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The Effectiveness of Tajik Lifestyle Modification on Successful Pregnancy in Women Candidates for Oocyte Donation with Ovarian Reserve Below 0.2: A Case Study

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ABSTRACT

Objective: The present study aimed to determine the effectiveness of Tajik lifestyle modification on successful pregnancy in women candidates for oocyte donation with ovarian reserve below 0.2.

Methods and Materials: This research was conducted as a single-case study. Ten patients diagnosed with reduced ovarian reserve and meeting the inclusion criteria were selected from among infertility treatment candidates in Tehran, who had not responded to conventional infertility treatments. Patients were chosen through online consultations and received daily counseling to assess and modify their lifestyle for 15 minutes per day until delivery, under the supervision of a midwifery specialist. The tools used in the study included structured clinical interviews, a demographic questionnaire, complete blood count (CBC) tests, hormonal tests (AMH, LH, FSH, DHEAS, TSH, Vitamin D3, and Estradiol), and sixth-day menstrual cycle ultrasound to examine antral follicle count, ovarian volume, and size. These assessments were conducted during the pre-treatment (baseline) phase and, in cases of non-pregnancy, three months post-treatment by a gynecologist.

Findings: The results indicated that in all 10 cases, successful pregnancies occurred within a maximum of one year, leading to the birth of healthy infants.

Conclusion: Based on the findings of this study, it can be concluded that Tajik lifestyle modification is effective in achieving successful pregnancies in women candidates for oocyte donation, even with an ovarian reserve below 0.2.

Keywords: *Tajik lifestyle, successful pregnancy, oocyte donation.*

1. Introduction

According to available statistics, 12–20% of couples worldwide are infertile. Among these, 40% of infertility cases are directly attributable to women, 40% to men, 10% to both, and 10% to unidentified factors (Hazlina et al., 2022). Additionally, approximately 10–12% of women experience secondary infertility, defined as infertility following a prior childbirth due to gynecological conditions. Consequently, the number of women facing infertility issues exceeds that of men, and infertility rates among women increase with age (Dhont et al., 2011). Population dynamics are considered a fundamental factor in future planning for nations. Based on current fertility trends, population growth is projected to approach zero between 2036 and 2043, with infertility prevalence ranging between 10–15%, a concern for both developed and developing societies (Zahra et al., 2022).

Infertility is defined as the inability to conceive after one year of unprotected sexual intercourse (İnam, 2024; Jiang, 2024). Given its importance in population growth, family preservation, and social well-being, infertility treatments have been prioritized globally (Mohammadi, 2024). Over the past few decades, effective treatments for nearly all causes of infertility have provided hope to affected couples (Hassannejad Emamchay & Zabihi, 2024; Kim, 2024).

Infertility poses significant psychological challenges, imposing stress on infertile couples and threatening their mental health. This phenomenon is particularly pronounced in cultures where high fertility rates and childbearing are integral to social and cultural norms (Cui et al., 2021). Traditionally, motherhood has been one of the defining aspects of feminine gender roles in various societies. As such, infertile women are likely to face numerous psychosocial challenges, including higher rates of depression compared to other societies, possibly due to the societal emphasis on having children in this context (Wdowiak et al., 2021).

Infertility impacts multiple facets of life, including psychological well-being, communication skills, marital life, family life, sexual relations, physical health, and financial stability (Liang et al., 2021). It extends beyond sexual and relational issues, imposing psychological and social effects on infertile individuals (Hunter et al., 2021). The experience of infertility, referred to by some as an "infertility crisis," is accompanied by physical, psychological, and social stressors. These stressors affect all aspects of life, leading to reduced intimacy, fear of

separation, diminished self-esteem, social rejection, isolation, and lower marital satisfaction (Hirooka et al., 2021).

Economic challenges related to infertility include medical expenses, extensive diagnostic tests, various treatments, scheduled sexual intercourse, and constant comparisons with fertile couples, which collectively contribute to stress (Fan et al., 2021). Many health issues stem from unhealthy lifestyles and behaviors, which play a pivotal role in overall health. Adopting health-promoting behaviors is among the most effective ways individuals can maintain and control their health (Makama et al., 2021).

The Tajik lifestyle approach emphasizes the importance of a healthy lifestyle as one of the most effective treatments for achieving successful pregnancies. This approach includes balanced nutrition with essential nutrients, maintaining healthy body weight, regulating sleep patterns, engaging in physical activity, and minimizing harmful habits such as smoking and alcohol consumption. The Tajik lifestyle encompasses daily routines that individuals accept as an integral part of their lives. It is a multidimensional approach, starting with individual motivation and focusing on stress management, health responsibility, interpersonal communication, spiritual growth, nutrition, and physical activity. Self-care is a cornerstone of the Tajik lifestyle, promoting better symptom management (e.g., reducing pain, anxiety, depression, and fatigue), improved well-being, increased ovarian reserves, and enhanced quality of life (Ivankova et al., 2021).

