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EFFECT OF FASTING ON QUALITY OF LIFE AMONG YOUNG ADULTS

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ABSTRACT

Background: Fasting, defined as voluntary abstinence from food for a specific duration, has long been practiced for health and spiritual purposes. Recent studies indicate that fasting may positively influence physiological and psychological well-being. **Objective:** To evaluate the effect of a 10-days fasting intervention on the quality of life (QOL) among young adults. **Methods:** A comparative study was conducted among 65 participants aged 18–30 years. Participants underwent a 10-days fasting intervention with lemon-honey juice intake four times daily. Quality of life was assessed before and after the intervention using the McGill Quality of Life Questionnaire (MQOL). **Results:** Improvement was observed in overall QOL scores and several subscales after the fasting intervention. **Conclusion:** A short-term fasting intervention may contribute to improvements in physical and psychological aspects of quality of life among young adults.

KEYWORDS: Fasting, Quality of Life, Intermittent fasting, Lifestyle intervention.

INTRODUCTION

Fasting is the voluntary abstinence from food, drink, or both for a specific period. The term originates from Old English *'Feastan'* (to fast, observe, be strict), while in Sanskrit *'Vrath'* means determination and *'Upavasa'* means being close to God. Fasting may be total or

partial and either prolonged or intermittent.[1] It is an important method for health preservation, requiring mental preparedness as a key precondition.[2]

The duration of fasting depends on age, disease condition, and prior medication. Short fasts may be gradually extended. Fasting is safe under proper supervision with adequate rest. It may involve water, fruit juices, or vegetable juices, with lime juice considered effective. During fasting, the body eliminates accumulated toxins, supported by alkaline fluids. Proper bowel evacuation (e.g., enema) and adequate fluid intake (6–8 glasses daily) are essential. Rest is crucial as energy is used for detoxification.

Breaking the fast should be gradual, avoiding overeating and ensuring proper chewing.[3] Fasting has long been recommended therapeutically across cultures. It aids detoxification, provides physical and mental rest, strengthens immunity, improves organ function, and promotes mental tranquility.[4]

Quality of Life (QOL) refers to an individual's perception of well-being, including physical, psychological, social, and environmental aspects.[5,6,7] Health-related QOL (HRQOL) focuses specifically on health status.[5,6,8] According to WHO, QOL is an individual's perception of their position in life within their cultural and value systems,[9] influenced by physical, psychological, and social responses to disease.[10] Chronic diseases, stress, depression, fatigue, and sleep disturbances can reduce QOL,[11,12] while psychological factors often have a greater impact than biomedical ones,[13]

Medical conditions like diabetes significantly affect QOL due to physical and emotional demands.[14,15] HRQOL measures symptoms and functioning, whereas overall QOL includes broader life aspects such as values and relationships.[16–18] Disease-specific QOL focuses on disease impact and treatment sensitivity.[19,20] HRQOL is multidimensional, covering physical, psychological, and social functioning,[7,8] assessed using generic and disease-specific tools.[5,21]

Obesity negatively affects health, productivity, and QOL,[22,23] while weight loss can improve HRQOL, though results vary.[25,26] Caloric restriction (CR) has shown benefits in lifespan and health markers, though its long-term human effects remain uncertain.[27] Obesity contributes to type 2 diabetes through metabolic dysfunction,[28] while intermittent fasting aids weight loss, reduces cardiovascular risk, and prevents disease progression.[29,30]

Fasting has been practiced in religious traditions such as the Daniel fast and Ramadan. It reduces inflammation, improves glucose and lipid levels, and lowers blood pressure.[34–38] It also enhances metabolic efficiency, reduces oxidative stress, and provides cardiovascular protection,[39–41] partly through adipokine regulation such as adiponectin.[42–44]

