

REVIEW

Open Access



A scoping review of the psychosocial aspects of infertility in the Middle East

Warona Mateane^{1*}, Cheryl Eder¹, Margaret Mutumba-Nakalembe², Mariam Salie¹, Zana Vorster¹, Dan Jenkins¹, Katleho Silingile³ and Rizwana Roomaney¹

Abstract

Infertility has a major psychological and social impact, particularly in the Middle East, where cultural expectations surrounding reproduction are deeply rooted. In many communities, the inability to conceive can challenge individuals' sense of social identity and lead to pressure, stigma, and strained family relationships. Despite the high prevalence of infertility in this region, much of the available research continues to focus on Western contexts, leaving gaps in understanding experiences in non-Western settings. This scoping review aimed to address this gap by systematically mapping research on the psychosocial aspects of infertility in the Middle East. A systematic search identified 4065 studies, and following screening and charting procedures, 167 quantitative, 28 qualitative and two mixed methods studies were included, with most conducted in Iran, reflecting a geographic concentration of research. Data were analyzed to identify recurring psychological and social themes. Infertility was consistently associated with distress, shame, diminished self-esteem, and struggles with personal and social identity. Women reported higher levels of distress compared to men, highlighting gendered expectations and the disproportionate stigma directed at women. Stigma was encountered not only within families and communities but also in healthcare interactions, compounding the emotional burden. Religion emerged as the most frequently reported coping strategy, offering meaning and resilience in the face of infertility. While some studies indicated benefits of interventions such as psychological counselling, mindfulness, and therapy, few rigorously evaluated formal psychological interventions, indicating a significant gap. Social support was consistently identified as a protective factor; however, access to appropriate, culturally sensitive psychological care remained limited.

Keywords Infertility, Psychosocial factors, Middle East, Mental health, Depression, Stigma, Social support

Introduction

Infertility impacts a significant proportion of couples worldwide, affecting up to one in five couples over their lifetimes [53]. The World Health Organization (2023) defines infertility as the inability of a couple to conceive despite engaging in at least 12 months of unprotected sexual intercourse. Infertility is associated with a wide range of psychological, emotional, and social challenges [134]. Much of the existing research on the psychosocial implications of infertility has focused on the experiences of couples in Western, educated, industrialized, rich, and democratic (WEIRD) countries, even though the

*Correspondence:

Warona Mateane
waronapmateane@gmail.com

¹Department of Psychology, Stellenbosch University, Western Cape, South Africa

²Department of Epidemiology and Biostatistics, Western University, London, Canada

³University of the Western Cape, Western Cape, South Africa

majority of infertile couples reside in developing nations [133].

Psychological consequences of infertility

Infertility profoundly impacts individuals' personal and social spheres. For example, the emotional toll of experiencing infertility can lead to intense anxiety and depression [63, 154]. Infertile women commonly experience intense feelings of shock, distress, and guilt for extended periods of time before they reach a stage of adaptation [9]. Moreover, a history of unsuccessful fertility treatment can compound negative mood states [124]. When coupled with the financial costs and practical challenges associated with treatments, this situation can lead to despair, especially when individuals perceive a lack of affordable and effective alternatives [213].

Social consequences of infertility

The experience of infertility also has notable social consequences. Infertility is stigmatized in Middle Eastern and Asian countries, leading to heightened levels of distress [113], concealment from others [204], and a need for comfort and support [164]. Extended familial pressure for children may contribute to infertility-related stress [163]. For example, being labelled as infertile often leads to social or familial exclusion and can result in the breakdown of the marital relationship [9]. Infertility is associated with difficulties in a couple's sex life [59, 117] and may lead to increased levels of divorce [8].

Several systematic reviews have investigated the effects of psychosocial interventions, especially those that emphasize practical coping skills, on overall quality of life and fertility-related well-being [63, 80, 220]. These reviews suggest that psychosocial interventions may mitigate negative effects (and enhance psychological outcomes, marital relationships, and pregnancy rates [63, 80, 220]. While the psychosocial impact of infertility is extensively documented in the literature [62], literature describing impact of infertility in the Middle East remains fragmented. This scoping review aims to provide an overview of findings related to the psychosocial aspects of infertility in the Middle East through a biopsychosocial lens [68].

Methods

The protocol for this project is available [189]. This specific review was intended to examine psychosocial research on infertility in Asia and the Middle East. However, after charting the data, we realized that there was much more literature than expected, and therefore decided to separate the reviews, with one focusing on the Middle East and the other on Asia. In this paper, we review the studies conducted in the Middle East.

Search strategy

We conducted a systematic search using pre-determined search strings in selected databases. The following search strings were used:

Concept 1: Infertility OR Involuntary childlessness OR Assisted reproduction OR Secondary infertility. AND

Concept 2: Culture OR Religion* OR Spiritual* OR Stigma OR Psychosocial Needs OR Counselling OR Family OR Psychosocial Impact OR Maternal Needs OR Paternal Needs OR Tradition OR Depression OR Anxiety OR Psychosocial Support Systems [mesh] AND.

Countries: Developing Country* OR Brunei OR Darussalam OR Cambodia OR PRC OR China OR Korea OR DPRK OR North Korea OR South Korea OR Fiji OR Hong Kong OR Indonesia OR Kiribati OR Lao OR Laos OR Malaysia OR Mongolia OR Myanmar OR Burma OR PNG OR Papua New Guinea OR Philippines OR Samoa OR Singapore OR Solomon Islands OR Taiwan OR Thailand OR Siam OR Timor-Leste OR East Timor OR Vanuatu OR Viet Nam OR Vietnam OR Afghanistan OR Bangladesh OR Bhutan OR India OR Iran OR Persia OR Maldives OR Nepal OR Pakistan OR Sri Lanka OR Ceylon OR Bahrain OR Iraq OR Israel OR Jordan OR Kuwait OR Lebanon OR Oman OR Qatar OR Saudi Arabia OR Palestine OR Syria* OR Turkey OR Türkiye OR United Arab Emirates OR Emirates OR UAE OR Yemen OR East Asia OR South Asia OR Western Asia. We searched 12 databases, selected because they were likely to contain psychosocial research. These databases were accessible to the researchers and known to contain research from the health and social sciences. The following databases were searched: Academic Search Premier, African Digital Repository (Sabinet), CINAHL, ClinicalKey, Cochrane Library, Google Scholar, PsycArticles, PsycInfo, PubMed, Scopus, Web of Science, and ProQuest. Searches were conducted between December 2022 and April 2023. In addition, we sourced papers mentioned in other reviews and searched grey literature by searching thesis and conference reports.

Inclusion and exclusion criteria

Studies conducted in developing countries (classified according to the International Monetary Fund Criteria) in the Middle East and Asia between January 2000 and April 2023 and reported in English were included in the review. Other inclusion criteria included studies with participants of any gender who experienced primary or secondary infertility. All articles published in

peer-reviewed journals were included. Reference lists of included studies were searched to identify any additional articles. Studies in any language other than English were excluded. Articles were only included when they contained data, and thus theoretical papers and commentaries were excluded. We included mixed-methods, qualitative, and quantitative studies; data must have been collected in the Middle East or Asia.

Study selection

We used Rayyan (<http://rayyan.qcri.org>) to manage the screening process. Our initial search found 4,065 articles, which were imported into Rayyan. A total of 736 duplicates were identified by Rayyan and removed. This left 3329 abstracts, which were independently screened by two reviewers. Articles were excluded for the following reasons: not psychosocial; not infertility; no human participants; no data collected; reviews or commentaries; wrong sample and not written in English. Articles identified by both reviewers were included in the next phase. The review resulted in 491 articles being included and

2540 excluded. Finally, a third reviewer assessed articles on which the first two reviewers disagreed ($n=298$). The abstract review resulted in 539 articles being identified for inclusion in the review. We then separated studies conducted in Asia ($n=342$) and the Middle East ($n=197$). Please refer to Fig. 1 for the PRISMA flow diagram. This review consists of the 197 studies, of which 28 were qualitative, 167 were quantitative and two were mixed methods.

Charting the data and reporting the findings

A charting form was used to chart the data. The following information was collected: (1) study country; (2) research paradigm; (3) aim and objectives; (4) participant characteristics; (5) data collection tools; (6) sample size; (7) method of analysis; (8) findings; and (9) contribution to the field. The form was based on the information we wanted to evaluate as part of the scoping review.

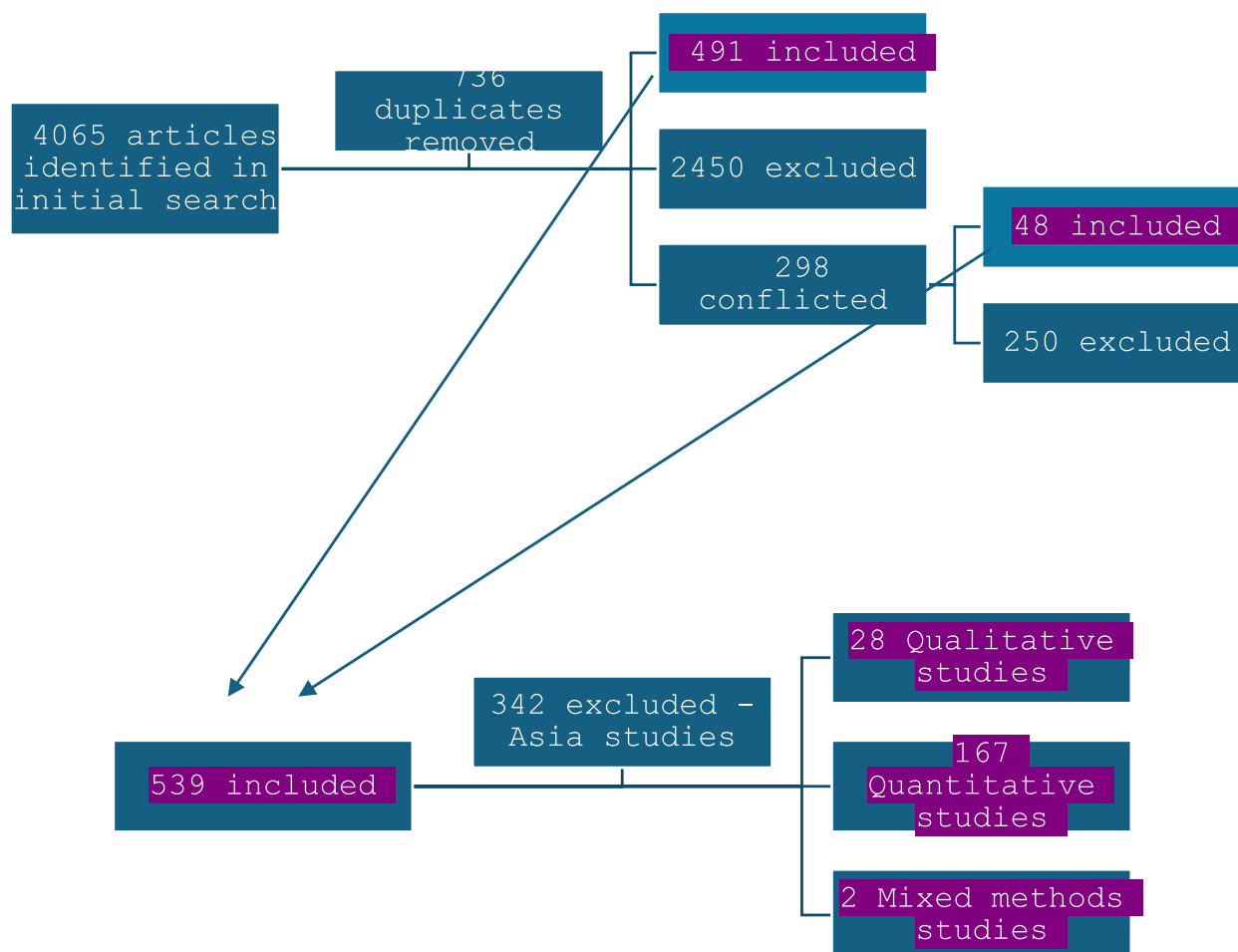


Fig. 1 PRISMA diagram

Results

Qualitative studies

This section presents an analysis of qualitative findings on infertility experiences in the Middle East, drawing from 28 qualitative studies and two mixed method studies [163, 218] (see Table 1). Sample sizes ranged between 10 and 40 participants. Most studies focused on infertile women, while two studies focused on men, with sample sizes ranging from 10 to 26 participants [37, 70], and six studies recruited couples [224, 227, 229]. Most of these studies ($n=23$) were conducted in Iran [9, 13, 29, 37, 47, 48, 70, 90, 104, 105, 111, 177, 184, 204, 207, 224, 229], with two studies conducted in both the UK and Iran [184, 185].

Additional research originated from Israel ($n=1$) [218], Kuwait ($n=1$) [163], Jordan ($n=3$) [56, 159, 160], Oman ($n=1$) [20], and Saudi Arabia ($n=1$) [213]. The studies primarily conducted interviews as their data collection method. Among them, 21 studies used semi-structured interviews, while nine reported conducting in-depth interviews [48, 56, 70, 159, 160, 185, 204, 218, 229]. In Tehran, one study also included observations and field notes [89].

