

REVIEW ARTICLE

Defining Infertility—A Systematic Review of Effect of Intervention on Quality of Life of Infertile Women

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ABSTRACT

Fertility plays a vital role in a woman's life.¹ Infertility affects 8%–12% of the couples of reproductive ages, and about 15% of the couples would experience subfertility during the 1st year after their marriage, while the total prevalence of fertility in Iran has been reported as 8% and 13.2%.⁴ Experiencing infertility is associated with a wide range of psychological problems such as stress, anxiety, depression, feeling humiliated, low self-esteem, feeling of inefficiency, and lower psychological adaptation. A systematic literature search was conducted from Jan 2015 to December 2021. Published thesis and articles from various national and international database such as PubMed, Scopus, Proquest, Medline were included in the review up to 2021. The keyword used to search the literature were infertility, counseling, supportive intervention, Meditation, Relaxation. FertiQoL and Google search engine was also used to explore the open access publications. A total of 2602 citations were evaluated, with 185 full-text papers being examined. A total of 15 articles were included in the current review. The results highlight that interventions aiming at improving FertiQoL in infertile women, Therapeutic gains were maintained regarding depression and anxiety symptoms, independently of the reproductive outcome, spousal support program was well-received and significantly improved part of the QoL and women experiencing infertility difficulties should direct their attention to social roles other than motherhood. As interventions like counselling and psychological interventions, educational programmes increase quality of life among infertile women, those are highly recommended for the management of infertile couples.

Key words: infertility, definition, epidemiology, Infertile Women

Received 15.02.2023

Revised 11.03.2023

Accepted 12.05.2023

How to cite this article:

Pon Princess M, Sujatha.T, Mony K, Helen Shaji JC, Leena L R. Defining Infertility—A Systematic Review of Effect of Intervention on Quality of Life of Infertile Women. Adv. Biores. Vol 14 [3] May 2023. 295-300

INTRODUCTION

Fertility plays a vital role in a woman's life. In our tradition fertility is the most important part of marital life. The feeling of being conceived is wonderful, and the mother is bound with joy on the first kick of her child in utero [2].

Infertility is defined as a failure to conceive within one or more years of regular unprotected coitus. Primary infertility denotes those patients who have never conceived. Secondary infertility indicates previous pregnancy but failure to conceive subsequently [1]. Fecundability is defined as the probability of achieving a pregnancy within one menstrual cycle. The male is directly responsible in about 30–40

percent, the female in about 40–55 percent and both are responsible in about 10 percent cases. The remaining 10 percent is unexplained [5].

The important causes of male infertility are, Hypothalamic-pituitary disorders (1–2%). (2) Primary gonadal disorders (30–40%), Disorders of sperm transport (10–20%) and (4) Idiopathic (40–50%). Congenital – Undescended testes, Kartagener syndrome (autosomal disease)Hypospadias , varicocele. Infection, malnutrition or heavy smoking[3].

Causes of female infertility According to FIGO manual (1990) causes are, Tubal and peritoneal factors (25–35%), Ovulatory factor (30–40%) and Endometriosis (1–10%). Drug induced ovulation, decreased level of FSH and/or LH, elevated prolactin, subclinical hypothyroidism, older women, pelvic endometriosis, dysfunctional uterine bleeding are the important causes. Vaginitis and purulent discharge may at times be implicated but pregnancy too often occurs in presence of vaginitis, specific, or nonspecific. However, dyspareunia may be the real problem in such cases [6].

Infertility affects 8%–12% of the couples of reproductive ages, and about 15% of the couples would experience subfertility during the 1st year after their marriage, while the total prevalence of fertility in Iran has been reported as 8% and 13.2%. Experiencing infertility is associated with a wide range of psychological problems such as stress, anxiety, depression, feeling humiliated, low self-esteem, feeling of inefficiency, and lower psychological adaptation. Hence, the necessity of psychological treatments for infertile women should be attended more. Infertility would affect women's sense of well-being in both psychological and social domains. In some societies, infertility is considered as women's responsibility and infertile women would experience a feeling of guilt, negative imagination, and lowered self-esteem. Infertility also affects sexual behaviours and these women would experience a high rate of nonphysical domestic violence. In fact, infertility and its treatment process is a mentally suffering source for infertile women that have destructive effects on their mental well-being, infertile women have lower psychological well-being and higher psychological frustration compared to infertile men. Hence, using strategies for psychological empowerment of infertile women to cope with these consequences is necessary [4, 13-16].

MATERIAL AND METHODS

The review was framed by doing the best effort of searching in an ancient text, available literature, online search, etc. The related literature with supportive intervention like counselling, exercise, relaxation and meditation to improve the quality of women with infertility searched on online platform PubMed, Scopus, Proquest, Medline etc. The published article studied and then planned to analyse. The keyword used to search the literature were infertility, counselling, supportive intervention, Meditation, Relaxation. No other exclusion criteria were applied regarding journals, years, authors, etc. The list prepared is of all articles published until October 2021. The traced article obtained from searching the databases were compiled and screened. The title, abstract and article conclusion was studied. The research study that satisfied the inclusion criteria and that is describing Quality of life among infertile couple were only included, others excluded.

