

The Impact of Lifestyle Changes on Polycystic Ovarian Syndrome or PCOS Management

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Abstract

Introduction

Polycystic Ovarian Syndrome or PCOS is a complex endocrinal disorder which affects a large scale of women with reproductive age. It is also distinguishing by hormonal imbalances, some irregular menstrual cycles, insulin resistance, other polycystic ovaries and associated with metabolic complications.

Aim

This study aims to access the efficacy of lifestyle interfere which includes dietary changes, some physical activity, severe stress management and weight control in management of PCOS symptoms and also improves its overall health outcomes.

Method

A comprehensive study of recent clinical studies, some systematic study, and meta-analysis which was conducted to evaluate the impact of lifestyle and its modifications on hormonal and metabolic framework in women with PCOS.

Results

Findings consistently designate that even unpretentious lifestyle changes, which includes 5–10% of weight reduction, which can lead to the significant development. These causes include repairing of regular ovulatory cycles which enhance the sensitivity of insulin, reduced androgen levels, also improved lipid profiles and other better mental health.

Conclusion

Lifestyle modification is a key-stone in the management of PCOS. Alternative theory approaches were not only inducing physical symptoms but it also supports emotional well-being. In compromise it's lifestyle interfere and a first-line treatment which can significantly enhanced out the reproductive, metabolically, and other psychological outcomes, which offers a sustainable and exhaustive approach to managing PCOS.

Keywords: physiological outcomes, insulin, mental distress.

Introduction

Polycystic Ovarian Syndrome or PCOS is a prevalent and multifarious endocrine disorder which affects approximately 7–13% of women's reproductive age [1]. It is also characterized by a wide range of symptoms includes non-uniform menstrual cycles, hirsute, acne, infertile nature and significant metabolic disturbances which include insulin resistance, obesity, and high cholesterol level. The etiology of PCOS is more complex, which involves an inter-display of genetic, environmental and other lifestyle factors [2]. These factors contribute to the hormonal imbalances which is particularly uplifted androgens and insulin which helps to drive its attribute symptoms and associated with health risks [3]. Standardized treatment options, which includes hormonal contraception and insulin and its softening agents like metformin, which provide some symptomatic relief but it often fails to address out the underlying contributors which effects the health and cause disorders [4]. In previous years, there has been a growing significance on the role of lifestyle factors with both the development and its management of PCOS. Researchers generally show its behavioral changes which

includes dietary improvement, some regular physical activities, weight loss, and other stress management can lead to the considerable improvements in both the reproductive and metabolically framework [5]. A weight reduction of just 6–12% which has been shown to reinstate ovulatory cycles, which reduce androgen levels, and also enhance insulin sensitivity. Various nutritional strategies, which specially emphasizes a lower glycemic index and some balanced macro-nutrients intake, which have indicated efficacy by improving insulin resistance and other lipid profiles [6]. Similarly, some consistent physical activities which helps regulate glucose metabolism and also supports mental health. Stress management techniques, includes consciousness and its analytical behavioral therapy, which have also been shown to improve psychological well fare and it may positively influence out hormonal balancing [7]. These findings suggested that lifestyle moderation which should be regarded as a foundational component of PCOS management. Far from pharmacological interventions, many lifestyle changes are not only address the symptoms but it also targets the roots which causes the disorder [8]. They provide a safe, effects of cost and its sustainable approaches that authorize women to take control with their health. Integrates these interferences into some clinical practice requires a multi-disciplined approaches, patient with education, personalized planning, and its long-term support to ensure its adhesion and its sustained benefits. Moreover, the evidence which emphasize the importance of lifestyle modifications in managing PCOS [9]. As soon as awareness increases, healthcare givers and patients indistinguishable must recognize out the value of holistic approach strategies by improving reproductive, metabolism, and other psychological outcomes, cover the way for a more comprehensive and effective approach to care.

