



LAND OF FIRE, HEARTS OF ICE: PSYCHOLOGICAL ASPECTS OF THE INVOLUNTARY CHILDLESSNESS IN AZERBAIJAN

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Abstract:

Involuntary childlessness is a common and distressing problem affecting millions of couples worldwide. This phenomenon can have a profound impact on the psychological, emotional, and social well-being of individuals and couples, leading to feelings of grief, shame, and social isolation. This study aims to examine the psychological factors related to involuntary childlessness in Azerbaijan specifically. Electronic databases such as PubMed, Science Direct, Proquest, Cochrane Library, Cumulative Index to Nursing, and Allied Health Literature (CINAHL) and Scopus were used as well as hand searching. Grey literature was searched using Google and Google Scholar, and the snowballing method was used to identify additional sources. The findings underscore the importance of integrating psychological care into fertility treatment programs and training medical professionals to provide holistic care to patients undergoing fertility treatment. To address the psychological impact of infertility, it is recommended that medical education, psychological services, and medical-psychological examination and treatment procedures be implemented at a national level. Further research should also be conducted to determine the effectiveness of psychotherapy for infertility-related issues, and appropriate psychosocial rehabilitation plans should be developed and implemented based on the results.

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1. Introduction

The right to conceive and bear children as well as access to information about reproductive health is considered a fundamental human right. The Universal Declaration of Human Rights adopted by the United Nations in 1948 affirms that regardless of race, nationality, or religion, all individuals of full age have the right to marry and form a family¹. Thus, it is possible for a person to consciously decide for or against having children and to shape his or her own life plan. However, if there is a desire to have children that cannot be fulfilled, this is referred to as an unfulfilled desire to have children; it can also be described as involuntary childlessness². The condition of not having biological or adopted children can be voluntary, as in the case of individuals who choose not to have children³, or involuntary, as in the case of individuals who are unable to have children due to infertility, advanced age at marriage, illness, or financial problems².

Statistics show that 6-9% of affected married couples, against their wishes, remain without children and that 25% of childless adults under 50 would like to have children^{4,5}. Involuntary childlessness refers to the subjective sense of desiring a child but being unable to conceive which can affect single individuals, same-sex couples, and transgender people as well⁶.

It is important to remember that individuals and couples who have a desire to have children but have not been successful may not always be diagnosed with infertility⁷. When an individual has never been able to achieve a pregnancy, it is known as primary infertility, whereas secondary infertility refers to the inability to conceive again after having at least one prior successful pregnancy⁸. Approximately 25% of childless couples are childless due to infertility⁴.

According to estimates, infertility affects approximately 8-12% of the global population with secondary infertility, which is more prevalent than primary infertility^{9,10}. Males are believed to individually contribute to 20-30% of infertility cases and are co-responsible for half of all infertility cases⁹. Infertility can be caused by a range of conditions that may affect only males, like testicular deficiency; only females, who may have polycystic ovary syndrome, endometriosis, uterine fibroids, or premature ovarian insufficiency; or either sex, such as systemic diseases, infections, hyperprolactinemia, or hypogonadotropic hypogonadism¹¹.

Infertility rates are higher in sub-Saharan Africa, South and Central Asia, North Africa, and the Middle East as well as Central and Eastern Europe due to various factors such as limited access to healthcare and fertility treatments, cultural attitudes towards childbearing, and environmental and lifestyle factors¹². According to the data from Turkey's Demographic and Health Survey published in 2019, there has been a decrease in the fertility rate of women in the age range of 15-24 in Turkey¹³. According to the

Statistical Committee of the Republic of Azerbaijan (AzStat, 2022), the incidence of female infertility in Azerbaijan is estimated to be between 30 and 50 cases per 100,000 women¹⁴.