Intermittent fasting improves nervous system health by reducing oxidative damage, enhancing neurotrophic factors, and promoting neurogenesis.[45–47] It prevents and reverses metabolic syndrome in animal models by improving insulin sensitivity and reducing inflammation and fat accumulation,[48–50] and also protects against diabetes-related hyperglycemia and organ damage.[51–53]

Fasting regulates hormones by lowering insulin and leptin while increasing adiponectin and ghrelin, thereby improving metabolic balance.[54] Clinical studies show improvements in metabolic parameters, body composition, mood, and QOL following fasting interventions.[55] Benefits have also been observed in conditions like multiple sclerosis, asthma, and obesity, with reductions in inflammation, oxidative stress, and improved psychological well-being.[56–59]

Fasting induces cellular mechanisms such as autophagy, ketogenesis, and inhibition of mTOR, contributing to anti-aging effects.[60] Studies show improvements in weight, insulin sensitivity, and disease biomarkers, with neuroprotective benefits enhancing memory and slowing neurodegeneration.[61] Caloric restriction improves metabolic and physiological health markers,[62] while fasting promotes fat utilization and cellular repair, reducing cardiovascular risk.[63–66]

Fasting has also been associated with improved cardiovascular and metabolic profiles.[67,68] Studies in diabetic patients during Ramadan show improved HRQOL among those who fasted.[69] In multiple sclerosis patients, fasting and ketogenic diets improved QOL and lipid profiles.[70] Additionally, fasting during chemotherapy has been associated with reduced treatment-related side effects such as nausea, fatigue, and gastrointestinal symptoms, without increasing toxicity.[71]

MATERIALS AND METHODS

Study Design

A comparative pre- and post-intervention study design was used to evaluate the effect of fasting on quality of life.

Participants

A total of 65 participants aged between 18 and 30 years were recruited from students of SDM College of Naturopathy and Yogic Sciences, Ujire.

Inclusion Criteria

• Students aged 18–30 years

• Both male and female participants

• Individuals willing to undergo fasting for 10 days.

Exclusion Criteria

• Individuals below 18 years or above 30 years

• Subjects with generalized debility or severe illness.

Intervention

Participants underwent a 10-day fasting intervention. During the fasting period, participants consumed 250 ml of lemon-honey juice at four time intervals daily (7:30 am, 11:00 am, 2:30 pm, and 6:30 pm).

Assessment Tool

Quality of life was assessed using the McGill Quality of Life Questionnaire (MQOL), which measures four domains, each item is scored from 0 (worst) to 10 (best).

1. physical symptoms
2. physical well-being
3. psychological well-being, and
4. Existential well-being.

Statistical Analysis

Data were analyzed using appropriate statistical tests to compare pre- and post-intervention scores. Statistical significance was considered at $\mathbf{p < 0.05}$.

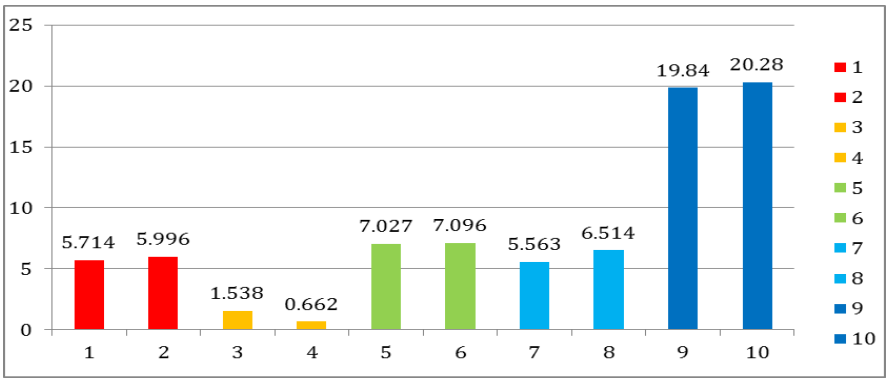
Figure 1: Flow diagram of study design.

RESULTS

The results demonstrated improvement in overall quality of life following the 10-day fasting intervention.