For data analysis, nineteen studies applied content analysis [9, 29, 37, 47, 48, 104, 105, 111, 177, 185, 207, 218, 227, 229]. Five studies employed thematic analysis [20, 56, 160, 163, 213], while one adopted a grounded theory approach [228], and two applied Strauss and Corbin's analysis [13, 89]. Roudsari and Allan [184] combined

Table 1 References of 28 qualitative studies and the qualitative aspects of 2 mixed-methods studies analyzed on infertility experiences in the Middle East

Article	Country	Sample Size	Data Collection	Data Analysis
[9]	Iran	18 women	Semi-structured interviews	Content analysis
[13]	Iran	40 women	Semi-structured interviews	Strauss and Corbin's analysis
[20]	Oman	20 women	Semi-structured interviews	Thematic analysis
[29]	Iran	17 women	Semi-structured interviews	Content analysis
[37]	Iran	26 men	Semi-structured interviews	Content analysis
[47]	Iran	15 women and 8 key informants	Semi-structured interviews	Content analysis
[48]	Iran	15 women and 8 key informants	In-depth interviews	Content analysis
[56]	Jordan	14 women	In-depth interviews	Thematic analysis
[70]	Iran	10 men	In-depth interviews	Colaizzi method
[90]	Iran	25 women	Semi-structured interviews, observations, and field notes	Strauss and Corbin's analysis
[104]	Iran	14 women	Semi-structured interviews	Content analysis
[105]	Iran	20 women and 3 informants	Semi-structured interviews	Content analysis
[111]	Iran	15 women and 15 key informants	Semi-structured interviews	Content analysis
[159]	Jordan	30 women	In-depth interviews	Colaizzi method
[160]	Jordan	25 women	In-depth interviews	Thematic analysis
[163] (Mixed methods)	Kuwait	268 couples (quantitative) 10 clients (qualitative)	HSCL-25 & Modified Fertility Adjustment Scale, Semi-structured interviews	Thematic analysis
[177]	Iran	12 women	Semi-structured interviews	Content analysis
[184]	UK & Iran	30 women	Semi-structured interviews	Grounded theory with Strauss and Corbin's analysis
[185]	UK & Iran	30 women	In-depth interviews	Content analysis
[204]	Iran	17 women	In-depth interviews	Content analysis
[207]	Iran	18 women	Semi-structured interviews	Content analysis
[213]	Saudi Arabia	14 women	Semi-structured interviews	Thematic analysis
[218] (Mixed methods)	Israel	600 messages, 24 participants	In-depth interviews	Content analysis
[223]	Iran	36 participants (29 couples, 5 treatment team members, 2 relatives)	Semi-structured interviews	Content analysis
[224]	Iran	29 individuals (9 couples, 9 women)	Semi-structured interviews	Content analysis
[225]	Iran	29 individuals (9 couples, 9 women)	Semi-structured interviews	Content analysis
[226]	Iran	34 participants (9 couples, 9 women, 2 men, 2 relatives, 3 fertility staff)	Semi-structured interviews	Content analysis
[227]	Iran	29 couples	Semi-structured interviews	Content analysis
[228]	Iran	36 people	Semi-structured interviews	Grounded theory
[229]	Iran	17 couples	In-depth interviews	Content analysis

grounded theory with Strauss and Corbin's analytical framework, while others used the exclusive application of the Colaizzi method [70, 159].

The general findings indicate that infertility and its treatment significantly affect individuals and couples across various domains of life. In Saudi Arabia, women highlighted challenges related to treatment costs, accessibility, and inadequate communication from healthcare providers [213]. Infertility also had profound effects on couples' sexual relationships, influenced by cultural and social norms [47, 48]. The psychological effects of infertility were evident, with individuals experiencing distress, frustration, inadequacy, and anxiety, highlighting the multifaceted impact of infertility.

Psychosocial needs

A main theme emerging from the studies was the psychosocial needs of individuals dealing with infertility. Iranian and Omani women emphasized the importance of social support, particularly from family and healthcare providers, in managing the emotional burden of infertility [9, 20]. Iranian men similarly highlighted the need for community support, as they faced stigma when seeking infertility treatment [37, 225].

The involvement of male partners in treatment processes and the availability of counselling services were identified as critical needs [225]. Findings from studies conducted in Iran indicated that most participants expressed a need for better education on reproductive health, infertility, and available treatments [105, 224]. Women emphasized the necessity of psychosocial support and more empathetic healthcare services to help them navigate the cultural and emotional challenges of infertility [20, 229]. Psychological support was also identified as crucial for couples who had undergone unsuccessful assisted reproductive technology (ART) cycles [224].

Emotional wellbeing and mental health

Across studies, findings indicated that infertility was associated with profound emotional distress, including feelings of loss, shame, and inadequacy. Depression, insomnia, loss of appetite, and emotional turmoil following unsuccessful treatments were common [9, 13, 29, 56, 70, 228]. Infertile women in Kuwait experienced feelings of anxiety, devastation, uselessness, depression, anger, failure, and powerlessness [163]. Findings further illustrated how infertility disrupted personal identity formation, leading to diminished self-esteem, guilt, and distress [9, 56]. The psychological impact of male infertility was particularly severe, often triggering crises of identity and prolonged emotional struggles [70].

Coping strategies varied among individuals and across cultural contexts. Studies conducted in Iran reported

how women used distraction techniques, such as walking and listening to music, to mitigate distress [111]. Some Jordanian women sought meaning in their condition by adapting their belief systems and advocating for greater acceptance of adoption [159]. Women whose husbands were infertile demonstrated resilience through a combination of active and emotional coping strategies. Emotional coping included attributing infertility to oneself or others, religious coping, seeking emotional support, being selective in disclosure, and supporting their spouse. Active coping strategies for these women included taking personal responsibility for treatment outcomes, such as changing their lifestyles, verifying the diagnosis of infertility, adhering to treatments, searching for answers, and trying fertility superstitions and alternative medicines [207].

Religious coping was particularly prominent, as reported in a Jordanian study where women relied on faith to navigate their infertility journeys [159]. Infertile women in Israel reported a sense of support, community, and help in managing feelings of stigma from being part of online support groups for infertility [218].

Support and social aspects

Findings from several studies reported that Iranian women often experienced societal stigma and judgment, further exacerbating their distress in living with infertility [89]. Iranian women were stigmatized for using ART treatment [177] and faced social and self-stigma, which threatened their psychosocial well-being and self-esteem [204]. Social pressures and family expectations placed on infertile women exacerbated their emotional burden [111, 177, 223]. Social stigma was a recurring theme for Iranian women who reported experiencing shame and judgment—especially after failed treatment attempts. The stigma surrounding assisted reproductive technologies also deterred some individuals from seeking treatment [111, 223]. Iranian women found some social interactions painful after failed infertility treatments, which caused sadness, sorrow, and feelings of embarrassment [226]. Iranian men similarly faced social alienation, as male infertility was perceived as a personal failing [70]. The presence or absence of family and spousal support played a crucial role in determining whether individuals pursued further treatment [227]. Two Jordanian studies revealed that infertile women experienced stress due to social pressure from family, friends, and society. Participants reported constant questions directed toward them and being blamed for their infertility [159, 160].

Psychological intervention

Despite the significant psychological and social impact of infertility, no qualitative studies in the Middle East focused specifically on psychological interventions.

Findings indicated that women in Saudi Arabia expressed concerns about healthcare providers' lack of training, poor communication, and inadequate privacy protections [213]. Due to these limitations, some individuals turned to social media for advice, preferring the immediacy and personalization of online support over formal consultations with healthcare providers (HCPs) [213]. A few studies explored alternative approaches, such as acupuncture, as part of infertility care, while others highlighted the importance of religious and spiritual guidance in coping with infertility [104, 184, 185].

Quantitative studies

The studies included in this review consist of 167 quantitative and two mixed methods studies. A summary of the studies can be found in Table 2. Individual participant studies ($n=296$) involved sample sizes ranging from 1 to 13,317 participants, while studies focusing on couples ($n=85$) included sample sizes between 1 and 10,742 couples. Among the individual participant studies, 280 focused on women, while 46 focused on men. In terms of geographic distribution, a total of 169 studies reported quantitative findings from the Middle East, with the majority conducted in Iran ($n=138$), followed by Israel ($n=20$) and Saudi Arabia ($n=5$). Additional studies were conducted in other parts of the Middle East, including Jordan, the United Arab Emirates, Palestine, and Iraq.

Mental health and well-being were significant to the quantitative findings. Psychological distress, particularly depression and anxiety, was frequently reported among individuals experiencing infertility. Studies in Israel, for example, found higher distress levels among women, with emphasis on the emotional burden faced by religious Jewish women undergoing fertility treatment, where community pressure and the need for social approval contributed to increased distress [157, 158, 183]. Studies conducted in Iran highlighted mental health outcomes such as depression, anxiety, and life satisfaction as key psychosocial challenges associated with infertility [25, 26, 28, 31, 34, 65, 69, 81, 97, 100, 110, 127]. These studies reported that wives experienced lower quality of life (QoL) scores than their husbands, with outcomes influenced by age, income, and depressive symptoms. Life satisfaction also emerged as a key outcome in studies from Israel, Jordan, and Iran. The psychological effects of fertility treatment, such as stress, anxiety, and distress, were the main findings, influenced by both individual and cultural factors [5, 26, 27, 118, 119, 163].

Across the reviewed studies, various coping strategies were identified. Coping flexibility and optimism were associated with increased personal growth and life satisfaction, particularly among women undergoing fertility treatment [5, 118, 119]. Religious practices and mindfulness-based stress reduction programs were also found

to be effective in improving QoL among participants experiencing infertility [55, 83, 96]. Additionally, structured therapeutic interventions such as Acceptance and Commitment Therapy (ACT) and cognitive behavioral therapy (CBT) were valuable in reducing psychological distress and promoting emotional resilience [27, 34].

The reviewed studies emphasized the role of social and family support in improving emotional wellbeing during infertility, specifically among religious Jewish women. Social approval and community validation played a significant role in emotional experiences [157, 158, 183]. Having family support resulted in improved life satisfaction and personal growth, especially when combined with positive coping strategies like optimism and flexibility [5, 118, 119]. Participants who engaged in mindfulness-based practices and structured group therapies also reported improved mental health outcomes [83, 96].

Despite the existing support systems, several studies highlighted the need for more accessible, culturally sensitive, and gender-responsive psychosocial interventions. The findings highlighted the importance of addressing the complex psychological impact of infertility with targeted mental health services that are mindful of relational dynamics, religious or cultural expectations, and gendered distress. In particular, the studies called for greater investment in emotional and psychological support designed for the diverse needs of participants undergoing fertility treatment [34, 96].

Discussion

The findings from this review highlight the significant psychological, social, and cultural impact of infertility on individuals and couples in the Middle East. There were significantly more quantitative studies ($n=169$) than qualitative studies ($n=28$), with most studies conducted in Iran. The qualitative studies emphasized the distressing nature of infertility, with individuals experiencing anxiety, depression, and feelings of inadequacy. The stigma surrounding infertility was particularly highlighted among women, who reported shame and social judgment, especially following unsuccessful infertility treatment attempts. Similarly, men faced significant identity crises, which were worsened by cultural expectations regarding masculinity and fertility, and the stigma associated with seeking fertility care. Coping strategies varied across studies, with religion being the main mechanism for emotional resilience. There was also a lack of psychological interventions across the reviewed studies. These findings are consistent with existing reviews conducted in Iran and other non-WEIRD contexts, which similarly document increased psychological distress, social stigma, and gendered experiences of infertility. For example, Yazdi et al. [216] found that infertile women in Iran experience high levels of depression, anxiety, and social

Table 2 References of 167 quantitative studies analyzed on infertility experiences in the Middle East

Article	Country	Sample Size	Controls	Study Design
Abbasi et al. [1]	Pakistan	100 women		Cross-sectional
Abdulmohsin [2]	Iraq	150 women	—	Cross-sectional descriptive design
Abolfotouh et al. [3]	Saudi Arabia	381 couples	—	Comparative cross-sectional study
Abramov et al. [4]	Israel	100 women	—	Longitudinal study
Abu-Sharkia et al. [5]	Israel	205 women	—	Cross-sectional
Afkhamzadeh et al. [6]	Iran	184 women	—	Cross-sectional
Aflakseir & Mahdiyar [7]	Iran	72 women	—	Cross-sectional
Afshani et al. [8]	Iran	100 couples	—	Cross-sectional
Ahmadi et al. [10]	Iran	400 women	201 women with PCOS (case); 199 women without PCOS (control)	—
Ahmadi et al. [11]	Iran	24 couples	12 experimental; 12 control	Case-control study; RCT
Aimagambetova et al. [12]	Kazakhstan	304 women		Prospective cohort study
Al-Homaidan [14]	Saudi Arabia	185 women	—	Cross-sectional
Aliyeh & Laya [15]	Iran	192 women	—	Cross-sectional
Al-Jaroudi [16]	Saudi Arabia	51 women	—	Cross-sectional
Alosaimi et al. [18]	Saudi Arabia	206 women; 200 men	—	Cross-sectional
Alosaimi et al. [19]	Saudi Arabia	206 women; 206 men	—	Cross-sectional
Arani et al. [23]	Iran	45 women	—	Quasi-experimental
Ardabili et al. [24]	Iran	400 women	—	Cross-sectional
Ashkani et al. [25]	Iran	486 couples	123 infertile; 120 fertile couples	RCT
Asl et al. [26]	Iran	36 women	18 control; 18 intervention	RCT
Asl et al. [27]	Iran	130 women	—	Descriptive-analytic
Asizaker et al. [28]	Iran	79 women	—	Correlational
Bakhtiyar et al. [30]	Iran	720 women	180 infertile; 540 fertile women	Case-control
Bashtian et al. [31]	Iran	224 women	—	Cross-sectional
Basirat et al. [32]	Iran	257 women	135 with PCOS; 122 without PCOS	—
Basirat et al. [33]	Iran	60 women	Sertraline ($n=20$); CBT ($n=20$); usual care ($n=20$)	Case-control study; RCT
Basirat et al. [34]	Iran	240 women	120 with PCOS; 120 without PCOS	Case-control study
Batool & de Visser [35]	Pakistan & UK	164 (Pakistan), 148 (UK)	Cross-cultural comparison	Cross-sectional
Benyamini et al. [39]	Israel	108 women	—	Cross-sectional
Benyamini et al. [40]	Israel	194 women	—	Cross-sectional
Benyamini et al. [41]	Israel	242 women	—	Cross-sectional; psychometry
Beygi et al. [42]	Iran	247 women	—	Cross-sectional
Bhamani et al. [43]	Pakistan	150 couples		Cross-sectional
Bhamani et al. [44]	Pakistan	500 patients (males & females)		Cross-sectional
Bidgoli et al. [45]	Iran	60 women	—	Intervention; comparative; RCT
Birenbaum-Carmeli & Dirnfeld [46]	Israel	137 women	—	Cross-sectional
Boorboor et al. [49]	Iran	28 women	—	Cross-sectional
Chazan & Kushnir [50]	Israel, US, other countries	90 women	—	Cross-sectional
Chehreh et al. [51]	Iran	400 couples	—	Cross-sectional
Cheli et al. [52]	Iran	30 women	—	Intervention
Czamanski-Cohen et al. [54]	Israel	50 women	—	Cross-sectional; RCT
Dadkhahtehrani et al. [55]	Iran	200 couples	—	Cross-sectional
Dastaran et al. [58]	Iran	80 women	—	Intervention; RCT
Direkvand-Moghadam et al. [61]	Iran	384 women	—	Cross-sectional study
Eghtedar et al. [64]	Iran	210 couples	—	Descriptive-correlational