Infertility and its treatment can have a significant impact on an individual's health and well-being as well as on families and societies. The infertility "journey" can include delays and uncertainty regarding childbearing; complex health conditions and diagnoses; and mental, physical, financial, and emotional stress related to infertility and its care and treatment. Experiences of infertility can vary greatly based on sociodemographic and sociocultural factors both within and between countries¹⁵. Treatment costs for infertility are primarily born by the patient, regardless of their insurance status. In many countries, there is no legal requirement for infertility treatment to be included in health insurance coverage. This creates obstacles for individuals of lower socioeconomic status who may struggle to afford treatment costs. Additionally, factors such as marital status, sexual orientation, and race can also limit access to treatment¹⁶. Service delivery may not be available to unmarried couples or individuals in same-sex relationships, depending on the legal framework of the country and the fertility center¹⁷.

Psychosocial aspects encompass the cognitive, emotional, and social aspects of both individuals and couples within their society. Infertility is a complex problem that is difficult to assess due to several features that set it apart from other health issues. The physical and emotional stress of fertility treatment, the disappointment of failed attempts, and the uncertainty of the outcome can take a toll on the mental health of those affected as well as impact their personal and social lives¹⁸. Many individuals struggling with infertility report negative emotions such as sadness, depression, anxiety, frustration, and isolation which can be worsened by societal pressure and a lack of support from friends and family. However, women are particularly affected as they may experience domestic violence, marital instability, divorce, social stigma, loss of social status, relative deprivation, social alienation, emotional distress, depression, anxiety, and low self-esteem¹⁹.

In a study of 842 patients conducted by Xu et al.²⁰ 39.4% of the participants reported feelings of anxiety, and 28.5% exhibited depressive symptoms. Additionally, individuals diagnosed with infertility experience the highest levels of psychological distress four to six years after the diagnosis, as reported by Gdańska et al.²¹ in their research. The study by Kocyigit²² finds that 48.3% of Turkish women face social pressure regarding having a child after getting married. In a separate study by Kirca & Pasinlioglu²³, 57.8% of women with infertility report negative effects from conversations related to children, 63.7% are bothered by questions about having a child, 56.9% experience anger during their menstrual period, and 51.5% have financial difficulties and are unable to pay for treatment.

The proposed study aims to examine involuntary childlessness in the regional context of Azerbaijan. Azerbaijan is a developing country ranked 92nd in the Human Development Index²⁴. The minimum wage since January 1st, 2023, is AZN 345, or

approximately \$200 per month²⁵. Therefore, Azerbaijan has also taken on a significant responsibility with the WHO Universal Health Coverage commitment and is attempting to fundamentally improve its health system. This has led to mandatory health insurance which was first introduced in the north of the country and then extended to the entire country on April 1st, 2021^{26,27}. The insurance coverage is limited to contributors and their wives, children, pensioners, welfare recipients, pregnant women, women on maternity leave, and students (45% of the population are not contributors)²⁸. The insurance provides comprehensive coverage, but does not cover fertility treatment which costs AZN 90 (approximately \$53)^{29,30}. Given that a woman's social status, dignity, and self-esteem are closely linked to her perceived potential for childbearing in the family and society at large, a comprehensive investigation into the social consequences of women's unfulfilled desire to have children in this region is of paramount importance³¹. In this culture, childlessness and infertility are viewed as negative attributes for couples, and such norms are deeply ingrained in people's belief system, supported by religious and traditional views. Factors such as the patriarchal belief in the necessity of procreation, the lack of social and economic support for many women, the low chance of remarriage for infertile women, and the social stigma against being single can exacerbate the psychological distress of infertile women³².

2. Materials and Methods

The aim of this study is to investigate the psychological aspects of involuntary childlessness in Azerbaijan. We address the following question:

- Which psychological effects does involuntary childlessness have on individuals affected by this condition in Azerbaijan?

To identify relevant studies for the research question, the literature review utilizes various search strategies, including:

- **Electronic databases:** The review team conducts searches on electronic databases such as PubMed, Science Direct, Proquest, Cochrane Library, Cumulative Index to Nursing, and Allied Health Literature (CINAHL), and Scopus to retrieve articles and papers that are relevant to the research question.
- **Hand searching:** The reference lists of relevant articles and journals are searched manually by the team to discover additional sources.
- **Citation searching:** The team searches for citations on key articles to identify additional sources cited in the relevant articles.
- **Grey literature:** The literature review is conducted using the search engines Google and Google Scholar. The review team searches for grey literature related to the research question, including unpublished reports, theses, and conference proceedings among others. In addition, the snowballing method is used, starting from a source identified as reliable and informative to search for further sources that meet scientific criteria.