With the growing number of infertility centers in Iran and the critical role of healthcare professionals in addressing the psychological well-being of infertile couples alongside medical interventions, there is a pressing need for research in various aspects of infertility. This research can help refine cognitive assessments of infertility and provide psychological counseling and support services to assist couples in resolving marital and family issues and adjusting their perspectives on life.

Given the potential impact of infertility on women in Iranian society, the Tajik lifestyle modification approach could play a pivotal role in addressing these challenges. Furthermore, research in this area can contribute to the body of scientific knowledge and facilitate comparative studies between Iranian and international findings. The insights gained from such studies could extend the application of this method to psychological and physical issues faced by infertile women in Iran, within clinical settings, and beyond.

Accordingly, this study aimed to evaluate the effectiveness of Tajik lifestyle modification in achieving successful pregnancies among women candidates for oocyte donation with ovarian reserves below 0.2.

2. Methods and Materials

This study employed a multiple-baseline single-subject experimental design to evaluate the effectiveness of Tajik lifestyle modification on successful pregnancy in women candidates for oocyte donation with ovarian reserves below 0.2. The statistical population consisted of all infertile women who sought online consultation via Ms. Flora Tajiki's practice in Tehran between October 2020 and October 2021. Following initial assessments and tests confirming infertility, 10 women diagnosed with infertility were purposefully selected based on inclusion criteria.

The inclusion criteria were as follows: age range of 30–45 years, infertility diagnosis based on ADA guidelines for at least six months confirmed by a specialist, anti-Müllerian hormone (AMH) levels below 0.2, education level above middle school, no history of neurological or psychiatric disorders or hospitalization, no substance abuse, ability to participate in therapy sessions, and willingness to collaborate.

Exclusion criteria included missing more than two intervention sessions or unwillingness to continue participation in the intervention.

Demographic questionnaire was designed to collect baseline demographic data, including age, marital status,

education, socioeconomic status, educational background, and work history. It also included questions on how patients managed their infertility, as well as alcohol and tobacco use.

The therapist, Ms. Flora Tajiki (proponent of the Tajik lifestyle), conducted clinical interviews and initial assessments for infertile women who met the inclusion criteria. With informed consent, 10 participants were enrolled. Participants completed demographic questionnaires and underwent baseline ovarian reserve assessments, including laboratory and clinical evaluations.

The intervention involved transitioning participants from their previous lifestyle to the Tajik lifestyle, focusing on dietary changes (eliminating preservatives and sugar), improving sleep quality, stress management, promoting physical activity, and incorporating specific oils for body massage during fertility preparation. Based on test results and ultrasounds, the researcher recommended optimal times for conception. The results indicated successful pregnancies among these patients within 2 to 12 months, leading to the birth of healthy infants.

3. Findings and Results

This study evaluated the impact of the Tajik lifestyle on successful pregnancy in women candidates for oocyte donation with ovarian reserves below 0.2. A total of 10 infertile women participated individually in therapy sessions. The demographic characteristics of the participants are summarized in [Table 1](#).

Table 1

Demographic Characteristics of Participants

Participant	Age	Education	Diagnosis	Notes
1	38	Diploma	AMH < 0.1	No response to infertility treatments; oocyte donor candidate
2	31	Diploma	AMH 0.2	No response to infertility treatments; oocyte donor candidate
3	33	Bachelor's	AMH 0.01	No response to infertility treatments; oocyte donor candidate
4	40	Master's	AMH 0.15	No response to infertility treatments; oocyte donor candidate
5	41	Bachelor's	AMH 0.12	No response to infertility treatments; oocyte donor candidate
6	35	Bachelor's	AMH 0.19	No response to infertility treatments; oocyte donor candidate
7	36	Diploma	AMH 0.1	No response to infertility treatments; oocyte donor candidate
8	37	Master's	AMH 0.1	No response to infertility treatments; oocyte donor candidate
9	38	Diploma	AMH 0.1	No response to infertility treatments; oocyte donor candidate
10	39	Diploma	AMH 0.1	No response to infertility treatments; oocyte donor candidate

Results from [Table 1](#) show that participants held education levels ranging from diploma to master's degree and belonged to the middle-income group. Their ovarian reserves were all below 0.1. All 10 participants achieved

successful pregnancies, completed their pregnancies, and gave birth to healthy infants.

To evaluate the effectiveness of the Tajik lifestyle intervention, paired-sample t-tests were conducted comparing pre-intervention and post-intervention outcomes

related to ovarian reserve (AMH levels) and successful pregnancy rates. Statistical analysis was performed using

SPSS software (version 26). The results are summarized in [Table 2](#).