Inclusion Criteria:

- Article published in peer review journals
- Open access thesis available on database
- Article and thesis published from Jan 2015 to December 2021
- Experimental studies
- Quantitative Studies

Exclusion Criteria:

- Review article
- Non Experimental studies
- Qualitative Studies

DATA EXTRACTION

Two reviewers independently extracted data from eligible studies onto a customized data extraction form and populated it with variables about the study population and phenomena of interest. The third review author double-checked and verified extracted articles. Study characteristics that were extracted included the name of the first author and year of publication, data collection period and region in which the study was conducted. In addition, specific study details were captured, including the study design, population, sample size, sampling procedures and data collection procedures. Effect of intervention on quality of life among infertile was systematically identified.

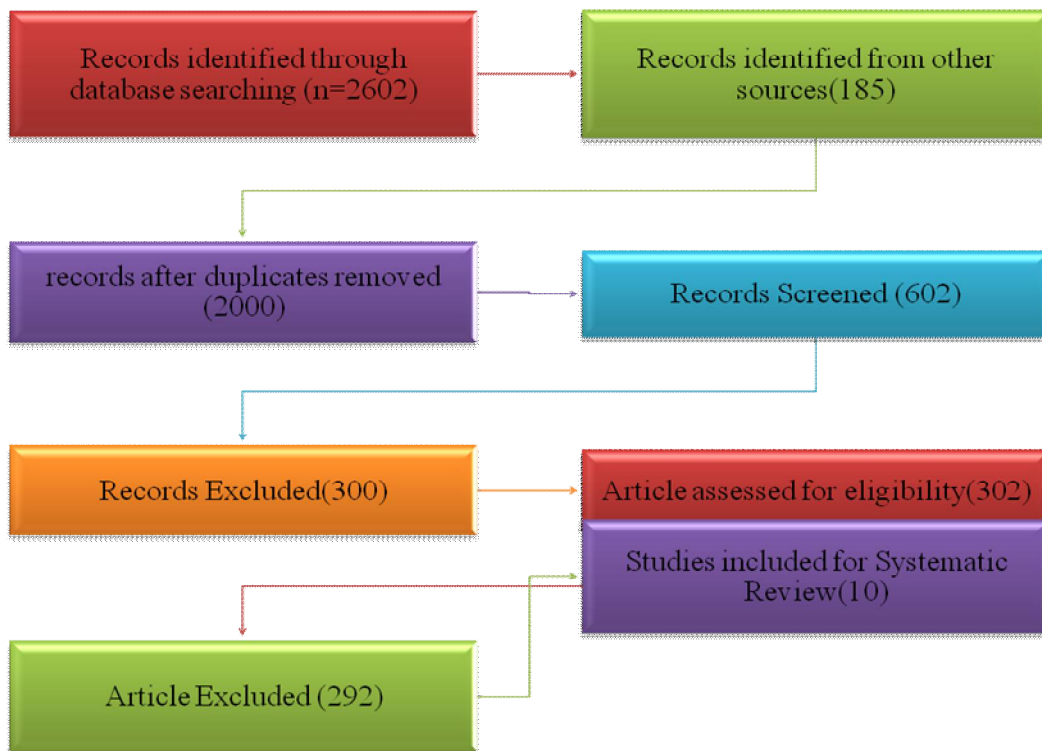
RESULT

All selected matters from articles or books were grouped and screened properly. The text and abstract were read thoroughly and analysed. The “PRISMA” (the preferred reporting items for systematic review and meta-analysis) guidelines [14] was adopted to describe this systematic review . Supportive intervention like counselling, exercise, relaxation and meditation helps to improve the quality of women with infertility.

DISCUSSION

Mindfulness-based interventions aiming at improving FertiQoL in infertile women. Therapeutic gains were maintained regarding depression and anxiety symptoms, independently of the reproductive outcome. The spousal support program was well-received and significantly improved part of the QoL improved knowledge on the impact on the fertility window, understanding of information significantly improved knowledge of key reproductive health concepts.

Systematic Review of supportive intervention on infertility



| SL.NO | AUTHOR | Type of study | FINDINGS |
|-------|------------------------|--|---|
| 1 | Galhardo, et al [7] | A 7-year follow up study on long term effects of mindfulness-Based Program for Infertility. Fifty-five women attended the MBPI sessions and completed self-report measures of depression, anxiety, mindfulness, and experiential avoidance at post-MBPI (T1), 6-month follow-up (T2), and 7-year follow-up (T3). | There were long-term effects of MBPI on mindfulness and experiential avoidance. Therapeutic gains were maintained regarding depression and anxiety symptoms, independently of the reproductive outcome. |
| 2 | Asazawa, K., et.al [8] | quasi-experimental study on Effectiveness of a spousal support program in improving the quality of life of male patients undergoing infertility treatment: A pilot study among 30 infertile couple | There were significant differences in relational and emotional subscales of QoL. Majority of the participants expressed satisfaction with the program. The spousal support program was well-received and significantly improved part of the QoL |