According to Table 1, the search terms are used in various combinations to search the aforementioned project databases. The searches are not time-limited as there are few usable sources. Literature is searched not only in German and English but also in Turkish, Russian, and Azerbaijani. Boolean operators AND and OR are used to connect specified MeSH terms in all search fields without limitations during the research.

During the same time period, a group of researchers proficient in English, German, Russian, Turkish and Azerbaijani conducted a complementary search by reviewing the grey literature. The final manuscript is read and approved by all authors. The search results are downloaded into a library and citation manager called EndNote which allows for convenient review and removal of any duplicates.

All selected references are reviewed to ensure that they align with the aim of our study.

3. Results

Within this literature search, there are two published complete empirical research studies, one dissertation, two expert interviews, and one website report regarding the psychological aspects of involuntary childlessness.

Katibli³³ conducted a study that involved 60 women aged between 21 to 36 years who experienced infertility issues for a maximum duration of 60 months. To assess their levels of anxiety, depression, and stress, the researchers utilize the Depression, Anxiety, and Stress Scale - DASS-21. Furthermore, the participants' level of self-esteem is determined using the Rosenberg Self-Esteem Scale. A study implies that the rates of depression, anxiety, and stress as well as self-esteem and life satisfaction among women with infertility are found to be significantly influenced by various factors such as education, occupation, religious beliefs, and access to adequate medical services³³.

The research project conducted by Pearce et al.³⁴ focuses on the importance of online social support as a means of coping, particularly for individuals experiencing isolation. In Azerbaijan, daughters-in-law facing infertility are often isolated and lack adequate support due to patriarchal and patrilocal norms. To address this issue, the study examines an online community where members can exchange supportive communication and resources in order to mitigate the isolation associated with infertility. On Gelins, a social media platform, members engage in supportive exchanges to help each other deal with the emotional struggles of infertility and pregnancy loss. Many posts request emotional support implicitly or explicitly, and commenters often provide both informational and emotional support. By sharing personal experiences, commenters validate the posters' experiences and encourage them to reframe their situation in a more positive light³⁴.

The topic of Musayeva's³⁵ dissertation is the investigation of depression and anxiety levels in infertile women in Azerbaijan, and the factors that affect them. The research includes 86 infertile women as a main group and 74 fertile women as a control

group of the same age range between 18 and 40 years old. The Zung Self-Rating Depression Scale is used to determine the level of depression in both the infertile and comparison groups, and the Zung Self-Rating Anxiety Scale is applied to evaluate the anxiety levels³⁶. A weakness of this investigation is that it focuses only on women as the cause of infertility. Men are excluded.

Apart from this empirical study, diverse content from popular media in Azerbaijan is used. For instance, the website named <https://sonsuzlugunmualicesi.az/> provides reports by Jafarzada³⁷, an expert gynecologist. Jafarzada informs readers thoroughly of the ways in which psychological support (both individual and group) should be delivered. Another well-known information portal in Azerbaijan named <https://sia.az/>³⁸ also provides expert interviews regarding infertility. One of these interviews is with psychologist Fidan Nizamova. She analyzes the correlation between stress and infertility thoroughly in her interview on the website. Nizamova³⁸ mentions that individuals who suffer from infertility may continue to have mental health problems throughout their lives.

4. Discussion

The present study focuses on the regional context of the country of Azerbaijan. This research review aims to investigate the psychological aspects of involuntary childlessness. Infertility is a difficult issue in Azerbaijan as people there often worry about the negative consequences associated with it. Pearce et al.³⁴ report that having children is not seen as a personal decision in these cultures but rather as a responsibility that comes with family pressure. The lack of access to accurate and reliable information about infertility can make it difficult for sufferers to understand their condition and find appropriate support and resources³⁴. A thorough examination of the social consequences of women's unfulfilled desire to have children in this region is thus of particular importance, as a woman's social status, dignity, and self-worth within the family and in society are closely tied to her ability to conceive³¹.