Table 2 (continued)

Article	Country	Sample Size	Controls	Study Design
Ehsan et al. [65]	Iran	90 women	—	Randomized clinical trial
Elsous et al. [67]	Palestine	385 women	—	Cross-sectional study
Ershadpoor et al. [69]	Iran	200 women	—	Cross-sectional study
Faraji et al. [71]	Iran	30 couples	—	RCT
Faramarzi et al. [72]	Iran	89 women	—	Randomized controlled clinical trial
Faramarzi et al. [73]	Iran	89 women	—	Randomized controlled clinical trial
Fard et al. [74]	Iran	60 women	—	Clinical trial
Farzadi & Ghasemzadeh [76]	Asia	193 women	—	Cross-sectional study
Fatemi et al. [75]	Iran	240 women	—	Cross-sectional
Fido [77]	Middle East	245 women	—	Cross-sectional
Fido & Zahid [78]	Middle East	245 women	—	Cross-sectional
Foroudifard et al. [79]	Iran	240 women	—	Cross-sectional study
Ghafouri et al. [81]	Iran	250 couples	—	Correlation-based study
Ghaheeri et al. [82]	Iran	539 couples	—	Cross-sectional study
Ghuman et al. [83]	Iran	130 couples	—	Prospective cross-sectional study
Golshani et al. [84]	Iran	56 women	—	Controlled randomized clinical trial
Gonen & Bokek-Cohen [85]	Israel	62 men; 142 women	—	Cross-sectional
Grinstein-Cohen et al. [87]	Israel	159 women	—	Cross-sectional study
Hajjhasan et al. [88]	Iran	100 women	—	Randomized controlled trial
Hasanzadeh et al. [91]	Iran	30 women	—	Quasi-experimental study
Hassan et al. [92]	Pakistan & Saudi Arabia	390 women		Cross-sectional
Hassannejad Emamchay & Zabihi [93]	Iran	52 women	26 experimental; 26 control	Semi-experimental mindfulness intervention
Hesam et al. [94]	Iran	200 women	—	Correlational study
Honarvar & Taghavi [95]	Iran	1000 women	—	Cross-sectional study
Hosseini et al. [96]	Iran	36 women	—	Randomized controlled clinical trial
Hosseini et al. [97]	Iran	180 couples	—	Cross-sectional study
Iram et al. [98]	Pakistan	300 childless women		Cross-sectional
Jafarzadeh-Kenarsari et al. [99]	Iran	200 couples	—	Cross-sectional study
Jahromi et al. [100]	Iran	501 couples	—	Cross-sectional study
Kazemi et al. [101]	Iran	212 men		Cross-sectional study
Kazmi et al. [102]	Pakistan	200 women		Cross-sectional study
Keshavarz Mohammadi et al. [103]	Iran	30 women	15 patients in the test group and 15 in the control group	Randomized controlled clinical trial
Khalid & Dawood [106]	Pakistan	158 women		Cross-sectional study
Khayata et al. [107]	United Arab Emirates	269 women		Cross-sectional study
Khodakarami et al. [108]	Iran	104 women		Intervention
Khodarahimi et al. [109]	Iran	100 women		Exploratory
Khosrorad et al. [110]	Iran	216 couples		Descriptive analytical study
Kormi-Nouri et al. [112]	Iran & Sweden	120 women (60 per country)	Cross-cultural comparison	Cross-sectional study
Lotfollahi et al. [116]	Iran	500 women		Cross-sectional study
Mahadeen et al. [118]	Jordan	248 couples		Descriptive correlational study design
Mahadeen et al. [119]	Jordan	248 couples		Cross-sectional descriptive correlational study design
Maroufizadeh et al. [121]	Iran	155 women		Cross-sectional study
Maroufizadeh et al. [120]	Iran	180 couples		Cross-sectional study
Maroufizadeh et al. [122]	Iran	141 couples		Cross-sectional study
Maroufizadeh et al. [123]	Tehran, Iran	141 couples		Cross-sectional study
Maroufizadeh et al. [125]	Iran	142 women		Prospective study
Maroufizadeh et al. [126]	Iran	290 women; 249 men		Cross-sectional study
Maroufizadeh et al. [127]	Iran	254 couples		Methodological study

Table 2 (continued)

Article	Country	Sample Size	Controls	Study Design
Maroufizadeh et al. [128]	Iran	163 women; 149 men		Cross-sectional study
Marouizadeh et al. [129]	Iran	155 women		Cross-sectional
Marvi et al. [130]	Iran	102 women		Descriptive cross-sectional study
Masoumi et al. [131]	Iran	125 couples		Analytical Cross-sectional
Masoumi et al. [132]	Iran	2818 couples		Meta-analysis of cross-sectional studies
Merari et al. [135]	Israel	182 women		Cross-sectional study
Mirghafourvand et al. [136]	Iran	480 women		Cross-sectional study
Modarres et al. [137]	Iran	80 women		RCT
Moeenizadeh and Zarif [138]	Iran	22 women		Intervention Study, Psychometry
Moghadam et al. [139]	Iran	150 couples		Descriptive study
Mohammadzadeh et al. [140]	Iran	1146 couples		Cross-sectional
Mohammadzadeh et al. [141]	Iran	80 women		RCT, Intervention, Psychometry
Mosalanejad et al. [143]	Iran	61 women	Intervention group (n=30) and a control group (n=31)	Experimental
Mosalanejad and Koolee [144]	Iran	65 couples	33 in the experimental group and 32 in the control group	Randomised clinical trial, Intervention study with a control group
Moudi et al. [145]	Iran	135 women		Quasi-experimental study design, Intervention study
Mousavi et al. [146]	Iran	30 women		Clinical trial with a pre-test/post-test and a control group design
Najafi et al. [147]	Iran	15 couples		Semi-experimental method with a pre- and post-test design
Namdar et al. [148]	Iran	161 women		Cross-sectional
Navid et al. [149]	Iran	700 couples		Cross-sectional
Navid et al. [150]	Iran	280 couples		Cross-sectional
Navid et al. [151]	Iran	180 couples		Cross-sectional
Nejad et al. [152]	Iran	44 women		RCT
Nezhad et al. [153]	Iran	183 women		Cross-sectional
Noorbala et al. [155]	Iran	140 couples		Randomized clinical trial
Noorbala et al. [156]	Iran	300 women		Descriptive study
Nouman and Benyamini [157]	Israel	186 women		Cross sectional
Nouman and Benyamini [158]	Israel	194 women		Cross-sectional
Omani-Samani et al. [161]	Iran	946 women; 200 men		Cross-sectional
Omidi et al. [162]	Iran	245 women		Cross-sectional
Ostovar et al. [165]	Iran	80 women; 80 men		Psychometry
Öztürk et al. [166]	United States	12 women		Mixed-methods study
Pakpour et al. [167]	Iran	604 women		Cross-sectional
Pasha et al. [168]	Iran	485 women		Randomised, controlled clinical trial study
Pasha et al. [169]	Iran	93 women		Randomised controlled clinical trial
Poorheidari et al. [170]	Iran	44 couples		Semi-experimental study
Rahebi et al. [171]	Iran	400 women		Case-control study
Rahimi et al. [172]	Iran	40 women	Randomised controlled trial	Two-group clinical trial including pretest and post test
Rahimi et al. [173]	Iran	60 women	Randomised controlled trial, Intervention	
Rahmani et al. [174]	Iran	238 women		Descriptive study
Rahmati et al. [175]	Iran	200 women		Cross-sectional study
Ramezanzadeh et al. [176]	Iran	370 women		Cross-sectional study
Rashidi et al. [178]	Iran	514 women; 514 men		Cross-sectional study
Rasoulzadeh Bidgoli et al. [179]	Iran	60 women		Clinical controlled trial
Rasoulzadeh Bidgoly et al. [180]	Iran	60 women		Clinical trial
Rezaei et al. [181]	Iran	120 women		Descriptive-correlational study
Riazi et al. [182]	Iran	250 women		Cross-sectional study design

Table 2 (continued)

Article	Country	Sample Size	Controls	Study Design
Romano et al. [183]	Israel	41 women		Randomised double blind, placebo-controlled, parallel design study
Roudsari et al. [184]	Iran and UK	60 women	29 cases and control (31 people)	Clinical trial
Roudsari et al. [185]	Iran	115 couples		Descriptive, correlational study
Safaei Nezhad et al. [186]	Iran	50 women		Randomised controlled trial
Safaei Nezhad et al. [187]	Iran	183 women		Descriptive-analytic
Sahebalzamani et al. [188]	Iran	193 couples		Descriptive and correlational study
Samani et al. [190]	Iran	130 women		Cross-sectional
Samani et al. [191]	Iran	163 women; 149 men		Cross-sectional
Samani et al. [192]	Iran	180 couples		Cross-sectional
Shafierizi et al. [193]	Iran	122 women; 40 men		Cross-sectional
Shahraki et al. [194]	Iran	189 women		Cross-sectional
Shahraki et al. [195]	Iran	264 women		Cross-sectional
Shani et al. [196]	Israel	106 women		Cross-sectional
Sheikhan et al. [197]	Iran	400 women		Cross-sectional
Shlomo et al. [198]	Israel	177 women		Cross-sectional
Skvirsky et al. [199]	Israel	180 women		Cross-sectional
Sohbati et al. [200]	Iran	300 women		Cross-sectional
Soleimani et al. [201]	Iran	30 couples		Quasi-experimental – pretest posttest design
				Intervention study
Soltani et al. [202]	Iran	12 couples		Quasi-experimental
Sorkhani et al. [203]	Iran	60 couples	30 control, 30 intervention	Randomised controlled trial
Taghavi et al. [205]	Iran	180 couples		Case-control study
Taghvaeinia et al. [206]	Iran	24 women	12 Experimental; 12 Control	Intervention and Pre-test post-test experimental design
Toosi et al. [209]	Iran	80 women	Experimental - 40 Control - 40	RCT
Vatanparast et al. [210]	Iran	202 couples		Cross-sectional
Vizheh et al. [211]	Iran	100 couples		Randomized Controlled Trial/ Intervention
Vizheh et al. [212]	Iran	123 couples		Cross-sectional analysis
Yaghmaei et al. [215]	Iran	20 women; 14 men		Exploratory mixed method study
Yildiz et al. [219]	International	1177 women		Cross-sectional
Youseflu et al. [221]	Iran	280 women		Cross-sectional
Zaig et al. [222]	Israel	121 women		Prospective

isolation. This is mostly influenced by cultural beliefs about motherhood and being a spouse. In another study conducted by Yazdi et al. [217] in Iran, infertility was shown to seriously affect women's mental and social wellbeing. Stigma and social pressure worsened their mental wellbeing. Similar experiences have been seen in other non-Western countries. Research in China found that women experiencing infertility often felt stigmatized and withdrew socially. The extent of the stigma and social withdrawal is influenced by factors such as their income, social status, and how long they have experienced infertility [230]. Several studies across African countries namely Nigeria, Ghana and South Africa reported that infertility is related to depression, anxiety, stigma, and lower quality of life, mostly influenced by cultural and community expectations [17, 21, 66]. Additionally, research in Ghana highlighted that infertile couples often faced social

exclusion, verbal abuse, divorce, and emotional distress, demonstrating that infertility can seriously and adversely affect mental and social wellbeing [60] as well as the family structure [21]. Finally, studies in Jordan and Iraq also found that infertility negatively affects psychological wellbeing and social functioning, with stigma and societal pressure playing a major role in shaping the mental health outcomes [36, 142].

Quantitative studies supported these qualitative findings, demonstrating high levels of psychological distress among individuals experiencing infertility. Most studies reported that women experienced greater distress than men, emphasizing the different experiences between genders in relation to infertility-induced stress. Most of the research was also conducted among women rather than men. Furthermore, quantitative findings highlighted the critical role of social support in alleviating emotional

distress. The association between social expectations and infertility-related distress was significant in communities where cultural norms around reproduction place significant pressure on individuals, especially women. Research conducted in WEIRD countries similarly reports high rates of anxiety, depression, and strain on relationships among individuals experiencing infertility, suggesting that mental health challenges are widespread, though the presentation is shaped by cultural context [86, 117]. Studies from WEIRD countries tend to focus on individual coping and marital adjustment, whereas research in non-WEIRD contexts emphasizes the influence of extended family, community norms, and religious or cultural practices [66]. This contrast highlights that emotional and social reactions to infertility are shaped not only by personal experiences but also by the broader cultural and social environment [114].