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| 3 | Hosseini, M.S., et.al [9] | Randomized controlled clinical trial on Effects of a short-term mindfulness-based stress reduction program on the quality of life. 36 women with infertility, who were selected by consecutive sampling. Women either participated in the MBSR program or received routine consultation in eight two-hour group sessions once a week. Women's QoL was measured using the 36-item short-form health survey before, immediately after, and one month after the intervention. | Short-term MBSR program seem to be potentially effective in improving the QoL of women with infertility. |
| 4 | Luk, B. H., & Loke, A. Y. [10] | Systematic review of 23 articles on supportive interventions targeting individuals or couples undergoing infertility treatment: Directions for the development of interventions | Cognitive behavioral therapy (CBT), acceptance and commitment therapy (ACT), and counseling were the most commonly adopted psychosocial interventions for infertile individuals or couples. |
| 5 | Clifton, J.[11] | A randomized pilot trial on effect of An internet-based mind/body intervention to mitigate anxiety in women experiencing infertility. Seventy-one women were randomly assigned to the intervention or a wait-list control. | At mid-assessment, relative to the waitlist group, the intervention group had a lower level of depressive symptoms and, for those with elevated anxiety symptoms at baseline, a lower level of anxiety symptoms. The findings suggest that even a partially completed internet-based intervention can reduce the anxiety and depressive symptoms of women with a diagnosis of infertility. |
| 6 | Meacham, L. R., Williamson-Lewis, R., et.al [12] | Two-phase prospective study on effect of Educational intervention to address infertility-related knowledge gaps among adolescent and young adult survivors of childhood cancer. Sessions used sex-specific visual aids (phase I) or a personalized handout (phase II). Surveys assessing knowledge of overall risk for infertility (yes/no), level of risk (none, low, moderate, or high), relative impact of treatment on the window of fertility (same/less than peers), and the need to use protection to prevent pregnancy (yes/no) were completed at baseline and 1-month follow-up. | The educational intervention improved knowledge on the impact on the fertility window, understanding of information significantly improved knowledge of key reproductive health concepts. |
| 7 | van Elten, T. M., Karsten, M. D. A., et.al [13] | Multicentre randomised controlled trial (RCT) on Preconception lifestyle intervention reduces long term energy intake in women with obesity and infertility: A randomised controlled trial. 577 women with obesity and infertility aged 18 to 39 | A preconception lifestyle intervention led to reduced energy intake 5.5 years later. Additionally, women allocated to the intervention group who were successful in losing weight during the intervention also had a lower BMI at follow-up. This shows the potential sustainable effect of a preconception lifestyle intervention. |
| 8 | Aiyenigba, A. O [14] | Quantitative research on Interventions to reduce psychological morbidities associated with infertility in Nigeria. 224 patients attending infertility clinics in 2 Nigerian cities | findings suggest that intervention to be empowering and beneficial in helping them manage infertility induced psychological distress. |

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| 9 | Kim, M., Moon, S., & Kim, J[15] | Effects of psychological intervention for Korean infertile women under in vitro fertilization on infertility stress, depression, intimacy, sexual satisfaction and fatigue | psychological intervention cantered on the marital and personal dimensions may improve marital intimacy and sexual satisfaction. |
| 10 | van Dammen, L., Wekker, V., et.al [16] | randomized controlled trial on the effects of a pre-conception lifestyle intervention in women with obesity and infertility on perceived stress, mood symptoms, sleep and quality of life | Five years after randomization, no differences were observed for perceived stress, mood symptoms, sleep quality and QoL between the intervention (n = 84) and control groups (n= 94).There was selective participation: women who did not participate in the follow-up had lower baseline mental QoL, and benefitted more from the intervention in terms of improved physical QoL during the original LIFEstyle intervention. Conclusions: We found no evidence that a pre-conception lifestyle intervention improved female wellbeing five years after randomization. |

CONCLUSION

A review on interventions reveals that counseling interventions and perceived social support greatly influence the physical and mental condition, life satisfaction, and various aspects of infertile women's life quality, and they have been recognized as moderating factors effective in dealing with stress and coping with stressful conditions. Considering the fact that there is an international agreement that fertility centers need to offer counselling programs for psychological problems of the infertile, it is especially important to recognize counselling-supportive interventions for decreasing infertile women's perceived stress, and to program plans for decreasing women's perceived stress. By investigating counselling-supportive stress, we hope that this study has stepped forward toward health care agent's familiarity with decreasing infertile women's perceived stress and, therefore, improving treatment consequences.

Strengths and limitations of the systematic review

The included studies had relatively small sample sizes, resulting in low power to our results. We could not conduct analyses to explore potential bias associated with the heterogeneity between studies because of the small number of included studies. Most of the included studies used cross-sectional, which reduces our confidence in these results because bias can be introduced.

CONFLICT OF INTEREST

Conflict of interest declared none.

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