Katibli et al.³³ report that depending on the cause and duration of this issue, those affected may experience problems with their mental health. The main symptoms can range from stress, frustration, low self-esteem, and feelings of inferiority to anxiety and severe depression. In addition to the emotional burden on individuals and couples, involuntary childlessness also has societal and cultural implications. A limitation of the study is that while the sample size is relatively small, the inclusion criteria are specific and target only women. For instance, only infertile women who cannot become pregnant during a 60-month timeframe are included in this investigation. Additionally, the age range of the participants may limit the generalizability of the findings to older or younger populations. Therefore, the findings of this study may not be generalizable to the broader population of both women and men experiencing infertility. Further research is therefore needed to confirm and expand upon the findings of this study.

Additionally, in their study, Katibli et al.³³ suggest that couples dealing with infertility should undergo screening for early detection of mental health issues and that they should be offered psychological counseling and family therapy. The conclusion provides a clear recommendation for mental health services for women experiencing infertility but could benefit from a more detailed explanation of how these services would be implemented and what specific support would be provided. Additionally, the limitations of the study should be acknowledged, and suggestions for future research should be made. At the same time, the study could benefit from a more detailed explanation and contextualization of the findings.

The infertility treatment process often involves a significant amount of waiting and uncertainty, which can lead to feelings of hope and despair. Couples may experience a rollercoaster of emotions as they navigate the process of infertility treatment and may struggle to manage these feelings on their own. While successful results can bring hope and optimism, negative test results or unsuccessful treatment cycles can have a negative impact on individuals and couples, leading to feelings of disappointment, sadness, and frustration. It is important for individuals undergoing infertility treatment to receive psychological support to help them cope with the emotional ups and downs of the process. This support can be particularly important during periods of waiting and uncertainty as it can help to alleviate anxiety and provide a sense of comfort and validation during a challenging time³⁹.

Musayeva³⁵ specifies that the experience of infertility and repeated unsuccessful attempts to conceive can be emotionally challenging for couples, and may lead to feelings of loss, disappointment, and grief. In Musayeva's³⁵ point of view, if these emotions are not acknowledged or addressed, they can become internalized and lead to feelings of isolation and disconnection within the relationship.

Infertility can result in both chronic and short-term stress, depending on the diagnosis and treatment process. In addition, the physical and emotional stress of fertility treatment can be exacerbated by societal pressure to have children and the lack of understanding and support from friends and family. Musayeva³⁵ points out that women are affected, often experiencing domestic physical violence, marital instability, divorce, social stigmatization, and loss of social status.

Based on the data from AzStat¹⁴, it can be said that the number of divorces per year has tripled in the last 20 years in the country. In contrast, divorces of childless couples have remained relatively constant at around 6,000 cases per year. It is assumed that many of these divorces are due to unfulfilled desires for children. These are quite serious numbers for a country with 10 million inhabitants⁴⁰.

The field of reproductive medicine has significantly advanced in recent years but access to these resources may not be equal for everyone. Musayeva³⁵ reports that socioeconomic status, location, and insurance coverage can all influence a person's ability to access fertility treatments. Therefore, with the commitment to Universal Health Coverage, Azerbaijan has set itself ambitious goals and is trying to fundamentally

improve its health system. In 2016 and 2018, initial pilot projects were launched, leading to mandatory health insurance that was first introduced in the north of the country and was then extended to the whole country on April 1st, 2021^{26, 27}. Additionally, Musayeva³⁵ argues that country-specific attitudes towards infertility and childlessness can also impact access to resources and support.

The process of infertility treatment appears to increase psychological distress over time. Treatment difficulties and numerous appointments can also contribute to treatment discontinuation. At the same time, many couples undergoing treatment for infertility describe the process as demanding both physical and emotional sacrifices. Based on Musayeva's³⁵ point of view, the uncertainty of infertility treatment can evoke a range of emotions, including anxiety, fear, anger, happiness, and joy. The treatments can be physically demanding, involving invasive procedures, medication regimes, and frequent doctor's appointments. The level of anxiety is higher in women who have been undergoing infertility treatment for a long time⁴¹. The authors suggest that the longer a woman has been trying to conceive, the more likely she is to experience anxiety and stress in relation to infertility treatments. Sharing their experiences with others may be difficult, particularly if they feel judged or misunderstood³⁴.