Social stigma was a recurring theme, from the qualitative findings with women experiencing judgment not only from their communities but also within healthcare settings. Concerns regarding healthcare providers' lack of training, poor communication, and compromised patient privacy were commonly reported, leading some individuals to seek alternative sources of support, such as social media. Despite the significant burden of infertility, the studies included in the review revealed a lack of psychological interventions. Consistent with the findings of this review, other studies also show that infertility causes a lot of emotional stress and social difficulties, which matches what this review found. Several studies including reviews have reported that pressure and stigma from family and community members play a major role in women's psychological distress during infertility, leading to anxiety, loneliness, and low self-esteem, and often increasing strain within marriages [22, 38, 115, 214]. Additionally, the results report that even though psychological distress is common, many people experiencing infertility do not get enough support. They report unmet needs for counselling, peer support, and information, and barriers like low awareness or negative attitudes toward mental health services often prevent them from seeking help. Overall, the results from this review, along with other studies discussed, confirm that stigma and insufficient psychosocial support are central to the experience of infertility and highlight the need for targeted interventions to address these challenges.

Limitations

This review has a few limitations. Firstly, we acknowledge that the review may not have included some important studies because they were not written in English. Since English is not the main language in many Middle Eastern countries, relevant research published in languages commonly used in the region may have been excluded.

The results of the review report that most of the included studies were conducted in Iran. As a result, the findings may not fully represent the entire Middle East. A few countries, such as Lebanon, Syria, Kuwait, Bahrain, Qatar, and Yemen had very few or no studies included. This suggests that these countries could be underrepresented in the research, which limits how widely the results can be applied across the region. Lastly, there were significantly more quantitative studies than qualitative ones. This difference may mean that the review does not fully capture people's lived experiences or the in depth social and cultural context of the issue, which are more commonly explored in qualitative research.

Implications

Implications for research

Future research could focus on countries in the Middle East that have been studied less, so we can get a more complete and balanced picture of the psychological and social effects of infertility across the region. Additionally, researchers could try new qualitative methods, namely Online Photovoice, Online Interpretative Phenomenological Analysis, and Community-Based Participatory Research to better understand people's real-life experiences in their specific cultural settings [57, 208]. These methods can help researchers better understand some of the main dynamics highlighted in this review, such as stigma, coping, and community influences, and how they affect people. This deeper understanding can then guide the development of more practical and effective interventions.

Implications for clinical practice and services

The results from this review indicate that fertility services need to include psychological support that considers the cultural backgrounds of patients. Training healthcare providers to be more aware of stigma, communicate clearly and respectfully with patients, and protect patient privacy would help improve care. Finally, healthcare providers in fertility settings could routinely screen patients to check for emotional or social difficulties and provide access to counselling or peer-support programs. These measures could help reduce stress and emotional distress for individuals and couples dealing with infertility.

Implications for policy and funding

More research funding is needed in underrepresented Middle Eastern countries to support studies on the prevalence of infertility as well as studies testing interventions. In addition, policymakers may consider recognizing infertility not just as a medical issue, but also as a serious emotional and social problem that requires comprehensive and integrated interventions and services.

Conclusion

The studies reviewed provide valuable insights into the psychological, social, and health-related effects of infertility in the Middle East. The findings highlight variations in study distribution, with most research conducted in Iran, followed by Israel and Jordan. Overall, the studies demonstrate the significant psychosocial challenges faced by individuals experiencing infertility, with results indicating various contributing factors to psychological distress, self-esteem, and overall well-being. While various interventions, including cognitive behavioral therapy, mindfulness-based approaches, and behavioral activation therapy were identified as effective in improving mental health outcomes, there remains a need for further research on culturally tailored interventions. The majority of research on the psychosocial aspects of infertility in the Middle East is concentrated in countries such as Iran and Israel. There was little to no research found from Lebanon, Syria, Kuwait, Bahrain, Qatar, and Yemen. It is therefore important that funding be made available for research in these countries. Research is also mostly conducted among women, and future research should include males and gender-diverse individuals. This review highlights the significant emotional, social, and cultural challenges associated with infertility. While individuals use various coping mechanisms, the absence of formal psychological support remains a major gap. Addressing these issues through comprehensive interventions and improved healthcare provision could significantly improve the well-being of those affected by infertility.

Acknowledgements

We would like to thank Mrs Marleen Hendrickz, Senior Librarian at Stellenbosch University, for her assistance with developing the search string.

Authors' contributions

WM, DJ, and KS searched the databases. RR and MS reviewed abstracts. All authors (WM, ZV, RR, CE, DJ, KS, MS, and MM) extracted the data. All authors (WM, CE, DJ, KS, MS, MM, and RR) contributed to the writing of the article. WM managed the project.

Funding

Not applicable.

Data availability

Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

Declarations

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Published online: 13 April 2026

References

1. Abbasi S, Kousar R, Sadiq SS (2016) Depression and anxiety in Pakistani infertile women. *J Surg Pakistan* 21(1):13–17. <https://doi.org/10.21699/jsp.21.1.4>
2. Abdulmohsin MA (2018) Assessment of psychosocial status and spiritual beliefs of a sample of infertile men in Baghdad City/Iraq. *Med J Babylon* 15(2):139–144. https://doi.org/10.4103/MJBL.MJBL_30_18
3. Abolfotouh MA, Alabdrabalnabi AA, Albacker RB, Al-Jughaiman UA, Hassan SN (2013) Knowledge, attitude, and practices of infertility among Saudi couples. *Int J Gen Med* 6:563–573. <https://doi.org/10.2147/IJGM.S46884>
4. Abramov M, Shalom-Paz E, Benyamini Y (2022) Persevering in fertility treatments despite failures: unrealistic optimism and the reality of a pronatalist culture. *Int J Behav Med* 29(2):209–219. <https://doi.org/10.1007/s12529-021-10001-5>
5. Abu-Sharkia S, Taubman-Ben-Ari O, Mofareh A (2023) Personal growth and life satisfaction during fertility treatment-A comparison between Arab and Jewish women. *Int J Environ Res Public Health* 20(3):2187. <https://doi.org/10.3390/ijerph20032187>
6. Afkhamzadeh A, Mahmoodi H, Rahmani K, Mohammadi S, Haghshenas M, Faraji O (2022) The association between emotional maturity and domestic violence among infertile women. *Int J Hum Rights Healthc* 16(2):137–145. <https://doi.org/10.1108/IJHRH-09-2021-0173>
7. Aflakseir A, Mahdiyar M (2016) The role of religious coping strategies in predicting depression among a sample of women with fertility problems in Shiraz. *J Reprod Infertil* 17(2):117–122
8. Afshani SA, Mohammadi SMRG, Khani P, Khosravi A (2020) Role of resilience training on compromising of infertile couples' applicant for divorce: a cross-sectional study. *Int J Reprod Biomed* 18(3):193–200. <https://doi.org/10.18502/ijrm.v18i3.6717>
9. Aghakhani N, Ewalds-Kvist BM, Sheikhan F, Merghati Khoei E (2020) Iranian women's experiences of infertility: a qualitative study. *Int J Reprod Biomed* 18(1):65–73. <https://doi.org/10.18502/ijrm.v18i1.6203>
10. Ahmadi M, Faramarzi M, Basirat Z, Kheirkhah F, Chehrazhi M, Ashabi F (2020) Mental and personality disorders in infertile women with polycystic ovary: a case control study. *Afr Health Sci* 20(3):1241–1249. <https://doi.org/10.4314/ah.s.v20i3.28>
11. Ahmadi SM, Shahverdi J, Rezaei M, Bakhtiari M, Sadeghi K, Veisy F, Shahverdi M (2019) The effect of behavioral couple therapy on the improvement of mental health and reduction of marital conflict in infertile couples in Kerman-shah: a randomized controlled trial (RCT). *J Reprod Infertil* 20(1):16–23
12. Aimagambetova G, Issanov A, Terzic S, Bapayeva G, Ukybassova T, Baikoshkarova S, Terzic M (2020) The effect of psychological distress on IVF outcomes: reality or speculations? *PLoS ONE* 15(12):e0242024. <https://doi.org/10.1371/journal.pone.0242024>
13. Alamin S, Allahyari T, Ghorbani B, Sadeghitabar A, Karami MT (2020) Failure in identity building as the main challenge of infertility: a qualitative study. *J Reprod Infertil* 21(1):49–58
14. Al-Homaidan HT (2011) Depression among women with primary infertility attending an infertility clinic in Riyadh, Kingdom of Saudi Arabia: rate, severity, and contributing factors. *Int J Health Sci* 5(2):108
15. Aliyeh G, Laya F (2007) Quality of life and its correlates among a group of infertile Iranian women. *Med Sci Monit* 13(7):CR313–CR317
16. Al-Jaroudi DH (2010) Beliefs of subfertile Saudi women. *Saudi Med J* 31(4):425–427
17. Alhassan A, Ziblim AR, Muntaka S (2014) A survey on depression among infertile women in Ghana. *BMC Womens Health* 14(1):42. <https://doi.org/10.1186/1472-6874-14-42>
18. Alsaimi FD, Altuwirqi MH, Bukhari M, Abotalib Z, BinSaleh S (2015) Psychiatric disorders among infertile men and women attending three infertility clinics in Riyadh, Saudi Arabia. *Ann Saudi Med* 35(5):359–367. <https://doi.org/10.5144/0256-4947.2015.359>
19. Alsaimi FD, Bukhari M, Altuwirqi M, Habous M, Madbouly K, Abotalib Z, Binsaleh S (2017) Gender differences in perception of psychosocial distress and coping mechanisms among infertile men and women in Saudi Arabia. *Hum Fertil* 20(1):55–63
20. ALSumri H, Szatkowski L, Gibson J, Fiaschi L, Bains M (2023) Psychosocial impacts of infertility among Omani women with polycystic ovarian syndrome: a qualitative study. *Int J Fertil Steril* 17(2):107–114. <https://doi.org/10.2074/ijfs.2022.550111.1310>

