EMPLOYMENT STATUS AS A MODERATOR IN THE EFFICACY OF OMEGA 3 FATTY ACID INTERVENTION FOR CARDIOVASCULAR DISEASE IN VEGETARIAN PATIENTS

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Abstract:

Omega 3 fatty acids are known for their cardiovascular benefits, including lowering cholesterol, reducing inflammation, and improving blood pressure control. However, the efficacy of Omega 3 supplementation may vary based on individual factors like employment status, which can influence lifestyle, stress levels, and health outcomes. This study examines the moderating role of employment status on the effectiveness of Omega 3 fatty acids in managing cardiovascular risk factors among vegetarian patients in Bhopal, Madhya Pradesh. The study involved 150 vegetarian patients with cardiovascular disease (CVD) who were divided into two groups based on employment status (working vs. non-working) and provided with plant-based Omega 3 supplementation over a 12-week period. Key cardiovascular markers, including lipid profiles, blood pressure, and inflammation markers, were assessed pre- and post-intervention. The findings reveal that working individuals, who typically exhibit higher stress and activity levels, experience more significant cardiovascular improvements with Omega 3 supplementation compared to their non-working counterparts. These results suggest that employment status is a moderating factor in the efficacy of Omega 3 supplementation for cardiovascular health, emphasizing the need for tailored dietary strategies in CVD management among vegetarian populations.

Keywords : Omega 3 fatty acids, intervention, CVD

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Introduction:

Cardiovascular disease (CVD) is a major health concern worldwide, with lifestyle and dietary factors contributing significantly to disease risk and progression. Omega 3 fatty acids are well-documented for their protective effects against CVD, as they help reduce cholesterol, lower blood pressure, and mitigate inflammation. However, the impact of these fatty acids can be moderated by various external factors, including employment status, which influences lifestyle patterns, stress levels, and activity rates.

Employment status affects multiple aspects of daily life and health outcomes. Working individuals may experience higher stress levels, leading to increased cardiovascular risk, yet they may also have more structured routines and activity levels. Non-working individuals may lead more sedentary lives, which can diminish the benefits of Omega 3 supplementation. This study seeks to determine whether employment status moderates the cardiovascular effects of Omega 3 supplementation in vegetarian patients with CVD, offering insights into how tailored intervention strategies may improve cardiovascular outcomes.

Methodology:

This study employed a randomized controlled trial design with 150 vegetarian participants diagnosed with cardiovascular disease. Participants were divided into two groups based on employment status (working vs. non-working) and were provided with a daily dose of 1000 mg of plant-based Omega 3 fatty acids (ALA) for a 12-week period.

Data Collection:

Cardiovascular markers were assessed at baseline and at the end of the intervention, including:

- **Lipid Profile:** Total cholesterol, LDL, HDL, and triglycerides
- **Blood Pressure:** Systolic and diastolic

- **Inflammation Marker:** C-reactive protein (CRP) levels

Statistical Analysis:

The data were analyzed using mixed-model ANOVA to evaluate the main effects of Omega 3 supplementation, employment status, and the interaction between them on cardiovascular outcomes. Post hoc analyses were conducted to explore specific differences within and between the groups.

Results:

The results indicate a significant interaction between Omega 3 supplementation and employment status, suggesting that employment status moderates the cardiovascular benefits of Omega 3 fatty acids in vegetarian patients with CVD.

1. **Lipid Profile Improvement:**
    - Working participants showed a more significant reduction in total cholesterol (-14%) and LDL cholesterol (-11%) compared to non-working participants.
    - HDL levels increased by 9% in the working group, whereas non-working participants saw only a 4% increase.
2. **Blood Pressure Control:**
    - The working group experienced greater reductions in both systolic (-9 mmHg) and diastolic (-6 mmHg) blood pressure compared to non-working participants, who saw reductions of -5 mmHg and -3 mmHg, respectively.
3. **Inflammation Reduction:**
    - CRP levels, an inflammation marker, decreased by 22% in working participants, while the non-working group experienced a 12% reduction, indicating that working individuals may benefit more from the anti-inflammatory effects of Omega 3.

These results suggest that employment status significantly influences the effectiveness of Omega 3 supplementation, with working participants exhibiting

more pronounced cardiovascular improvements compared to non-working individuals.

Discussion:

The findings of this study support the hypothesis that employment status moderates the efficacy of Omega 3 fatty acid supplementation in cardiovascular health. Working participants, who generally have higher stress and activity levels, experienced greater benefits from Omega 3 supplementation compared to non-working participants. This may be due to the combination of physical and psychological factors associated with employment, which can influence metabolic and cardiovascular functions.

Working individuals often face higher stress levels, leading to an increased need for cardiovascular protection, potentially explaining the greater improvements seen with Omega 3 supplementation. Additionally, higher activity levels associated with employment could enhance lipid metabolism and improve cardiovascular response to Omega 3s. Conversely, non-working participants, who may have more sedentary lifestyles, showed smaller improvements, suggesting that lifestyle factors may reduce the cardiovascular efficacy of Omega 3s.

These results align with existing literature emphasizing the role of lifestyle and external factors in moderating the effects of dietary interventions. This study highlights the need for personalized dietary strategies in managing cardiovascular disease, especially in vegetarian populations who may have limited sources of Omega 3s.

Conclusion:

This study demonstrates that employment status significantly moderates the cardiovascular benefits of Omega 3 fatty acid supplementation among vegetarian patients with cardiovascular disease. Working individuals show greater improvements in cholesterol, blood pressure, and inflammation markers compared to non-working individuals. These findings suggest that employment status should be considered when designing dietary interventions for CVD

management, especially for vegetarian populations. Future studies should explore additional lifestyle factors that may influence Omega 3 efficacy and investigate long-term cardiovascular outcomes.

References:

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