Although the decision to have a child is ultimately up to the couple, social expectations can have a significant impact on their decision-making. Societal norms and expectations surrounding family and parenthood can create pressure for couples to have children, even when they may not feel emotionally or financially ready to do. When one partner is determined to have a physical cause for infertility, they may feel a sense of blame or guilt due to their inability to conceive. This can lead to feelings of inadequacy, shame, and self-doubt impacting their emotional well-being and the dynamics of the relationship. It is important for couples to recognize that infertility is not the fault of any one individual, and to approach the issue as a team rather than placing blame or guilt on one partner^{41,42}.

Based on the view of Musayeva³⁵, counseling, and therapy can also be helpful in addressing this complex emotional response and improving communication and support within the relationship.

Psychologist Fidan Nizamova³⁸ argues that once a person fixates on a particular issue, it can become a burden for both brain and body. Due to the prevalent societal mindset in Azerbaijan, young couples are pressured to have children. Couples, especially women, might think about this expectation every day and every second. In such a case, the body often begins to defend itself against this stress. There are very serious psychological factors: Briefly, the brain mechanism works to protect the body from mental distress. Unless a person who has depressive thoughts keeps himself or herself distant from tension, his or her body will struggle to overcome these and protect itself.

Musayeva³⁵ states that compared to women, men perceive the burden of infertility less strongly. Women are more likely to suffer from anxiety disorders than men when it comes to infertility. Information isolation is another significant challenge for women

dealing with infertility. Pearce et al.³⁴ show that the lack of access to accurate and reliable information about infertility can make it difficult for them to understand their condition and find appropriate support and resources. It needs to be emphasized that not all Azerbaijani women face the same levels of isolation and that the women in this group are not representative of all Azerbaijani women. Overall, this paper provides a valuable contribution to the literature on online social support for coping with infertility-related isolation, particularly in the context of patriarchal and patrilocal norms. The findings highlight the importance of addressing the unique challenges faced by daughters-in-law in Azerbaijan and suggest that online support communities like Pearce et al.³⁴ provide valuable resources for coping with infertility-related stress and uncertainty.

Furthermore, Musayeva³⁵ indicates that involuntary childlessness can lead to financial and social insecurity as well as strains on relationships. An increased stress level in individuals affected by infertility leads to an increased likelihood of relationship stress. However, this assumes that communication and discussion take place and that there is a willingness to compromise, according to Musayeva³⁵. In general, due to the sensitive nature of the topic, it is important to offer support and understanding to those affected by infertility and promote open and honest communication. This can be achieved through the support of parents, relatives, or very close friends.

There is a proportional correlative relationship between the age at marriage and anxiety index in infertile women, from Musayeva's³⁵ point of view. Additionally, depression indicators in the infertile group whose previous treatment resulted in failure are higher than those of infertile women who are consulting specialists for the first time. Another aspect of the issue is that, regardless of whether the cause of infertility originates in the woman or the man in the couple, psychological effects appear more often in women.

The retrieved studies also provided recommendations directed towards women or couples. Musayeva³⁵ suggests that the goal should be to provide a comprehensive range of psychological support options, meaning that people with unfulfilled desires for children are informed about these possibilities and can benefit from suitable options. The provision of psychological support for those in need is ensured in Azerbaijan through general psychologists. Additionally, Katibli et al.³³ recommend providing screening for early detection of mental health issues and offering psychological counseling and family therapy to couples facing infertility problems.

Based on the view of Jafarzada³⁷, group psychotherapy and support create a reliable environment for couples to share their feelings and thoughts about not having children and what they experience during treatment. The support provided by the group also aims to overcome the feeling of being alone during this emotionally and physically difficult period that can be challenging for individuals due to the pressure from the surrounding environment and to share methods for coping with it³⁷.

Pearce et al.³⁴ recommends that participating in support exchanges within this online community can significantly aid women in coping with the stress of infertility and

the associated uncertainty. According to Pearce et al.³⁴, support exchanges are believed to empower these women by giving them greater control over their situation and enhancing their ability to manage the challenges of infertility.