21. Anokye R, Acheampong E, Mprah WK, Ope JO, Barivure TN (2017) Psycho-social effects of infertility among couples attending St. Michael's Hospital, Jachie-Pramso in the Ashanti Region of Ghana. *BMC Res Notes* 10(1):690. <https://doi.org/10.1186/s13104-017-3008-8>
22. Anupriya, Siddiqui A., Singh RV, Lata S, Varghese G (2025) Role of resilience and stigma in psychological well-being of infertile women. *J Psychosoc Res. Advance online publication.* <https://doi.org/10.32381/JPR.2025.20.02.1>
23. Arani AM, Hosseini S, Lotfinia S, Ebrahimi LS, Mousavi SE, Mohammadzadehgan R, Hosseini SM (2022) The comparative efficacy of unified transdiagnostic protocol (UP) and mindfulness-based stress reduction protocol (MBSR) on emotion regulation and uncertainty intolerance in infertile women receiving IVF. *J Clin Psychol Med Settings* 30(3):578–588. <https://doi.org/10.1007/s10880-022-09917-1>
24. Ardabili HE, Moghadam ZB, Salsali M, Ramezanzadeh F, Nedjat S (2011) Prevalence and risk factors for domestic violence against infertile women in an Iranian setting. *Int J Gynaecol Obstet* 112(1):15–17. <https://doi.org/10.1016/j.jgo.2010.07.030>
25. Ashkani H, Akbari A, Heydari S (2006) Epidemiology of depression among infertile and fertile couples in Shiraz, southern Iran. *Indian J Med Sci* 60(10):399–406.
26. Asl S, Bakhtiari M, Raufi A, Yousefi V, Poursalman M, Ahmadi S (2013) Happiness and related factors in infertile women. *Int J Adv Stud Humanit Soc Sci* 1(8):1166–1173
27. Asl STS, Sadeghi K, Bakhtiari M, Ahmadi SM, Anamagh AN, Khayatan T (2016) Effect of group positive psychotherapy on improvement of life satisfaction and the quality of life in infertile women. *Int J Fertil Steril* 10(1):105
28. Aslzaker M, Pourshahbaz A, Bagheri Lankarani N, Mohammadkhani P, Geranmayepour S (2016) Effects of infertility stress, psychological symptoms, and quality of life on predicting success rate of IVF/ICSI treatment in infertile women. *Prac Clin Psychol* 4(4):275–281. <https://doi.org/10.18869/acadpub.jpcp.4.4.275>
29. Bagheri M, Jafarabadi M, Vasegh Rahimparvar SF, Nourbala AA, Behboodi Moghadam Z (2020) Concerns of infertile women candidates for egg donation: a qualitative study. *J Fam Reprod Health* 14(1):21–31. <https://doi.org/10.18502/jfrh.v14i1.3784>
30. Bakhtiyar K, Beiranvand R, Ardalan A, Changae F, Almasian M, Badrizadeh A, Ebrahimzadeh F (2019) An investigation of the effects of infertility on women's quality of life: a case-control study. *BMC Womens Health* 19(1):114. <https://doi.org/10.1186/s12905-019-0805-3>
31. Bashtian MH, Khadivzadeh T, Aval SB, Esmaily H, Amirian M (2018) Factors influencing anxiety in infertile women undergoing IVF/ICSI treatment. *J Midwife Reprod Health* 6(2). <https://doi.org/10.22038/jmrh.2018.10450>
32. Basirat Z, Faramarzi M, Chehrizi M, Amiri M, Ghofrani F, Tajalli Z (2020) Differences between infertile women with and without PCOS in terms of anxiety, coping styles, personality traits, and social adjustment: a case-control study. *Arch Gynecol Obstet* 301(2):619–626. <https://doi.org/10.1007/s00404-019-05391-7>
33. Basirat Z, Faramarzi M, Esmaelzadeh S, Firoozjai SA, Mahouti T, Geraili Z (2019) Stress, depression, sexual function, and alexithymia in infertile females with and without polycystic ovary syndrome: a case-control study. *Int J Fertil Steril* 13(3):203–208. <https://doi.org/10.22074/ijfs.2019.5703>
34. Basirat Z, Kheirkhah F, Faramarzi M, Esmaelzadeh S, Khafri S, Tajali Z (2022) Pharmacotherapy or psychotherapy? Selective treatment depression in the infertile women with recurrent pregnancy loss: a triple-arm randomized controlled trial. *Int J Fertil Steril* 16(3):211–219. <https://doi.org/10.22074/IJFS.2021.529258.1124>
35. Batool SS, de Visser RO (2014) Psychosocial and contextual determinants of health among infertile women: a cross-cultural study. *Psychol Health Med* 19(6):673–679. <https://doi.org/10.1080/13548506.2014.880492>
36. Bawadi H, Al-Hamdan ZM, Clark CJ, Hall-Clifford R, Hamadneh JM, Al-Sharu EE (2024) Infertile Jordanian women's self-perception about societal violence: an interpretative phenomenological study. *Int J Womens Health* 16:593–603. <https://doi.org/10.2147/IJWH.S451950>
37. Bayrami R, Janghorban R, Effati-Daryani F, Hajshafahi M (2020) Supportive care: men's expectations who undergoing in vitro fertilization treatment. *BMC Res Notes* 13(1):552. <https://doi.org/10.1186/s13104-020-05407-5>
38. Behude YT, Sendo EG, Tamir HHP (2025) Psycho-social experiences and coping strategies of infertile couples attending infertility clinics in Saint Paul's Hospital Millennium Medical College, Addis Ababa, Ethiopia: a qualitative study. *BMJ Open* 15:e095313. <https://doi.org/10.1136/bmjopen-2024-095313>
39. Benyamini Y, Gozlan M, Weissman A (2017) Normalization as a strategy for maintaining quality of life while coping with infertility in a pronatalist culture. *Int J Behav Med* 24(6):871–879. <https://doi.org/10.1007/s12529-017-9656-1>
40. Benyamini Y, Nouman H, Alkalay Y (2016) Perceived control over the medical procedure and its association with adjustment to a low-control situation: the case of infertility. *Psychol Health Med* 21(4):476–482. <https://doi.org/10.1080/13548506.2015.1123816>
41. Benyamini Y, Gozlan M, Kokia E (2005) Variability in the difficulties experienced by women undergoing infertility treatments. *Fertil Steril* 83(2):275–283. <https://doi.org/10.1016/j.fertnstert.2004.10.014>
42. Beygi Z, Bahia NJ, Nourimand F, Amoozandeh Z, Forouhari S (2021) The relationship between spiritual well-being, mental health and quality of life in infertile women. *Fam Med Prim Care Rev* 23(4)
43. Bhamani S, Zahid N, Rizvi A, Shaheen F, Shah N, Sachwani S, Farooq S, Azam S, Asad N (2022) A dyadic approach to depression, resilience and quality of life on marital adjustment among infertile couples in Karachi, Pakistan: a cross-sectional study. *Int J Nurs Pract* 28(6):e13090. <https://doi.org/10.1111/ijn.13090>
44. Bhamani S, Zahid N, Zahid W, Farooq S, Sachwani S, Chapman M, Asad N (2020) Association of depression and resilience with fertility quality of life among patients presenting to the infertility centre for treatment in Karachi, Pakistan. *BMC Public Health* 20(1):1607. <https://doi.org/10.1186/s12889-020-09706-1>
45. Bidgoli MR, Roudsari RL, Montazeri A (2020) The effectiveness of a collaborative infertility counseling (CIC) on pregnancy outcome in women undergoing in vitro fertilization: a randomized trial. *BMC Pregnancy Childbirth* 20(1):728. <https://doi.org/10.1186/s12884-020-03417-6>
46. Birenbaum-Carmeli D, Dirnfeld M (2008) In vitro fertilisation policy in Israel and women's perspectives: the more the better? *Reprod Health Matters* 16(31):182–191. [https://doi.org/10.1016/s0968-8080\(08\)31352-4](https://doi.org/10.1016/s0968-8080(08)31352-4)
47. Bokaie M, Simbar M, Yassini Ardekani SM (2015) Sexual behavior of infertile women: a qualitative study. *Iran J Reprod Med* 13(10):645–656
48. Bokaie M, Simbar M, Ardekani SM, Majd HA (2016) Women's beliefs about infertility and sexual behaviors: a qualitative study. *Iran J Nurs Midwifery Res* 21(4):379–384. <https://doi.org/10.4103/1735-9066.185579>
49. Boorboor N, Nekah MH, Hamidi B, Uosefi M, Eskandarian F, Mousavi S (2022) Online behavioral activation therapy on depression and alexithymia in infertile women during the COVID-19 pandemic lockdown. *Arch Hyg Sci* 11(3):210–215. <https://doi.org/10.34172/AHS.11.3.3154>
50. Chazan L, Kushnir T (2019) Losses and gains of psychosocial resources: effects on stress among women undergoing infertility treatments and participating in social network systems. *Psychiatr Q* 90(4):717–732. <https://doi.org/10.1007/s11126-019-09661-0>
51. Chehreh R, Ozgoli G, Abolmaali K, Nasiri M, Karamelahi Z (2021) Child-free lifestyle and the need for parenthood and relationship with marital satisfaction among infertile couples. *Iran J Psychiatry* 16(3):243. <https://doi.org/10.18502/ijps.v16i3.6249>
52. Cheli AH, Mohtashami J, Zadehmodares S, Arabborzu Z (2019) The effect of transactional analysis group behavioral therapy on infertile women's marital satisfaction. *Crescent J Med Biol Sci* 6(3)
53. Cox CM, Thoma ME, Tchangalova N, Mburu G, Bornstein MJ, Johnson CL, Kiarie J (2022) Infertility prevalence and the methods of estimation from 1990 to 2021: a systematic review and meta-analysis. *Hum Reprod Open*. <https://doi.org/10.1093/hropen/hoac051>
54. Czamanski-Cohen J, Sarid O, Cwikel J, Levitas E, Har-Vardi I (2019) Are there preferred coping and communication strategies while undergoing IVF, and do cognitive behavioral interventions help? *J Ment Health Train Educ Pract* 14(1):20–32. <https://doi.org/10.1108/JMHTP-12-2018-0022>
55. Dadkhahtehrani T, Momenyan S, Heidari S, Momenyan N (2018) Association between the religious coping of infertile people with their own quality of life and their spouses': a correlation study in Iranian infertile couples. *Iran J Nurs Midwifery Res* 23(3):198–204
56. Daibes MA, Safadi RR, Athamneh T, Anees IF, Constantino RE (2018) "Half a woman, half a man; that is how they make me feel": a qualitative study of rural Jordanian women's experience of infertility. *Cult Health Sex* 20(5):516–530. <https://doi.org/10.1080/13691058.2017.1359672>
57. Dari T, Fox C, Laux JM, Speedlin Gonzalez S (2023) The development and validation of the Community-Based Participatory Research Knowledge Self-Assessment Scale (CBPR-KSAS): a Rasch analysis. *Meas Eval Couns Dev* 56(1):64–79. <https://doi.org/10.1080/07481756.2022.2034478>
58. Dastaran F, Maasoumi R, Foroozanfar F, Haghani S (2022) The effect of BETTER based sex counseling on sexual quality of life in infertile women: a

- randomized controlled clinical trial. *Sex Disabil* 40(4):785–806. <https://doi.org/10.1007/s11195-022-09759-7>
59. Demirci H, Sen S (2023) Sexual experiences of infertile women: a qualitative study. *Niger J Clin Pract* 26(2):229–233. https://doi.org/10.4103/njcp.njcp_651_22
60. Diallo AA, Anku PJ, Darkoa Oduro RA (2024) Exploring the psycho-social burden of infertility: perspectives of infertile couples in Cape Coast, Ghana. *PLoS ONE* 19(1):e0297428. <https://doi.org/10.1371/journal.pone.0297428>
61. Direkvand-Moghadam A, Delpisheh A, Direkvand-Moghadam A (2015) Effect of infertility on sexual function: a cross-sectional study. *Journal of Clinical and Diagnostic Research: JCDR* 9(5):QC01
62. Doyle M, Carballedo A (2014) Infertility and mental health. *Adv Psychiatr Treat* 20(5):297–303. <https://doi.org/10.1192/apt.bp.112.010926>
63. Dube L, Bright K, Hayden KA, Gordon JL (2023) Efficacy of psychological interventions for mental health and pregnancy rates among individuals with infertility: a systematic review and meta-analysis. *Hum Reprod Update* 29(1):71–94. <https://doi.org/10.1093/humupd/dmac034>
64. Eghtedar S, Asghari E, Aparnak FS, Asgarloo Z, Rasti P (2021) Marital adjustment as a predictor of quality of life in infertile couples. *Asian Journal of Social Health and Behavior* 4(3):105–109. https://doi.org/10.4103/shb.shb_10_21
65. Ehsan Z, Yazdkhasti M, Rahimzadeh M, Ataee M, Esmaelzadeh-Saeieh S (2019) Effects of group counseling on stress and gender-role attitudes in infertile women: a clinical trial. *J Reprod Infertil* 20(3):169
66. Ekpor E, Brobbey SS, Kumah CY, Akyirem S (2025) Experience of infertility-related stigma in Africa: a systematic review and mixed methods meta-synthesis. *Int Health* 17(6):903–913. <https://doi.org/10.1093/inthealth/ihaf060>
67. Elsous A, El-Kass SDA, Salama A, Radwan M, Abo-Eid S, Baloushah S (2021) Depression among infertile women in Gaza Strip: symptom severity and predictors. *Depress Res Treat* 2021:6616489. <https://doi.org/10.1155/2021/6616489>
68. Engel GL (1980) The clinical application of the biopsychosocial model. *Am J Psychiatry* 137(5):535–544
69. Ershadpoor R, Mohandesi M, Sobhanian S, Jahromi Rasekh A (2014) Spiritual well-being infertile women...1st International Congress on Reproductive Ethics 3rd National Congress on Ethics & Modern Methods of Infertility Treatment, December 18th–20th, 2013. *Journal of Jahrom University of Medical Sciences* 11:256–256
70. Fahami F, Quchani SH, Ehsanpour S, Boroujeni AZ (2010) Lived experience of infertile men with male infertility cause. *Iran J Nurs Midwifery Res* 15(Suppl 1):265–271
71. Faraji M, Alimadadi H, Moshfeghi N, Namazi R, Mousavi S (2021) The effects of acceptance and commitment therapy plus positive thinking training on distress and wellbeing in infertile women with marital conflicts. *Arch Hyg Sci* 10(3):215–224. <https://doi.org/10.32598/ahs.10.3.215>
72. Faramarzi M, Alipor A, Esmaelzadeh S, Kheirkhah F, Poladi K, Pash H (2008) Treatment of depression and anxiety in infertile women: cognitive behavioral therapy versus fluoxetine. *J Affect Disord* 108(1–2):159–164. <https://doi.org/10.1016/j.jad.2007.09.002>
73. Faramarzi M, Pasha H, Esmaelzadeh S, Kheirkhah F, Heidary S, Afshar Z (2013) The effect of cognitive behavioral therapy and pharmacotherapy on infertility stress: a randomized controlled trial. *Int J Fertil Steril* 7(3):199
74. Fard TR, Kalantarkousheh M, Faramarzi M (2018) Effect of mindfulness-based cognitive infertility stress therapy on psychological well-being of women with infertility. *Middle East Fertil Soc J* 23(4):476–481. <https://doi.org/10.1016/j.mefs.2018.06.001>
75. Fatemi AS, Younesi SJ, Azkosh M, Askari A (2010) Comparison of dysfunctional attitudes and social adjustment among infertile employed and unemployed women in Iran. *Int J Psychol* 45(2):140–146. <https://doi.org/10.1080/00207590903281096>
76. Farzadi L, Ghasemzadeh A (2008) Two main independent predictors of depression among infertile women: An Asian experience. *Taiwanese J Obstet Gynecol* 47(2):163–167
77. Fido A (2004) Emotional distress in infertile women in Kuwait. *Int J Fertil Womens Med* 49(1):24–28
78. Fido A, Zahid MA (2004) Coping with infertility among Kuwaiti women: cultural perspectives. *Int J Soc Psychiatry* 50(4):294–300. <https://doi.org/10.1177/0020764004050334>
79. Foroudifard F, Amini P, Navid B, Omani-Samani R, Sepidarkish M, Maroufizadeh S (2020) Cognitive emotion regulation, anxiety, and depression in infertile women: a cross-sectional study. *Middle East Fertil Soc J* 25(1):24
80. Frederiksen Y, Farver-Vestergaard I, Skovgård NG, Ingerslev HJ, Zachariae R (2015) Efficacy of psychosocial interventions for psychological and pregnancy outcomes in infertile women and men: a systematic review and meta-analysis. *BMJ Open* 5(1):e006592. <https://doi.org/10.1136/bmjopen-2014-006592>
81. Ghafouri SF, Ghanbari S, Fallahzadeh H, Shokri O (2016) The relation between marital adjustment and posttraumatic growth in infertile couples: the mediatory role of religious coping strategies. *J Reprod Infertil* 17(4):221
82. Ghaheeri A, Omani-Samani R, Sepidarkish M, Hosseini M, Maroufizadeh S (2020) The four-item patient health questionnaire for anxiety and depression: a validation study in infertile patients. *Int J Fertil Steril* 14(3):234. <https://doi.org/10.22074/ijfs.2020.44412>
83. Ghuman NK, Raikar S, Singh P, Nebhinani N, Kathuria P (2021) In it together: a dyadic approach to assessing the health-related quality of life and depression among infertile couples. *Fam Syst Health* 39(4):576. <https://doi.org/10.1037/fs0000630>
84. Golshani F, Hasanpour S, Mirghafourvand M, Esmaeilpour K (2021) Effect of cognitive behavioral therapy-based counseling on perceived stress in pregnant women with history of primary infertility: a controlled randomized clinical trial. *BMC Psychiatry* 21(1):278. <https://doi.org/10.1186/s12888-021-03283-2>
85. Gonen LD, Bokek-Cohen YA (2020) The experience of being an in vitro fertilization (IVF) patient in a pro-natalist society—a form of emotional labor. *Soc Work Health Care* 59(5):273–299. <https://doi.org/10.1080/00981389.2020.1749214>
86. Greil AL, Slauson-Blevins K, McQuillan J (2010) The experience of infertility: a review of recent literature. *Sociol Health Illn* 32(1):140–162. <https://doi.org/10.1111/j.1467-9566.2009.01213.x>
87. Grinstein-Cohen O, Katz A, Sarid O (2017) Religiosity: its impact on coping styles among women undergoing fertility treatment. *J Relig Health* 56(3):1032–1041. <https://doi.org/10.1007/s10943-016-0344-2>
88. Hajjhasan F, Samani NL, Ashrafi M, Javam M, Seyedfatemi N, Hoseyni AM (2015) Assessment of relaxation effect on anxiety in infertile women undergoing assisted reproduction techniques during ovulation induction. *Int J Fertil Steril* 9:100
89. Hasanpoor-Azghdy SB, Simbar M, Vedadhir A (2014) The emotional-psychological consequences of infertility among infertile women seeking treatment: results of a qualitative study. *Iran J Reprod Med* 12(2):131
90. Hasanpoor-Azghady, S. B., Simbar, M., Vedadhir, A. A., Azin, S. A., & Amiri-Farahani, L. (2019). The social construction of infertility among Iranian infertile women: A qualitative study. *Journal of Reproduction & Infertility*, 20(3), 178.
91. Hasanzadeh M, Akbari B, Abolghasemi A (2019) Efficiency of acceptance and commitment therapy on psychological well-being and sexual function in women with infertility history. *Avicenna J Nurs Midwifery Care* 27(4):250–259. <https://doi.org/10.30699/ajnm.27.4.250>
92. Hassan SUN, Zahra A, Parveen N, Iqbal N, Mumtaz S, Batool A (2022) Quality of infertility care services and emotional health of South Asian women. *Psychol Res Behav Manag* 15:1131–1146
93. Hassannejad Emamchay M, Zabihi R (2021) The effect of mindfulness-based stress reducing program on tolerance of ambiguity, rumination, and meta-cognitive awareness in infertile women. *Br J Guidance Couns*. <https://doi.org/10.1080/03069885.2021.1961209>
94. Hesam AA, Taghipour L, Rasekhi S, Fallahi S, Hesam Z (2017) Investigating the multiple aspects of mental health in infertile women. *Int J Ment Health Addict* 15(4):928–932. <https://doi.org/10.1007/s11469-016-9675-1>
95. Honarvar N, Taghavi M (2020) Relation of religious coping and depression levels in infertile women. *Iran J Psychiatry* 15(2):134
96. Hosseini MS, Mousavi P, Hekmat K, Haghighizadeh MH, Fard RJ, Jafari RM (2020) Effects of a short-term mindfulness-based stress reduction program on the quality of life of women with infertility: a randomized controlled clinical trial. *Complement Ther Med* 50:102403. <https://doi.org/10.1016/j.ctim.2020.102403>
97. Hosseini M, Sepidarkish M, Omani-Samani R, Maroufizadeh S (2021) Gender differences in self-efficacy, resilience, and social support among infertile Iranian couples: a dyadic approach. *Iran J Public Health* 50(6):1295
98. Iram A, Mustafa M, Ahmad S, Maqsood S, Maqsood F (2021) The effects of provision of instrumental, emotional, and informational support on psychosocial adjustment of involuntary childless women in Pakistan. *J Fam Issues* 42(10):2289–2318. <https://doi.org/10.1177/0192513X20978441>
99. Jafarzadeh-Kenarsari F, Ahmad-Amraji L, Abouzari-Gazafroodi K (2021) Evaluation of infertility-related stress and its associated factors in infertile clients: a

