methods:

Objective: To find out if there is any difference among patients with mixed anxiety depression who have undergone either, Psycho-pharmacotherapy, conventional therapy or integrative therapy, with respect to level of Quality of life: after therapeutic intervention. 75 Participants having primary diagnosis of mixed anxiety and depression (as per ICD 10); age range: 18-55; non-vegetarian; ability to read and comprehend Bengali or English were selected. Participants having any other co-morbidity (mental or physical Disorders), taking any medicines on a regular basis, undergoing any psychotherapy, vegetarian, having Yogurt allergy, consuming curd regularly, consuming any pre or probiotic supplements were excluded from the study. Simple Randomization (using random number table) sampling technique is used to ensure that each patient has an equal chance of receiving any of the treatments under study, generate comparable intervention groups, which are alike in all the important aspects except for the intervention each groups receives. At first consent was taken from each participant. Participants were given a standard diet plan (as per registered dictation). Standardized tool (The Quality-of-Life Scale, by Burckhardt, C. S., & Anderson, K. L., 2003) [1]. was administered in a predetermined sequence. After 3 months of intervention (only medicine i.e., escitalopram 10 mg to group1; Medicine, brief cognitive behaviour therapy of 8 sessions to group 2; medicine, cognitive behaviour therapy and regular consumption of 100 grams homemade curd to group

3), a post test measures were recorded to understand role of integrated therapy on Quality of life. Data was analysed using Statistical Package for Social Sciences (SPSS 20.0). Shapiro-Wilk test was used to test normality of the data and the data was mostly found to be not normally distributed. Non-parametric statistical measures like the Wilcoxon signed-rank test and Kruskal-Wallis Test were used owing to small sample size to measure between-group and within-group differences at pre and post-intervention. All tests were two-tailed. Results that were significant at 0.01 levels and 0.05 levels have also been specified. Numerical values with decimal points have been rounded off to the nearest two decimal places and percentages have been rounded off to the nearest whole number.

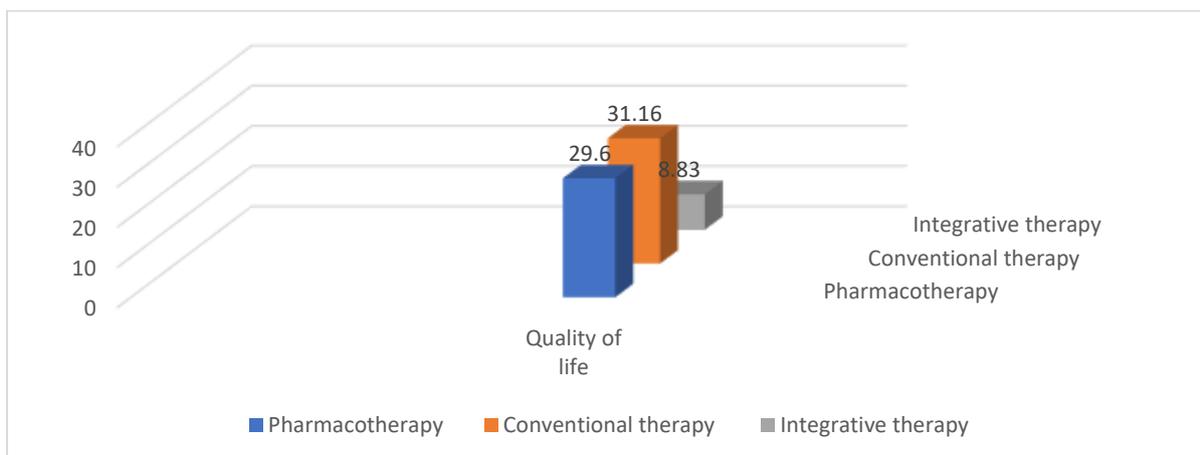
Results:

Table 1: showing result of_Kruskal–Wallis test of Quality of life for three treatment groups (pre-treatment condition)

variables	N	df	P value	Significant level
QoL	75	2	.419	.73

It is seen in table no. 1 that Kruskal- Wallis test is not significant, indicating no significant difference is there in levels Quality of life among three treatment group, in pre-treatment conditions.