Methodology

This article employs out a narrative study in approach to synthesize some current researches by showing its effects of lifestyle which interferes in managing Polycystic Ovarian Syndrome or PCOS. Further relevant studies were recognized through overarching searches of databases which includes PubMed, Scopus, and Google Scholar, which mainly focused on literature published between 2001 and 2023. Keywords used in this research includes “PCOS,” “further lifestyle modifications,” “exercises,” “dieting,” “weight loss,” and other “management techniques.” This study emphasized group study with articles, some clinical guidelines, and other meta-analysis to ensure out the inclusion rate of high-quality evidences. It is included with studies that had to meet some specific criteria which they must involve the women who diagnosed with PCOS according to the Rotterdam criteria and assess the effects of lifestyle interfere like diet, physical activities, weight losses and overarching programs combined out these elements. They selected out these studies which assess a range of its outcomes, it includes hormonal feature like testosterone and LH/FSH ratios, its metabolic framework like insulin resistance and other body mass index or BMI, the menstrual cycle regulation, and overall quality of its life. The analysis recognized the findings into four major categories like dietary interventions, physical activity, psychological well-being, and combined lifestyles and modification programs. This structure allowed them for a focused evaluation of how each type of lifestyle can independently and comparatively contributes to the symptomatic improvement and its long-term management of PCOS.

Results

Numerous studies have mentioned the crucial role of its lifestyle changes in managing polycystic ovary syndrome or PCOS, which particularly emphasize the weight loss and BMI reductions. Researchers shows that even a modern weight loss of 6-12% can leads to the substantial improvements in PCOS symptoms. This includes the enhanced its menstrual invariability, increased its ovulation rates and it also reduced its androgen levels. Some randomized controlled trial by Moran et al. (2012) reveal that a combined diet and some exercise which forced out the resulted in a 63% increase in ovulation frequently. On similarity basis, a study by Legro et al. (2017) have found that women who lost 8% or more than their body weight which experienced remarkably improved the fertility outcomes. In terms of dietary interferences, many eating patterns have also shown promises to alleviate PCOS symptoms. A low glycaemic index or GI diet have been found its effect by improving

the insulin sensitivity and reduced its androgen levels. Ketogenic and lowers carbohydrate diets which reveal rapid weight loss and decrease its insulin resistance, although it may concern to remain and regarding their long-term renewable system. On the other hand, the Mediterranean diet which is rich in anti-inflammatory foods that has been linked with enhanced metabolically and cardiovascular health care, making it a variable long-term discussion. Physical activities also play a critical role. Regular based exercise, specifically when it combines with aerobic and some resistance trainings, which contributes remarkably to improved insulin sensitivity, decrease its abdominal fat and regulates its menstrual cycle. A 2021 meta-analysis also indicate that 160 minutes of moderate and severe intensity exercise and weekly basis system could lead to better ovulation and its reduced symptoms of depression in the women with PCOS. Some psychological well-fare is another key factor, such as women with PCOS which often face elevation levels of anxiety, depressions, and lower self-esteem. It Integrates stress management techniques like mindfulness, yoga, and cognitive behavioural therapy into several treatment plans which have shown it considerable benefits in mental health and its outcomes. The highly effective and some sustainable approaches, which appears to be combined in lifestyle programs. These integrated interferes and addressing its diet, some physical activities, and other psychological support have indicated the most robust activities. A 2018 study concluded that multi-factor programs which leads to higher refined rates and sustained symptom in relief over a 14-month period which is compared with interventions and focusing on a single aspect.