- cross-sectional study. *Prev Care Nurs Midwifery J* 11(1):1–10. <https://doi.org/10.52547/pcnm.11.1.1>
100. Jahromi BN, Mansouri M, Forouhari S, Poordast T, Salehi A (2017) Quality of life and its influencing factors of couples referred to an infertility center in Shiraz, Iran. *Int J Fertil Steril* 11(4):293
101. Kazemi A, Torabi M, Abdishahshani M (2021) Adjustment toward infertility mediates the relationship between coping, depression and anxiety in men: a confirmatory analysis. *Eur J Obstet Gynecol Reprod Biol* 258:48–52. <https://doi.org/10.1016/j.ejogrb.2020.12.049>
102. Kazmi SF, Jadoon A, Rehman A (2016) Impact of infertility duration on mental health of infertile women. *Journal of the Society of Obstetricians and Gynaecologists of Pakistan* 6(2):83
103. Keshavarz Mohammadi R, Agha Bozorgi S, Shariat S, Hamidi M (2018) The effectiveness of positive psychotherapy on mental endurance, self-compassion and resilience of infertile women. *J Soc Behav Community Health* 2(2):235–244. <https://doi.org/10.18502/sbrh.v2i2.285>
104. Khadivzadeh T, Hassanzadeh Bashtian M, Badiie Aval S, Esmaily H (2017) The perception and experience of infertile women undergoing IVF/ICSI about acupuncture: A qualitative study. <https://www.cochranelibrary.com/central/doi/10.1002/central/CN-01412125/full>
105. Khakbazan Z, Maasoumi R, Rakhshae Z, Nedjat S (2020) Exploring reproductive health education needs in infertile women in Iran: a qualitative study. *J Prev Med Public Health* 53(5):353–361. <https://doi.org/10.3961/jpmph.20.056>
106. Khalid A, Dawood S (2020) Social support, self-efficacy, cognitive coping and psychological distress in infertile women. *Arch Gynecol Obstet* 302(2):423–430. <https://doi.org/10.1007/s00404-020-05614-2>
107. Khayata GM, Rizk DEE, Hasan MY, Ghazal-Aswad S, Asaad MAN (2003) Factors influencing the quality of life of infertile women in United Arab Emirates. *Int J Gynaecol Obstet* 80(2):183–188. [https://doi.org/10.1016/s0020-7292\(02\)00387-9](https://doi.org/10.1016/s0020-7292(02)00387-9)
108. Khodakarami B, Masoumi SZ, Shayan A, Ahmadnia H, Dastgerdian F, Rabiei S (2020) The effect of counseling on stress in infertile women admitted to an infertility center in Hamadan City, Iran. *Curr Psychiatry Res Rev* 16(3):220–226. <https://doi.org/10.2174/2666082216999200905134548>
109. Khodarahimi S, Hosseini-mirzaei S, Bruna MMO (2014) The role of infertility in mental health, psychological distress and sexual dysfunction in a sample of Iranian women. *Women Ther* 37(1–2):178–194. <https://doi.org/10.1080/02703149.2014.850331>
110. Khosrorad T, Dolatian M, Riazhi H, Mahmoodi Z, Alavimajid H, Shahsavari S, Bakhtiari M (2015) Comparison of lifestyle in fertile and infertile couples in Kermanshah during 2013. *Iran J Reprod Med* 13(9):549
111. Kiani Z, Simbar M, Hajian S, Zayeri F (2020) Quality of life among infertile women living in a paradox of concerns and dealing strategies: a qualitative study. *Nurs Open* 8(1):251–261. <https://doi.org/10.1002/nop2.624>
112. Kormi-Nouri R, Zahraei S, Bergbom S (2018) A cross-cultural study about positive and negative emotions and well-being in infertile women. *Annual International Conference on Cognitive & Behavioral Psychology* 75–85
113. Küçükkaya M, Kılıç M (2022) The effect of stigma on level of infertility-related psychological distress in women with infertility. *Afr J Reprod Health* 26(2):13–25. <https://doi.org/10.29063/ajrh2022/v26i2.2>
114. Kuug AK, James S, Sihaam JB (2023) Exploring the cultural perspectives and implications of infertility among couples in the Talensi and Nabdam Districts of the Upper East Region of Ghana. *Contraception Reprod Med* 8(1):28. <https://doi.org/10.1186/s40834-023-00225-z>
115. Labinjo T (2022) A qualitative synthesis of the impact of infertility on the mental health of African women. *African Journal of Reproductive Health* 26(12). <https://doi.org/10.29063/ajrh2022/v26i12.6>
116. Lotfollahi H, Riazhi H, Omani-Samani R, Maroufizadeh S, Montazeri A (2021) Sexual self-concept in fertile and infertile women: a comparative study. *Int J Fertil Steril* 15(1):60
117. Luk BH, Loke AY (2015) The impact of infertility on the psychological well-being, marital relationships, sexual relationships, and quality of life of couples: a systematic review. *J Sex Marital Ther* 41(6):610–625. <https://doi.org/10.1080/0092623X.2014.958789>
118. Mahadeen A, Hamdan-Mansour A, Habashneh S, Dardas L (2020) Sexual satisfaction among infertile couples: demographics and psychosocial health factors. *J Psychosoc Nurs Ment Health Serv* 58(9):40–47. <https://doi.org/10.3928/0793695-20200812-01>
119. Mahadeen A, Mansour A, Al-Halabi J, Al Habashneh S, Kenana AB (2018) Psychosocial wellbeing of infertile couples in Jordan. *East Mediterr Health J* 24(2):169–176. <https://doi.org/10.26719/2018.24.2.169>
120. Maroufizadeh S, Ghaheeri A, Almasi-Hashiani A, Mohammadi M, Navid B, Ezabadi Z, Samani RO (2018) The prevalence of anxiety and depression among people with infertility referring to Royan Institute in Tehran, Iran: a cross-sectional questionnaire study. *Middle East Fertil Soc J* 23(2):103–106
121. Maroufizadeh S, Ghaheeri A, Samani RO (2017) Factors associated with poor quality of life among Iranian infertile women undergoing IVF. *Psychol Health Med* 22(2):145–151. <https://doi.org/10.1080/13548506.2016.1153681>
122. Maroufizadeh S, Hosseini M, Foroushani AR, Omani-Samani R, Amini P (2018) The effect of depression on quality of life in infertile couples: an actor-partner interdependence model approach. *Health Qual Life Outcomes* 16(1):73. <https://doi.org/10.1186/s12955-018-0904-0>
123. Maroufizadeh S, Hosseini M, Foroushani AR, Omani-Samani R, Amini P (2018) The relationship between marital satisfaction and depression in infertile couples: an actor-partner interdependence model approach. *BMC Psychiatry* 18(1):310. <https://doi.org/10.1186/s12888-018-1893-6>
124. Maroufizadeh S, Karimi E, Vesali S, Samani RO (2015) Anxiety and depression after failure of assisted reproductive treatment among patients experiencing infertility. *Int J Gynaecol Obstet* 130(3):253–256. <https://doi.org/10.1016/j.ijgo.2015.03.044>
125. Maroufizadeh S, Navid B, Omani-Samani R, Amini P (2019) The effects of depression, anxiety and stress symptoms on the clinical pregnancy rate in women undergoing IVF treatment. *BMC Res Notes* 12(1):1–4
126. Maroufizadeh S, Omani-Samani R, Almasi-Hashiani A, Amini P, Sepidarkish M (2019) The reliability and validity of the Patient Health Questionnaire-9 (PHQ-9) and PHQ-2 in patients with infertility. *Reprod Health* 16(1):137. <https://doi.org/10.1186/s12978-019-0802-x>
127. Maroufizadeh S, Omani-Samani R, Hosseini M, Almasi-Hashiani A, Sepidarkish M, Amini P (2020) The Persian version of the revised dyadic adjustment scale (RDAS): a validation study in infertile patients. *BMC Psychol* 8(1):6. <https://doi.org/10.1186/s40359-020-0375-z>
128. Maroufizadeh S, Samani RO, Amini P, Navid B (2018) Factor structure, reliability, and validity of the Levenson's Locus of Control Scale in Iranian infertile people. *J Health Psychol* 23(13):1668–1676. <https://doi.org/10.1177/1359105316666659>
129. Maroufizadeh S, Ghaheeri A, Amini P, Samani RO (2017) Psychometric properties of the Fertility Quality of Life Instrument in infertile Iranian women. *Int J Fertil Steril* 10(4):371–379
130. Marvi N, Golmakani N, Esmaily H, Shareh H (2018) The relationship between sexual satisfaction and genital self-image in infertile women. *J Midwifery Reprod Health* 6(4):1468–1475. <https://doi.org/10.22038/jmrh.2018.10679>
131. Masoumi SZ, Garousian M, Khani S, Oliaei SR, Shayan A (2016) Comparison of quality of life, sexual satisfaction and marital satisfaction between fertile and infertile couples. *Int J Fertil Steril* 10(3):290–296
132. Masoumi SZ, Poorolajal J, Keramat A, Moosavi SA (2013) Prevalence of depression among infertile couples in Iran: a meta-analysis study. *Iran J Public Health* 42(5):458–466
133. Mascarenhas MN, Flaxman SR, Boerma T, Vanderpoel S, Stevens GA (2012) National, regional, and global trends in infertility prevalence since 1990: a systematic analysis of 277 health surveys. *PLoS Med* 9(12):e1001356. <https://doi.org/10.1371/journal.pmed.1001356>
134. Memar, F. Z., & Farajkhoda, T. (2022). Iranian aging tsunami from the perspective of reproductive and sexual health: Challenges and strategies for childbearing. *Journal of Midwifery and Reproductive Health, Online First*. <https://doi.org/10.22038/jmrh.2022.62317.1755>
135. Merari D, Chetrit A, Modan B (2002) Emotional reactions and attitudes prior to in vitro fertilization: an inter-spouse study. *Psychol Health* 17(5):629–640. <https://doi.org/10.1080/08870440290025821>
136. Mirghafourvand M, Farshbaf-Khalili A, Ghanbari-Homayi S (2019) Marital adjustment and its relationship with religious orientations among Iranian infertile and fertile women: A cross-sectional study. *J Relig Health* 58(3):965–976. <https://doi.org/10.1007/s10943-018-0566-6>
137. Modarres M, Abunasri M, Alhani F, Ebrahimi E (2022) The effectiveness of implementing family-centered empowerment model on irrational thoughts of Iranian infertile women: A randomized clinical trial. *J Caring Sci* 11(4):224–231. <https://doi.org/10.34172/jcs.2022.22>
138. Moenizadeh M, Zarif H (2017) The efficacy of well-being therapy for depression in infertile women. *International Journal of Fertility & Sterility*, 10(4):363–370. <https://doi.org/10.22074/ijfs.2016.5087>
139. Moghadam MHB, Aminian AH, Abdoli AM, Seighal N, Falahzadeh H, Ghasemi N (2011) Evaluation of the general health of the infertile couples. *Iran J Reprod Med* 9(4):309