Graphical representation of result of_Kruskal–Wallis test of Depression, Anxiety, Stress, Quality of life and GAF for three treatment groups (pre-treatment condition) – Graph 1



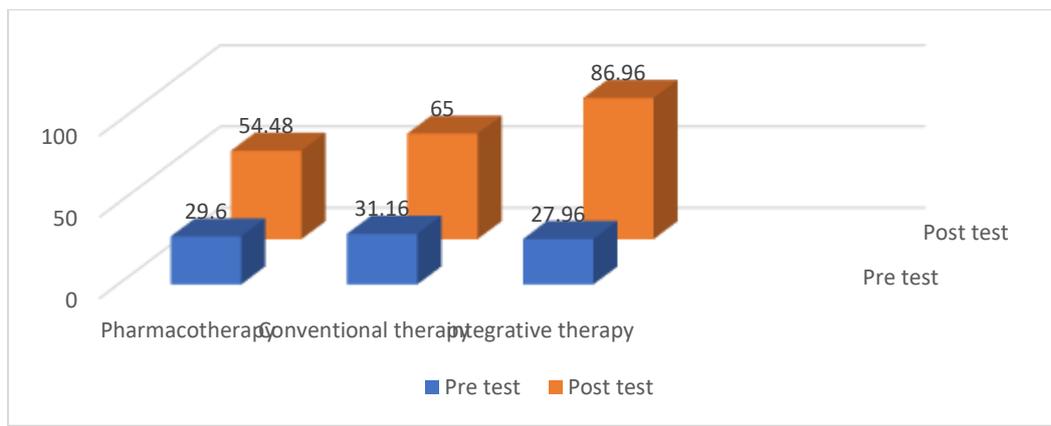
Graph 1: result of_Kruskal–Wallis test of Depression, Anxiety, Stress, Quality of life and GAF for three treatment groups (pre-treatment condition)

Table 2: Showing the scores on WILCOXON test on Quality of Life for three treatment groups (comparison between pre- post treatment condition)

TREATMENT GROUPS	N	z value	Level of Significance
Pharmacotherapy	25	4.285	.000**
Conventional therapy	25	4.375	.000**
Integrative therapy	25	4.372	.000**

Table no. 2 showing the result on WILCOXON test on Quality of life for three treatment groups (comparison between pre- post treatment condition) reveals that there is a significant change in level of quality of life after treatments.

Graphical representation of result on WILCOXON test on Quality of Life for three treatment groups (comparison between pre- post treatment condition) – Graph 2



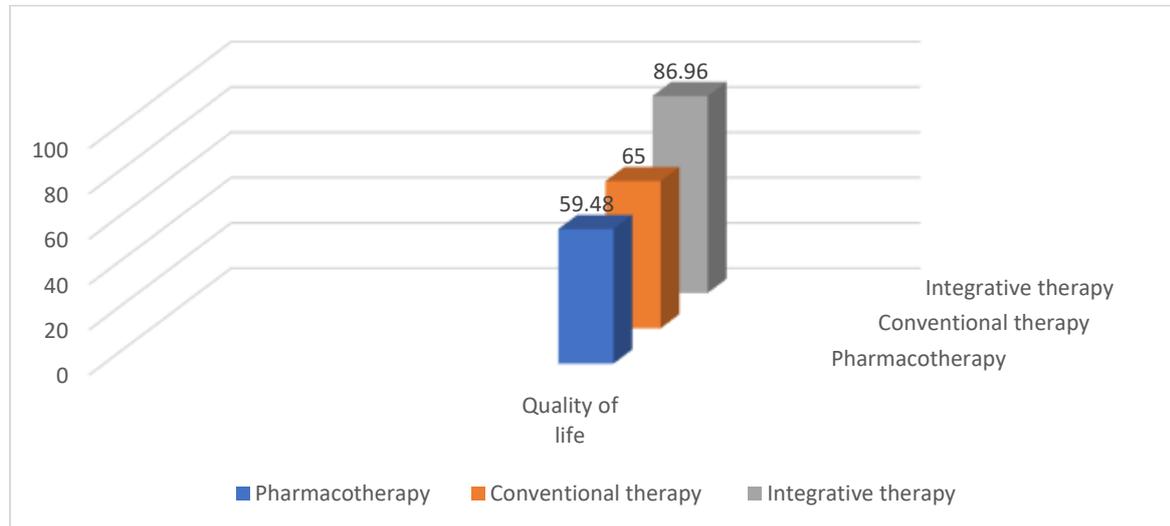
Graph 2: result on WILCOXON test on Quality of Life for three treatment groups (comparison between pre- post treatment condition)