Table 1: Weight Loss and BMI Reductions

Study/Source	Interventions	Outcomes
Moran et al. (20112)	Diet and Exercise	63% increase in ovulational frequency
Legro et al. (201)	≥8% of Body Weight Reduction	Basic improvement in fertility and its outcomes
General Evidences	6-12% Weight Loss	Improved menstrual regularity, its ovulation, and lower androgens level

Table 2: Dietary Interventions and Effects

Diet Type	Key Features	Impact on PCOS
Low Glycaemic Index Diet	Focus on low digesting carbs	Improved insulin sensitivity and reduced androgen levels
Ketogenic or Low-Carb Diets	High fat and very low carbs	Rapid weight loss and decreased insulin resistance
Mediterranean Diet	Emphasis on fruits, some vegetables, whole grains and healthy fats	Improved metabolic health and reduced its inflammations

Discussion

The positive smash of lifestyle which modifies on polycystic ovary syndrome or PCOS stems from many interconnected physiological mechanisms. One of the most remarkable is the improvement in insulin sensitivity [10]. Excessive insulin levels which can stimulate androgen production in the

ovaries, which aggravate its PCOS symptoms. Dietary changes and some other regular physical activities enhance insulin function, further by reducing its circulating androgens [11]. Chronic lower grade inflammations, and another sign of PCOS, also responds to lifestyle interferences. Anti-inflammatory diets and other consistent exercise which help to the lower levels of inflammatory cytokines in the body [12]. However, weight loss and physical activities which contribute to hormonal balance by regulating the luteinizing hormone or LH to follicle-stimulating hormone or FSH ratio and decreases its testosterone levels, which in turn supports the regular ovulation. Psychological wellness is equally important and managing stress through several techniques like mindfulness or other cognitive behavioral therapy which can lower its cortisol levels, and mitigating hormonal imbalances that are often worse by chronic distress. In spite of these benefits, it implements the lifestyle changes which remain the challenges for many women with PCOS. Adheres the issues which are common, often due to low motivations and difficulty by maintaining the constant routines [13]. Cultural and some socio-economic barriers are further complicated matters which help to access the nutritious food, exercise its facilities, and mental health which serves which can vary widely among different populations. In addition, a general lack of awareness among both the healthcare providers and patient's regarding the effectiveness of lifestyle interventions in managing out PCOS which often leads to the under-utilization of these strategies. To address out the challenges more effectively, there is a press which is needed for personalized and it approaches to PCOS management. The conditional management and underlying causes, lifestyle interference must be tailored out to individual metabolic profiles, psychological needs, and other cultural backgrounds [14]. It integrates behavioral changes models and goal setting strategies, and targeted patient education into treatment plans which can enhance engagement and long-term success in future. Personalized, comprehensive care is essential for the achievement of sustainable improvements in both the physical and emotional health of women living with PCOS.

Conclusion

Lifestyle modifications are a key stone in the effective management technique of Polycystic Ovarian Syndrome. Evidences are consistently supporting the role of weight loss, diet based changes, physical activities, and stress management by improving reproductive, metabolism, and psychological setups. While medical therapy remains the important part as symptom control, it does not replace out the foundational role of lifestyle interfere. Empowering women with PCOS have to make sustainable lifestyle by changes which requires a multi-disciplined approach involves dietitians, endocrinologists, psychologists, and other fitness experts. Healthcare systems should give priority to educational and support for lifestyle-based strategies, which recognize their long-term benefits and cost-efficacy. It is concluded that the embracing lifestyle change which offers a powerful, patient-centred approaches which help to manage PCOS that would not only improve symptoms but it also enhances the quality of life and overall wellness.

Reference:

1. McGowan, M., Garad, R., Wadhwani, G., Torkel, S., Rao, V., Maunder, A., ... & Cowan, S. (2025). Understanding barriers and facilitators to lifestyle management in people with polycystic ovary syndrome: A mixed method systematic review. *Obesity Reviews*, 26(2), e13854.
2. Long, J. R., Parker, M., Jumani, S., Ahmed, A., Huynh, V., & Gomez-Lobo, V. (2024). Effect of Lifestyle Modifications on Polycystic Ovary Syndrome in Predominantly Young Adults: A Systematic Review. *Journal of Pediatric and Adolescent Gynecology*.
3. Mohamed, A. H., Albasheer, O., Ghoniem, M. A., Abdalghani, N., Ayish, F., Abdelwahab, S. I., ... & Ahmed, A. E. (2025). Impact of lifestyle interventions on reproductive and psychological outcomes in women with polycystic ovary syndrome: A systematic review. *Medicine*, 104(3), e41178.