140. Mohammadzadeh F, Hajizadeh E, Rasekhi A, Omani-Samani R (2019) Identification of associated risk factors for the severity of generalized anxiety disorder among Iranian infertile people: an ordinal regression analysis with a flexible link function. *J Res Med Sci* 24(1):64. https://doi.org/10.4103/jrms.JRM_S_790_18
141. Mohammadzadeh M, Lotfi R, Karimzadeh M, Kabir K (2021) The effect of sexual counseling using BETTER model on sexual function of women with infertility: A randomized controlled trial. *Int J Sex Health* 33(2):175–184. <https://doi.org/10.1080/19317611.2020.1870608>
142. Mohammed NAA, Akmoosh SI, Fawzi ZA (2024) Psychosocial impact of infertility on women attending Um Al-Baneen Infertility Center in Baghdad City and their coping strategies. *Iraqi Med J* 70(1–2):17–23
143. Mosalanejad L, Abdolahifard K, Jahromi M (2013) Therapeutic vaccines: hope therapy and its effects on psychiatric symptoms among infertile women. *Glob J Health Sci* 6(1):192–200. <https://doi.org/10.5539/gjhs.v6n1p192>
144. Mosalanejad L, Koolae AK (2013) Looking at infertility treatment through the lens of the meaning of life: the effect of group logotherapy on psychological distress in infertile women. *Int J Fertil Steril* 6(4):224–231
145. Moudi Z, Piramie R, Ghasemi M, Ansari H (2019) Effect of an infertility counseling program on perceived stigma among infertile female candidates for intra-uterine insemination. *J Midwifery Reprod Health* 7(4):1870–1879. <https://doi.org/10.22038/jmrh.2019.40465.1457>
146. Mousavi E, Hosseini S, Bakhtiyari M, Abasi I, Mohammadi A, Masjedi Arani A (2020) The effects of mindfulness-based stress reduction group therapy on anxiety, depression, stress, and the intolerance of uncertainty in infertile women. *Iran Rehabil J* 18(2):137–144. <https://doi.org/10.32598/irj.18.2.862.1>
147. Najafi M, Soleimani AA, Ahmadi K, Javidi N, Kamkar EH (2015) The effectiveness of emotionally focused therapy on enhancing marital adjustment and quality of life among infertile couples with marital conflicts. *Int J Fertil Steril* 9(2):238
148. Namdar A, Naghizadeh M, Zamani M, Yaghmaei F, Sameni M (2017) Quality of life and general health of infertile women. *Health Qual Life Outcomes* 15(1):139. <https://doi.org/10.1186/s12955-017-0712-y>
149. Navid B, Malekzadeh F, Mohammadi M, Omani-Samani R (2023) Investigating the role of defense mechanisms on marital adjustment in infertile couples based on the cause of infertility: a cross-sectional study. *Int J Reprod BioMed (IJRM)* 21(2):111–122. <https://doi.org/10.18502/ijrm.v21i2.12802>
150. Navid B, Mohammadi M, Vesali S, Mohajeri M, Samani RO (2017) Correlation of the etiology of infertility with life satisfaction and mood disorders in couples who undergo assisted reproductive technologies. *Int J Fertil Steril* 11(3):205–210. <https://doi.org/10.22074/ijfs.2017.4658>
151. Navid B, Vesali S, Omani Samani R (2016) Hope and psychological symptoms in infertile couples undergoing assisted reproduction treatment. *Hum Reprod* 31:i347–i348. https://doi.org/10.1093/humrep/31.Supplement_1.1
152. Nejad SH, Bokaei M, Ardekani SMY (2023) Effectiveness of sexual health counseling based on mindfulness approach on sexual satisfaction in women suffering from infertility: an RCT. *Int J Reprod Biomed* 21(2):147–158. <https://doi.org/10.18502/ijrm.v21i2.12805>
153. Nezhad AS, Vakili M, Ebrahimi L, Kharaghani R (2019) Demographics and the correlation between irrational parenthood cognitions and marital relationship quality in infertile women in Zanjan province in 2016. *Perspect Psychiatr Care* 55(3):360–365. <https://doi.org/10.1111/ppc.12298>
154. Nik Hazlina NH, Norhayati MN, Shaiful Bahari I, Nik Muhammad Arif NA (2022) Worldwide prevalence, risk factors and psychological impact of infertility among women: a systematic review and meta-analysis. *BMJ Open* 12(3):e057132. <https://doi.org/10.1136/bmjopen-2021-057132>
155. Noorbala A, Ramazanzadeh F, Malekafzali H, Abedinia N, Forooshani A, Shariat M, Jafarabadi M (2008) Effects of a psychological intervention on depression in infertile couples. *Int J Gynaecol Obstet* 101(3):248–252. <https://doi.org/10.1016/j.jgo.2007.12.010>
156. Noorbala A, Ramezanzadeh F, Abedinia N, Naghizadeh M (2009) Psychiatric disorders among infertile and fertile women. *Soc Psychiatry Psychiatr Epidemiol* 44(7):587–591. <https://doi.org/10.1007/s00127-008-0467-1>
157. Nouman H, Benyamini Y (2019) Religious women's coping with infertility: do culturally adapted religious coping strategies contribute to well-being and health? *Int J Behav Med* 26(2):154–164. <https://doi.org/10.1007/s12529-018-9757-5>
158. Nouman H, Benyamini Y (2019) The contribution of social-environmental factors to the emotional adjustment of Israeli religious Jewish women coping with infertility. *Women Health* 59(4):433–448. <https://doi.org/10.1080/03630242.2018.1492498>
159. Obeidat HM, Hamlan AM, Callister LC (2014) Missing motherhood: Jordanian women's experiences with infertility. *Adv Psychiatr* 2014:241075. <https://doi.org/10.1155/2014/241075>
160. Obeisat S, Gharaibeh MK, Oweis A, Gharaibeh H (2012) Adversities of being infertile: the experience of Jordanian women. *Fertil Steril* 98(2):444–449. <https://doi.org/10.1016/j.fertnstert.2012.04.036>
161. Omani-Samani R, Ghaheiri A, Navid B, Sepidarkish M, Maroufizadeh S (2018) Prevalence of generalized anxiety disorder and its related factors among infertile patients in Iran: a cross-sectional study. *Health Qual Life Outcomes* 16(1):129. <https://doi.org/10.1186/s12955-018-0956-1>
162. Omidi K, Pakseresh S, Niknami M, Kazemnezhad-Leili E, Kivi MS (2021) Violence and its related factors in infertile women attending infertility centers: a cross-sectional study. *J Midwifery Reprod Health* 9(4):3023–3033. <https://doi.org/10.22038/jmrh.2021.58462.1708>
163. Omu FE, Omu AE (2010) Emotional reaction to diagnosis of infertility in Kuwait and successful clients' perception of nurses' role during treatment. *BMC Nurs* 9(1):5. <https://doi.org/10.1186/1472-6955-9-5>
164. Onat G, Kizilkaya Beji N (2012) Effects of infertility on gender differences in marital relationship and quality of life: a case-control study of Turkish couples. *Eur J Obstet Gynecol Reprod Biol* 165(2):243–248. <https://doi.org/10.1016/j.ejogrb.2012.07.033>
165. Ostovar S, Griffiths MD, Raeisi T, Hashim IHM (2020) Path analysis of the relationship between optimism, humor, affectivity, and marital satisfaction among infertile couples. *Int J Ment Health Addict*. <https://doi.org/10.1007/s11469-020-00341-w>
166. Öztürk R, Herbell K, Morton J, Bloom T (2021) "The worst time of my life": Treatment-related stress and unmet needs of women living with infertility. *J Community Psychol* 49(5):1121–1133
167. Pakpour A, Yekaninejad MS, Zeidi IM, Burri A (2012) Prevalence and risk factors of female sexual dysfunction in a sample of infertile Iranian women. *Arch Gynecol Obstet* 286(6):1589–1596. <https://doi.org/10.1007/s00404-012-2489-x>
168. Pasha H, Basirat Z, Faramarzi M, Kheirkhah F (2018) Comparative effectiveness of antidepressant medication versus psychological intervention on depression symptoms in women with infertility and sexual dysfunction. *Int J Fertil Steril* 12(1):6–12. <https://doi.org/10.22074/ijfs.2018.5229>
169. Pasha H, Basirat Z, Faramarzi M, Kheirkhah F, Khafri S (2018) Predictive factors of antidepressant response and remission to bupropion extended-release or psychosexual therapy among infertile women with sexual dysfunction. *Int J Womens Health Reprod Sci* 6(3):313–320. <https://doi.org/10.15296/ijwhr.2018.52>
170. Poorheidari M, Ganji J, Hasani-Moghadam S, Azizi M, Alijani F (2021) The effects of relationship enrichment counseling on marital satisfaction among infertile couples with a history of domestic violence. *JNMS* 8(1):1–8. https://doi.org/10.4103/JNMS.JNMS_21_20
171. Rahebi, S. M., Rahnnavardi, M., Rezaie-Chamani, S., Nazari, M., & Sabetghadam, S. (2019). Relationship between domestic violence and infertility. *Eastern Mediterranean Health Journal*, 25(8).
172. Rahimi E, Attarha M, Majidi A (2019) Effect of acceptance and commitment therapy on the quality of life in infertile women during treatment: a randomized control trial. *Int J Womens Health Reprod Sci* 7(4):483–489. <https://doi.org/10.15296/ijwhr.2019.80>
173. Rahimi R, Hasanpour S, Mirghafourvand M, Esmaeilpour K (2021) Effect of hope-oriented group counseling on mental health of infertile women with failed IVF cycles: a randomized controlled trial. *BMC Psychiatry* 21(1):286. <https://doi.org/10.1186/s12888-021-03280-5>
174. Rahmani A, Sattarzadeh N, Gholizadeh L, Sheikhalipour Z, Allahbakhshian A, Hassankhani H (2011) Gestational surrogacy: viewpoint of Iranian infertile women. *J Hum Reprod Sci* 4(3):138. <https://doi.org/10.4103/0974-1208.92288>
175. Rahmati S, Delpisheh A, Moghadam AD, Sayehmiri K, Mohamadian, F (2019) Survey frequency of the depression and anxiety levels of infertile women in western Iran. *Med J Indonesia* 28(1):35–39. <https://doi.org/10.13181/mji.v28i1.2940>
176. Ramezanzadeh F, Aghssa, M. M., Abedinia, N., Zayeri, F., Khanafshar, N., Shariat, M., & Jafarabadi, M. (2004). A survey of relationship between anxiety, depression and duration of infertility. *BMC women's health*, 4(1), 9.
177. Ranjbar F, Behboodi-Moghadam Z, Borimnejad L, Ghaffari SR, Akhondi MM (2015) Experiences of infertile women seeking assisted pregnancy in Iran: a qualitative study. *J Reprod Infertil* 16(4):221. <https://doi.org/10.1155/2015/543210>
178. Rashidi B, Montazeri A, Ramezanzadeh F, Shariat M, Abedinia N, Ashrafi M (2008) Health-related quality of life in infertile couples receiving IVF or ICSI