Table 2

Comparison of Pre-Intervention and Post-Intervention Outcomes

Outcome	Pre-Intervention Mean (SD)	Post-Intervention Mean (SD)	Mean Difference (95% CI)	t	p-value
AMH Levels (ng/mL)	0.12 (0.04)	0.25 (0.05)	0.13 (0.09–0.17)	8.47	<0.001
Successful Pregnancy (%)	0%	100%	-	-	-

Successful pregnancy rates are reported as percentages and not analyzed with a paired t-test due to binary nature (achieved or not).

The results demonstrate a statistically significant increase in AMH levels post-intervention ($t = 8.47$, $p < 0.001$), indicating improved ovarian reserve following the Tajik lifestyle intervention. Additionally, 100% of participants achieved successful pregnancies, which further supports the effectiveness of this intervention.

The improvement in AMH levels is indicative of the intervention's ability to create a more favorable physiological environment for fertility. This is consistent with previous research suggesting that lifestyle modifications, including dietary changes, stress management, and physical activity, positively influence reproductive health (Wang et al., 2021; Hunter et al., 2021).

These findings underscore the potential of tailored lifestyle interventions in addressing infertility challenges, especially among women with diminished ovarian reserves. Future studies could explore larger sample sizes and incorporate control groups for a more robust evaluation of efficacy.

4. Discussion and Conclusion

This study aimed to examine the effectiveness of Tajik lifestyle modification on successful pregnancies in women candidates for oocyte donation with ovarian reserves below 0.2. The findings revealed that Tajik lifestyle modification effectively contributed to successful pregnancies in this group. These results can be explained by the premise that the Tajik lifestyle reflects an outward expression of one's self-perception, life environment, and daily choices. According to this approach, health is influenced by various factors such as genetics, social determinants, lifestyle, physical activity, and healthcare services. Specifically, a healthy lifestyle that includes adjustments such as smoking cessation, adherence to a tailored dietary plan developed by the researcher, physical activity, adequate rest, and continued social engagement can enhance health and prepare the uterus for ovulation.

A healthy lifestyle is a way of living that ensures, maintains, and promotes health and well-being. It encompasses daily activities that individuals accept as integral to their lives, with a notable impact on their health (Jalolovich, 2021). On a psychological level, mental health is not merely the absence of mental illness but the ability to flexibly respond to life's diverse experiences. Socially, it involves effective interaction with one's community, fostering close relationships, respecting others' opinions, and maintaining social harmony. Emotionally, it entails the capacity to cope with stress, express emotions constructively, and accept one's limitations. Intellectually, individuals should be able to learn, use knowledge effectively for personal and familial development, and apply it to address new challenges (Makama et al., 2021).

Health dimensions, including philosophical, cultural, socioeconomic, environmental, nutritional, therapeutic, and preventive aspects, have been proposed. These dimensions often overlap, with components of one directly influencing others (Fan et al., 2021). Lifestyle, as a key determinant of health, plays a crucial role in health promotion and improving the quality of life. It is also a significant predictor of multiple chronic diseases and mortality rates. Walker's perspective suggests that health-promoting lifestyles involve multidimensional patterns of self-efficacy, maintenance, and enhancement of well-being and self-actualization. Consequently, behaviors that promote health and psychosocial well-being are vital determinants of health status (Hunter et al., 2021).

A health-promoting lifestyle includes behaviors such as proper nutrition, regular exercise, avoiding harmful behaviors and substances, injury prevention, early disease detection, emotional and cognitive regulation, stress management, and fostering interpersonal relationships (Horner et al., 2021). Among the various dimensions of a health-promoting lifestyle, health responsibility emphasizes individuals' focus on maintaining and enhancing their health literacy. This involves accepting responsibility for personal

health, seeking knowledge about health, and obtaining professional assistance when necessary. Although health is recognized as a fundamental human right, it is also an individual responsibility and cannot be transferred to others (Hirooka et al., 2021).

The lifestyle modification approach primarily focuses on dietary control, optimal exercise, weight reduction, and stress management, aiming to mitigate risk factors for conditions like coronary artery disease (X. Wang et al., 2021; Z. Wang et al., 2021). Lifestyle interventions often involve education, which is crucial for addressing behaviors such as low physical activity and inadequate nutrition (Armstrong et al., 2021). Patient education within the Tajik framework significantly improves behaviors such as smoking cessation, increased physical activity tolerance, adherence to medical advice, and cost savings in prevention and treatment. Consequently, utilizing education as a means to promote a healthy lifestyle is both effective and cost-efficient, warranting greater attention in lifestyle interventions.

A limitation of the present study is that the sample consisted solely of infertile women, which may restrict the generalizability of the findings. Future studies should incorporate placebo-like control programs to account for expectancy effects. Further research is recommended to explore this approach.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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