Table 3: showing result of Kruskal–Wallis test of Quality of life for three treatment groups (post-treatment condition)

variables	N	df	P value	Significant level
QoL	75	2	52.133	.000**

Table no. 3 shows the result of Kruskal–Wallis test of Quality of life and GAF for three treatment groups in post-treatment condition, which indicated after treatment there is significant change in levels of Quality of life.

Graphical representation of Kruskal–Wallis test of Quality of life for three treatment groups (post-treatment condition) – Graph 3



Graph 3: Kruskal–Wallis test of Quality of life for three treatment groups (post-treatment condition)

- Discussion

Table number 1 shows no significant difference is the levels of Quality of life among three treatment group, in pre-treatment conditions (psychopharmacotherapy, conventional therapy, and integrative therapy). This outcome implies that, at baseline, participants across all three treatment groups were similar in terms of their levels of quality of life. Several research findings and theoretical considerations support this result. Firstly, prior studies have demonstrated that randomization and careful screening processes in clinical trials can lead to balanced baseline characteristics among treatment groups. This ensures that any observed differences in outcomes after treatment are likely due to the interventions themselves rather than pre-existing disparities among participants. Additionally, it's known that factors such as participant demographics, illness severity, and comorbidities can influence baseline measurements in clinical trials. However, effective randomization techniques can mitigate these potential biases, leading to comparable baseline characteristics among treatment groups. Overall, the non-significant findings of the Kruskal-Wallis test in pre-treatment conditions underscore the methodological rigor of the study, supporting the validity and reliability of subsequent comparisons of treatment outcomes among the three intervention groups.

Table no. 2 showing the result on Quality of life for three treatment groups (comparison between pre- post treatment condition) reveals that there is a significant change in level of quality of life after treatments. Quality of life improves after treatments. Let's examine the

impact of each treatment group—psychopharmacotherapy, conventional therapy, and integrative therapy—on quality of life and review the research evidence supporting their effectiveness in improving this important outcome. Psychopharmacotherapy (Escitalopram 10 mg): Psychopharmacotherapy with escitalopram aims to alleviate symptoms of depression and anxiety, which can significantly impact an individual's quality of life. By targeting mood symptoms, SSRIs like escitalopram may improve various aspects of daily functioning and overall well-being. Research evidence: Studies have shown that psychopharmacotherapy with SSRIs can lead to improvements in quality of life. For example, a meta-analysis by Fava et al. (2001) [2] found that SSRIs were associated with significant improvements in quality-of-life measures in patients with major depressive disorder. Additionally, escitalopram has been shown to improve quality of life in individuals with anxiety disorders, as evidenced by clinical trials and real-world studies. Conventional Therapy (Escitalopram 10 mg and CBT): Conventional therapy combining medication with cognitive-behavioral therapy (CBT) aims to address both symptom reduction and functional impairment, ultimately enhancing overall quality of life. CBT helps individuals develop coping skills, improve problem-solving abilities, and enhance satisfaction in various life domains. Research evidence: The combination of medication and CBT has demonstrated efficacy in improving quality of life outcomes. A study by Kessler et al. (2014) found that the combination of antidepressant medication (including SSRIs) and psychotherapy was associated with greater improvements in quality of life compared to either treatment alone in patients with depression. Similarly, combining escitalopram with CBT has been shown to enhance quality of life in individuals with anxiety disorders. Integrative Therapy (Escitalopram 10 mg, CBT, and Probiotic Diet): Integrative therapy combines multiple treatment modalities to address mental health and well-being from various perspectives. The addition of a probiotic diet in this approach aims to target gut health, which emerging research suggests may impact mood, cognition, and overall quality of life. Research evidence: While specific studies examining the combination of escitalopram, CBT, and a probiotic diet on quality-of-life measures may be limited, there is growing interest in the role of gut health in mental well-being. Some studies have suggested that probiotics may improve overall quality of life by reducing symptoms of depression and anxiety, as well as enhancing cognitive function. For instance, a systematic review by Wallace and Milev (2017) [3] found that probiotics were associated with improvements in mood and quality of life measures in individuals with mood disorders. Research evidence supports the effectiveness of all three treatment approaches—psychopharmacotherapy with escitalopram, conventional therapy combining escitalopram and CBT, and integrative therapy incorporating escitalopram, CBT, and a probiotic diet—in improving quality of life. Each approach targets quality of life through different mechanisms, providing individuals with diverse options for enhancing their overall well-being. However, further research is needed to fully understand the specific effects and mechanisms of integrative therapies like the addition of a probiotic diet on quality-of-life outcomes.