4. Juhász, A. E., Stubnya, M. P., Teutsch, B., Gede, N., Hegyi, P., Nyirády, P., ... & Juhász, R. (2024). Ranking the dietary interventions by their effectiveness in the management of polycystic ovary syndrome: a systematic review and network meta-analysis. *Reproductive health*, 21(1), 28.
5. Nahidi, F., Ramezani Tehrani, F., Ghodsi, D., Jafari, M., Majd, H. A., & Abdollahian, S. (2024). The impact of a lifestyle promotion program on anthropometric and clinical manifestations in adolescents with polycystic ovarian syndrome: a randomized controlled trial. *BMC Women's Health*, 24(1), 1-13.
6. Calcaterra, V., Magenes, V. C., Massini, G., De Sanctis, L., Fabiano, V., & Zuccotti, G. (2024). High fat diet and polycystic ovary syndrome (PCOS) in adolescence: an overview of nutritional strategies. *Nutrients*, 16(7), 938.
7. Livadas, S., Yildiz, B. O., Mastorakos, G., Gambineri, A., Pignatelli, D., Giorgino, F., ... & ESE PCOS Special Interest Group Macut Djuro Gambineri Alessandra Yildiz Bulent O Pignatelli Duarte Mastorakos George Andersen Marianne Skovsager Obermayer-Pietsch Barbara Giorgino Francesco Livadas Sarantis. (2024). European survey of diagnosis and management of the polycystic ovary syndrome: full report on the ESE PCOS Special Interest Group's 2023 Questionnaire. *European Journal of Endocrinology*, 191(2), 134-143.
8. Almhoud, H., Alatassi, L., Baddoura, M., Sandouk, J., Alkayali, M. Z., Najjar, H., & Zaino, B. (2024). Polycystic ovary syndrome and its multidimensional impacts on women's mental health: A narrative review. *Medicine*, 103(25), e38647.
9. Chang, K. J., Chen, J. H., & Chen, K. H. (2024). The Pathophysiological Mechanism and Clinical Treatment of Polycystic Ovary Syndrome: A Molecular and Cellular Review of the Literature. *International journal of molecular sciences*, 25(16), 9037.
10. Kalsekar, A. S., Abdelrahim, D. N., & Faris, M. E. (2024). Effect of calorie restriction and intermittent fasting on glucose homeostasis, lipid profile, inflammatory, and hormonal markers in patients with polycystic ovary syndrome: a systematic review. *Frontiers in Nutrition*, 11, 1362226.
11. Wang, F., Dou, P., Wei, W., & Liu, P. J. (2024). Effects of high-protein diets on the cardiometabolic factors and reproductive hormones of women with polycystic ovary syndrome: a systematic review and meta-analysis. *Nutrition & Diabetes*, 14(1), 6.
12. Parker, J., O'Brien, C. L., Yeoh, C., Gersh, F. L., & Brennecke, S. (2024). Reducing the risk of pre-eclampsia in women with polycystic ovary syndrome using a combination of pregnancy screening, lifestyle, and medical management strategies. *Journal of Clinical Medicine*, 13(6), 1774.
13. Choi, Y., Kang, K., Je, M., Lee, Y. M., & Kim, Y. (2025). The Influence of Dietary Patterns on Polycystic Ovary Syndrome Management in Women: A Review of Randomized Controlled Trials with and Without an Isocaloric Dietary Design. *Nutrients*, 17(4), 674.
14. Foscolou, A., Papandreou, P., Gioxari, A., & Skouroliahou, M. (2024). Optimizing Dietary Habits in Adolescents with Polycystic Ovary Syndrome: Personalized Mediterranean Diet Intervention via Clinical Decision Support System—A Randomized Controlled Trial. *Children*, 11(6), 635.