- treatment. *BMC Health Serv Res* 8:186. <https://doi.org/10.1186/1472-6963-8-186>
179. Rasoulzadeh Bidgoli M, Latifnejad Roudsari R (2018) The effect of the collaborative infertility counseling model on coping strategies in infertile women undergoing in vitro fertilization: a randomized controlled trial. *Int J Womens Health Reprod Sci* 6(1):47–54. <https://doi.org/10.15296/ijwhr.2018.09>
180. Rasoulzadeh Bidgoli M, Latifnejad Roudsari R (2013) Adopting problem-focused coping strategies following implementation of a collaborative counseling program in infertile women undergoing IVF. *Int J Womens Health Reprod Sci* 7:46
181. Rezaei SM, Mosavinezhad SM, Ansari B (2020) The role of spiritual experiences in feeling of failure and infertility stress among infertile women. *Health Spiritual Med Ethics* 7(4):41–49. <https://doi.org/10.52547/jhsme.7.4.41>
182. Riazhi H, Lotfollahi H, Omani-Samani R, Maroufizadeh S, Montazeri A (2020) Evaluation of sexual function among infertile women and their sexual self-concept. *J Reprod Infertil* 21(4):291–297. <https://doi.org/10.18502/jri.v21i4.4334>
183. Romano GA, Zaig IF, Halevy A, Azem F, Amit A, Bloch M (2019) Prophylactic SSRI treatment for women suffering from mood and anxiety symptoms undergoing in vitro fertilization—a prospective placebo-controlled study. *Arch Womens Ment Health* 22(4):503–510. <https://doi.org/10.1007/s00737-018-0911-5>
184. Roudsari RL, Allan HT (2011) Women's experiences and preferences in relation to infertility counselling: a multifaith dialogue. *Int J Fertil Steril* 5(3):158–167
185. Roudsari RL, Allan HT, Smith PA (2014) Iranian and English women's use of religion and spirituality as resources for coping with infertility. *Hum Fertil* 17(2):114–123. <https://doi.org/10.3109/14647273.2014.909610>
186. Safaei Nezhad A, Ebrahimi L, Vakili MM, Kharaghani R (2020) Effect of counseling based on the choice theory on irrational parenthood cognition and marital quality in infertile women: A randomized controlled trial. *Perspect Psychiatr Care* 56(1):141–148. <https://doi.org/10.1111/ppc.12392>
187. Safaei Nezhad A, Vakili MM, Ebrahimi L, Kharaghani R (2017) Reproductive variables and correlation between irrational parenthood cognition and destructive behaviors of marital relationship in infertile women. *Prev Care Nurs Midwifery J* 7(3), 1–8.
188. Sahebazzamani M, Mostaeidi Z, Farahani H, Sokhanvar M (2018) Relationship between health literacy and sexual function and sexual satisfaction in infertile couples referred to the Royan Institute. *Int J Fertility Sterility* 12(2):136–141. <https://doi.org/10.22074/ijfs.2018.5185>
189. Salie M, Roomaney R, Andipatin M, Volks C (2021) Scoping review of the psychosocial aspects of infertility in developing countries: protocol. *BMJ open* 11(5):e044003. <https://doi.org/10.1136/bmjopen-2020-044003>
190. Samani, R. O., Maroufizadeh, S., Navid, B., & Amini, P. (2017). Locus of control, anxiety, and depression in infertile patients. *Psychology, Health & Medicine*, 22(1), 44–50. <https://doi.org/10.1080/13548506.2016.1231923>
191. Samani, R. O., Vesali, S., Navid, B., Vakili, B., & Mohammadi, M. (2017). Evaluation on hope and psychological symptoms in infertile couples undergoing assisted reproduction treatment. *International Journal of Fertility & Sterility*, 11(2), 123–129. <https://doi.org/10.22074/ijfs.2017.4838>
192. Samani, E. N., & Nemati, F. (2020). COVID-19 pandemic: Anxiety among patients with infertility in Iran. *Fertility & Sterility*, 114, e182–e182. <https://doi.org/10.1016/j.fertnstert.2020.08.517>
193. Shafarizi S, Faramarzi M, Esmaelzadeh S, Khafri S, Ghofrani, F (2022) Does infertility develop posttraumatic growth or anxiety/depressive symptoms? Roles of personality traits, resilience, and social support. *Perspect Psychiatr Care* 58:2017–2028. <https://doi.org/10.1111/ppc.13023>
194. Shahraki, Z., Ghajarzadeh, M., & Ganjali, M. (2019). Depression, anxiety, quality of life and sexual dysfunction in Zabol women with infertility. *Mædica*, 14(2), 131–136. <https://doi.org/10.26574/maedica.2019.14.2.131>
195. Shahraki, Z., Tanha, F., & Ghajarzadeh, M. (2018). Depression, sexual dysfunction and sexual quality of life in women with infertility. *BMC Women's Health*, 18(1), 92. <https://doi.org/10.1186/s12905-018-0584-2>
196. Shani, C., Yelena, S., Reut, B., Adrian, S., & Sami, H. (2016). Suicidal risk among infertile women undergoing in-vitro fertilization: Incidence and risk factors. *Psychiatry Research*, 240, 53–59. <https://doi.org/10.1016/j.psychres.2016.04.003>
197. Sheikhan, Z., Ozgoli, G., Azar, M., & Alavimajd, H. (2014). Domestic violence in Iranian infertile women. *Medical Journal of the Islamic Republic of Iran*, 28, 152.
198. Shlomo, S. B., Taubman – Ben-Ari, O., Skvirsky, V., Azuri, Y., Weissman, A., & Horowitz, E. (2019). Subjective well-being of women at the beginning of fertility treatment: The role of medical variables, attachment orientation and supportive relationship with the mother. *Journal of Reproductive & Infant Psychology*, 37(4), 358–369. <https://doi.org/10.1080/02646838.2019.1578867>
199. Skvirsky, V., Taubman-Ben-Ari, O., Shlomo, S. B., Azuri, J., & Horowitz, E. (2019). Contributors to women's perceived stress at the start of assisted reproductive technology. *The Journal of Psychology*, 153(1), 23–36. <https://doi.org/10.1080/00223980.2018.1471037>
200. Sohbati, F., Hasanpoor-Azghady, S., Jafarabadi, M., Amir-Farahani, L., & Mohebbi, M. (2021). Psychological well-being of infertile women and its relationship with demographic factors and fertility history: A cross-sectional study. *BMC Women's Health*, 21(1), 22. <https://doi.org/10.1186/s12905-020-01167-3>
201. Soleimani, A. A., Najafi, M., Ahmadi, K., Javidi, N., Kamkar, E. H., & Mahboubi, M. (2015). The effectiveness of emotionally focused couples therapy on sexual satisfaction and marital adjustment of infertile couples with marital conflicts. *International Journal of Fertility & Sterility*, 9(3), 393–402.
202. Soltani, M., Shairi, M. R., Roshan, R., & Rahimi, C. (2014). The impact of emotionally focused therapy on emotional distress in infertile couples. *International Journal of Fertility & Sterility*, 7(4), 337–344.
203. Sorkhani, T., Ahmadi, A., Mirzaee, M., Habibzadeh, V., & Alidousti, K. (2021). Effectiveness of counseling for infertile couples on women's emotional disturbance: A randomized clinical trial. *Revista Brasileira de Ginecologia e Obstetricia*, 43(11), 826–833. <https://doi.org/10.1055/s-0041-1736305>
204. Taebi M, Kariman N, Montazeri A, Majd HA (2021) Infertility stigma: a qualitative study on feelings and experiences of infertile women. *Int J Fertil Steril* 15(3):189–196
205. Taghavi, S.-A., Aramesh, S., Azizi-Kutenaee, M., Allan, H., Safarzadeh, T., Taheri, M., Salari, S., Khashavi, Z., & Bazarganipour, F. (2021). The influence of infertility on sexual and marital satisfaction in Iranian women with polycystic ovary syndrome: A case-control study. *Middle East Fertility Society Journal*, 26(1). <https://doi.org/10.1186/s43043-020-00047-y>
206. Taghvaeinia, A., Dehghani, F., Jobaneh, R. G., & Nikoo, S. J. (2017). Effectiveness of existential psychotherapy on spiritual health of infertile women. *Health, Spirituality & Medical Ethics Journal*, 4(4), 13–17.
207. Taghipour A, Karimi FZ, Roudsari RL, Mazlom SR (2020) Coping strategies of women following the diagnosis of infertility in their spouses: a qualitative study. *J Evid Based Care* 10(1):15–24
208. Tanhan A, Strack RW (2020) Online photovoice to explore and advocate for Muslim biopsychosocial spiritual wellbeing and issues: ecological systems theory and ally development. *Curr Psychol* 39(6):2010–2025. <https://doi.org/10.1007/s12144-020-00692-6>
209. Toosi, M., Akbarzadeh, M., & Ghaemi, Z. (2017). The effect of relaxation on mother's anxiety and maternal-fetal attachment in primiparous IVF mothers. *Journal of the National Medical Association*, 109(3), 164–171. <https://doi.org/10.1016/j.jnma.2017.03.002>
210. Vatanparast, M., Yasini Ardekani, S. M., Anvari, M., Kalantari, A., Yaghmaie, F., & Royani, Z. (2022). Resilience as the predictor of quality of life in the infertile couples as the most neglected and silent minorities. *Journal of Reproductive and Infant Psychology*, 40(3), 216–227. <https://doi.org/10.1080/02646838.2020.1843613>
211. Vizheh, M., Pakgohar, M., Babaei, G., & Ramezanzadeh, F. (2013). Effect of counseling on quality of marital relationship of infertile couples: A randomized, controlled trial (RCT) study. *Archives of Gynecology and Obstetrics*, 287(3), 583–589. <https://doi.org/10.1007/s00404-012-2595-9>
212. Vizheh, M., Pakgohar, M., Rouhi, M., & Veisy, A. (2015). Impact of gender infertility diagnosis on marital relationship in infertile couples: A couple based study. *Sexuality & Disability*, 33(4), 457–468. <https://doi.org/10.1007/s11195-015-9417-5>
213. Webair H, Ismail T, Ismail S, Khaffaji A (2021) Patient-centred infertility care among Arab women experiencing infertility: a qualitative study. *BMJ Open* 11(6):e044300. <https://doi.org/10.1136/bmjopen-2020-044300>
214. Xie Y, Ren Y, Niu C, Zheng Y, Yu P, Li L (2023) The impact of stigma on mental health and quality of life of infertile women: a systematic review. *Front Psychol* 13:1093459. <https://doi.org/10.3389/fpsyg.2022.1093459>
215. Yaghmaei, F., Mohammadi, S., & Alavi Majd, H. (2013). Developing and measuring psychometric properties of "Quality of life questionnaire in infertile couples". *International Journal of Community Based Nursing & Midwifery*, 1(4), 238–245.
216. Yazdi HZG, Sharbaf HA, Kareshki H, Amirian M (2020) Infertility and psychological and social health of Iranian infertile women: a systematic review. *Iran J Psychiatry* 15(1):67

217. Yazdi HZG, Sharbaf HA, Kareshki H, Amirian M (2020) Psychosocial consequences of female infertility in Iran: a meta-analysis. *Front Psychiatry* 11:518961. <https://doi.org/10.3389/fpsy.2020.518961>
218. Yeshua-Katz D (2018) Childless in an IVF-nation: online stigma-coping strategies in support groups for childless Israeli women. *Inf Commun Soc* 21(10):1436–1452. <https://doi.org/10.1080/1369118X.2017.1324504>
219. Yildiz M, Felix E. O., Ademiju O., Noibi T. O., Gomes R. F., Tanimowo A., Tayyeb M., Khadka R. B., Rhino A., Yildiz R., Ramazanzadegan K., Yildirim M. S., Solmaz E., Hayli Ç. M., & Şengan A. (2023). Attitudes of different religions toward surrogacy: Analysis of 11 countries' situation using machine learning approach and artificial neural networks. *Journal of Religion and Health* <https://doi.org/10.1007/s10943-023-01782-y>
220. Ying L, Wu LH, Loke AY (2016) The effects of psychosocial interventions on the mental health, pregnancy rates, and marital function of infertile couples undergoing in vitro fertilization: A systematic review. *J Assist Reprod Genet* 33(6):689–701. <https://doi.org/10.1007/s10815-016-0690-8>
221. Youseflu, S., Sadatmahalleh, S. J., & Moini, A. (2020). Influence of psycho-sexual factors on the quality of life of Iranian infertile women: A path analysis. *International Journal of Sexual Health*, 32(3), 216–224 <https://doi.org/10.1080/19317611.2020.1775748>
222. Zaig, I., Azem, F., Schreiber, S., Gottlieb-Litvin, Y., Meiboom, H., & Bloch, M. (2012). Women's psychological profile and psychiatric diagnoses and the outcome of in vitro fertilization: Is there an association? *Archives of Women's Mental Health*, 15(5), 353–359 <https://doi.org/10.1007/s00737-012-0293-z>
223. Zagami SE, Roudsari RL, Janghorban R, Bazaz SMM, Amirian M, Allan HT (2019) A qualitative study of the experiences of Iranian infertile couples after unsuccessful assisted reproductive technologies. *Int J Womens Health Reprod Sci* 7(3):331–338. <https://doi.org/10.15296/ijwhr.2019.55>
224. Zagami SE, Roudsari RL, Janghorban R, Bazaz SMM, Amirian M, Allan HT (2019) Infertile couples' needs after unsuccessful fertility treatment: a qualitative study. *J Caring Sci* 8(2):95. <https://doi.org/10.15171/jcs.2019.014>
225. Zagami SE, Janghorban R, Roudsari RL (2020) Expectations and preferences of Iranian infertile couples from healthcare system after unsuccessful treatment with assisted reproductive technologies. *J Midwifery Reprod Health* 8(1):2105–2114. <https://doi.org/10.22038/jmrh.2019.42406.1486>
226. Zagami SE, Roudsari RL, Janghorban R, Bazaz SM, Amirian M, Allan HT (2021) Iranian infertile couples' strategies to manage social interactions after unsuccessful treatment with assisted reproductive technologies. *Hum Fertil (Camb)* 24(5):341–352. <https://doi.org/10.1080/14647273.2019.1677950>
227. Zagami SE, Roudsari RL, Janghorban R, Allan H (2022) Trying for a second chance: Iranian infertile couples' experiences after failed ART. *J Psychosom Obstet Gynaecol* 43(2):165–170. <https://doi.org/10.1080/0167482X.2021.1961733>
228. Zandi M, Mohammadi E, Vanaki Z, Shiva M, Lankarani NB, Zarei F (2017) Confronting infertility in Iranian clients: a grounded theory. *Hum Fertil (Camb)* 20(4):236–247. <https://doi.org/10.1080/14647273.2017.1283447>
229. Zargham-Boroujeni A, Jafarzadeh-Kenarsari F, Ghahiri A, Habibi M (2014) Empowerment and sense of adequacy in infertile couples: a fundamental need in treatment process of infertility—a qualitative study. *Qual Rep* 19(6):1. <https://doi.org/10.46743/2160-3715/2014.1274>
230. Zhang F, Lv Y, Wang Y, Cheng X, Yan Y, Zhang Y, Wang Y (2021) The social stigma of infertile women in Zhejiang Province, China: a questionnaire-based study. *BMC Womens Health* 21(1):97. <https://doi.org/10.1186/s12905-021-01246-z>

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.