4.1 Limitations

This research involved some limitations stemming from researchers not being in the relevant country. One of the best ways to investigate a topic is by communing with it entirely, and in connection with this, by probing related issues using a range of sources, notably not only online but those available in libraries, and first-hand accounts as well. Being deprived of the possibility of this exploration comprises ineluctable limitations. Initially, being in a different country impacts the research adversely in that merely online sources are inadequate since the complementary references are not readable on social platforms. There might be different references available in the libraries in the relevant country, yet here their presence is unknown. Furthermore, the complete sources available are associated with medical causes of infertility, not with social or economic reasons, so making inquiries down the line is insufficient. On the other hand, some factors such as same-sex couples and transgender people are not reported in the sources despite being significant reasons for not conceiving a child. Consequently, the limitations of this study result from undesirable causes.

5. Conclusion

In conclusion, infertility is a complex issue that affects individuals, couples, and society as a whole. This literature search yields a diverse range of sources regarding the psychological aspects of involuntary childlessness in Azerbaijan, however, overall, it has proven extremely difficult to find data and sources on this complex of issues. The search identifies two published empirical research studies, one dissertation, two expert interviews, and one website report. These sources provide valuable insights into the experiences of individuals and couples facing infertility as well as the psychological impact of involuntary childlessness. The studies highlight the importance of comprehensive psychological support for individuals and couples undergoing fertility treatment or experiencing infertility and the need for medical professionals to be trained in this area. The expert interviews provide additional perspectives and highlight the need for individualized care and support. The website report also provides valuable information for individuals and couples seeking support and resources. Overall, the findings emphasize the need for continued research and support for those affected by infertility and involuntary childlessness in Azerbaijan. To address the psychological impact of infertility, medical education, psychological services, and medical-psychological examination and treatment procedures should be implemented nationwide. Additionally, research should be conducted to determine the effectiveness of psychotherapy on infertility issues, and appropriate psychosocial rehabilitation plans

should be developed and implemented based on the results. By taking a comprehensive approach to addressing the psychological effects of infertility, we can support individuals and couples on their journey towards building a family and improving their overall well-being. A supportive social network, positive relationships, and a stable home environment can provide a buffer against the stress and uncertainty of infertility, while negative factors such as financial strain or lack of social support can exacerbate the emotional impact of infertility. Preparing couples properly for infertility treatment is essential for their overall well-being and to maximize the treatment's chances of success. It is important to provide a supportive environment where couples can express their psychological needs and expectations in addition to addressing their physical health. This comprehensive approach can help couples to better manage the physical demands of treatment as well as the emotional challenges of infertility. By focusing on both the physical and emotional aspects of treatment, couples feel more supported and empowered, which enables them to handle the stress associated with infertility.

Patient and Public Involvement

Patients and/or the public were not involved in the design, conducting, reporting, or dissemination plans of this research.

Authorship Contributions

Concept: B.G., N.F., J.G., Design: B.G., A.J., Data Collection or Processing: B.G., K.T., Analysis or Interpretation: B.G., N.F., J.G., Literature Search: B.G., A.A., A.J., Writing: B.G. These authors have contributed equally to this work.

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Appendix

Table 1: Search terms

English: involuntary childlessness, infertility, mental health, stress, depression, anxiety, psychological aspects, Azerbaijan
German: Unerfüllte Kinderwunsch, ungewollte Kinderlosigkeit, unfreiwillige Kinderlosigkeit, Unfruchtbarkeit, Infertilität, psychische Aspekte, psychische Belastungen, mentale Gesundheit, Stress, Depressionen, Ängste, Aserbaidtschan
Turkish: çocuk sahibi olmama, infertilite, kısırlık, ruh sağlığı, psikoloji, stres, duygular, depresyon, anksiyete, Azerbaycan
Azerbaijani: sonsuzluq, ruhi sağlamlıq, stress, reproduktiv sağlamlıq, emosiyalar, depressiya, psixoloji aspektlər, Azərbaycan
Russian: бесплодие, психическое здоровье, стресс, социальное поведение, бездетность, эмоции, депрессия, психологические аспекты, Азербайджан

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