Table 1: Comparison of Pre- and Post-Intervention Quality of Life Scores.

Subscale	Mean Pre-Test	Mean Post-Test	P Value
Physical Symptoms	5.71	5.99	0.226
Physical Well-being	1.53	0.66	0.005
Psychological Well-being	7.02	7.09	0.734
Existential Well-being	5.56	6.51	3.11
Overall QOL	19.84	20.28	0.118



1. Physical symptoms pre 2.Physical symptoms post 9. Overall quality of life pre

3. Physical well being pre 4.Physical well being post 10.overall quality of life post

5. Psychological pre 6.Psychological post

7. Existential pre 8.Existential post

The results showed improvement in overall quality of life scores after the fasting intervention. Significant improvement was observed in the **physical well-being domain**, while **existential well-being** also showed notable improvement. Psychological well-being demonstrated mild improvement, although it was not statistically significant.

DISCUSSION

Diet and reproductive health are closely interrelated. Overweight and obesity in early adulthood increase the risk of menstrual irregularities, hypertension during pregnancy, and subfertility[72] Polycystic ovary syndrome (PCOS) is one of the most common endocrine disorders among women and may present with symptoms ranging from mild menstrual disturbances to severe reproductive and metabolic dysfunction.[73] Recent evidence suggests that fasting can reduce chronic sympathetic overactivity in women with PCOS, which may lower stress-related neurohormone levels and improve overall physical and mental well-being.[74]

Musculoskeletal disorders are another major health concern affecting millions of individuals worldwide. These conditions are a leading cause of chronic pain, disability, and reduced quality of life and may also influence the psychosocial well-being of affected individuals and their families.[75] Musculoskeletal diseases vary from short-term conditions to chronic disorders such as osteoarthritis, rheumatoid arthritis (RA), osteoporosis, and low back pain. The prevalence of many of these disorders increases with age.[76] Research suggests that fasting may influence parathyroid hormone secretion, which plays a key role in calcium and phosphate metabolism and bone remodeling, thereby contributing to improved bone health.[77] In patients with RA, fasting has been reported to reduce food intolerance, decrease gastrointestinal permeability, and lower the production of inflammatory mediators such as cytokines, prostaglandins, and leukotrienes.[78] Studies also indicate that fasting for 7–10 days can reduce pain, stiffness, and dependency on analgesics in RA patients.[79] These findings suggest that fasting may help reduce inflammation, which is a major contributing factor in many musculoskeletal disorders. Osteoporosis and fracture risk remain significant public health concerns, particularly in aging populations.[80] Calorie restriction, a form of fasting, has been proposed to slow the progression of age-related diseases including cardiovascular disease, cancer, obesity, Alzheimer's disease, and osteoporosis.[81] Additionally, fasting may promote weight loss and reduction in body mass index, thereby decreasing the risk of fractures and related comorbidities.[82] Mental health symptoms are also common during the menopausal transition, with approximately 80–85% of women experiencing symptoms such as hot flashes, anxiety, irritability, and mood disturbances.[83] Several studies report that fasting can improve mental well-being by enhancing self-esteem, reducing anxiety and depressive symptoms, and improving mood and social functioning.[84,85] Neurobiological

mechanisms such as changes in neurotransmitters, improved sleep, and increased neurotrophic factors may explain these positive effects.[86]

Limitations

• Small sample size

• Short duration of intervention

• Lack of objective biochemical parameters

CONCLUSION

The present study evaluated the effect of a 10-day fasting intervention on quality of life among young adults. The results demonstrated improvements in several QOL domains, particularly physical and existential well-being. Fasting may promote metabolic balance, reduce inflammation, and enhance psychological health, thereby improving overall quality of life.

Short-term fasting interventions may therefore be considered a supportive lifestyle strategy for health promotion and disease prevention. However, larger controlled studies with longer follow-up periods are required to further validate these findings.

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