Table no. 3 shows the result of Depression, Anxiety, Stress, Quality of life and GAF for three treatment groups in post-treatment condition, which indicated after treatment there is significant change in levels of Depression, Anxiety, Stress, Quality of life and GAF. Most effective intervention being integrative therapy then conventional therapy, followed by

psychopharmacotherapy. let's delve into each treatment group and their effectiveness in addressing depression, anxiety, stress, quality of life, and Global Assessment of Functioning (GAF), supported by research evidence. Psychopharmacotherapy (Escitalopram 10 mg): Psychopharmacotherapy involves the use of medication alone, in this case, escitalopram, to manage depression and anxiety. While SSRIs are effective in treating mood disorders, they may lack the comprehensive approach of therapy in addressing cognitive and behavioral factors. A meta-analysis by Cipriani et al. (2009) demonstrated the efficacy of SSRIs, including escitalopram, in treating depression. However, a study by Turner et al. (2008) [4] suggested that the effect size of antidepressants may be overestimated due to publication bias. Conventional Therapy (Escitalopram 10 mg and CBT): Conventional therapy combines pharmacotherapy with CBT, which is a standard treatment approach for depression and anxiety. Escitalopram targets serotonin reuptake, while CBT addresses maladaptive thought patterns and behaviors. A meta-analysis by Cuijpers et al. (2013) [5] concluded that the combination of SSRIs and CBT is more effective in treating depression than either treatment alone. A study by Hofmann et al. (2012) [6] highlighted the efficacy of CBT in reducing symptoms of anxiety disorders. Integrative therapy appears to be the most effective due to its comprehensive approach, targeting both psychological and physiological factors. Integrative Therapy (Escitalopram 10 mg, CBT, and Probiotic Diet): Integrative therapy combines pharmacotherapy, cognitive-behavioral therapy (CBT), and dietary intervention with probiotics. This approach addresses both psychological and physiological aspects of depression and anxiety. Escitalopram, a selective serotonin reuptake inhibitor (SSRI), targets neurotransmitter imbalances implicated in mood disorders. CBT equips patients with coping skills to manage negative thoughts and behaviors, addressing the cognitive aspect or thought patterns of anxiety and depression. The probiotic diet focuses on gut health, as emerging research suggests a bidirectional relationship between the gut microbiome and mental health. A meta-analysis by Hofmann et al. (2012) [6] found that CBT is effective in treating various anxiety disorders. In a study by Macedo et al. (2017) [7], probiotic supplementation was associated with reduced depressive symptoms, possibly via the gut-brain axis. A systematic review by Cipriani et al. (2009) [8] demonstrated the efficacy of SSRIs, including escitalopram, in treating depression.

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