

# ACCESSIBILITY OF ASSISTED HUMAN REPRODUCTION TECHNIQUES IN THE REPUBLIC OF MOLDOVA

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## INTRODUCTION

Infertility is a medical and social problem with an increasing incidence in recent years. The incidence of infertility worldwide varies between 10% and 30%, with a continuous increase trend [1]. Infertility represents a medical, social and demographic problem, therefore it must be approached multidisciplinary, by applying measures for prevention, diagnosis and treatment of pathologies that are precursors of infertility. Infertility has a significant social impact on the lives of couples, especially women, who may become victims of domestic violence, go through the experience of divorce, face stigma from society, psycho-emotional stress, depression, anxiety and low self-esteem. Although not only women face problems related to conception, they are usually often perceived as the “culprits”, regardless of whether they are infertile or not [2].

In recent years, the impact of infertility on the psychological well-being of couples has been well studied. Men and women with infertility experience stress, anxiety, and depression, and their relationship may be under strain. Infertility carries a significant psychological burden for the couple, and the longer it lasts, the greater the level of distress. Women appear to be more vulnerable to its psychological consequences. Marital adjustment is negatively correlated with the degree of emotional distress. In couples with high levels of social support, the relationship between anxiety and marital adjustment was negatively correlated [3].

Medical methods for treating infertility are varied, most of which are called “Assisted Reproductive Technology” (ART), which is an option for couples who have difficulty conceiving, to improve their chances of pregnancy success [4]. Assisted human reproduction techniques are an increasingly present and necessary reality. ART represents the set of clinical or biological techniques and practices that allow procreation outside the natural process, through the intervention and on the advice of a doctor. Assisted reproductive technologies (ART): are all treatments or procedures that include the in vitro processing of

**INTRODUCTION.** Infertility is a medical and social problem with an increasing incidence in recent years. Assisted human reproduction techniques represent the most effective method of treating infertility. The purpose of the research was to analyze the accessibility of couples with infertility to assisted human reproduction services (particularly to in vitro fertilization - IVF procedures) in the Republic of Moldova in order to create evidence-based data for the development of possible solutions to increase access to these services.

**MATERIALS AND METHODS:** Study type: descriptive, cross-sectional, conducted between November 2023 and March 2024. Target population - 397 women which envisages an in vitro fertilization procedure.

**RESULTS OBTAINED:** The socio-demographic profile of the study participants is: predominantly women from the age group of 30-39 years (about 57%), who reside in urban areas (73.8%); residents in the central area of the country in an overwhelming proportion (about 76%); with university and post-university studies in 2/3 of cases. More than half of the respondents (58.4%) are undergoing their first IVF procedure. The main findings regarding the accessibility of medically assisted human reproduction services are: there is limited geographical accessibility, including the fact that all 5 assisted human reproduction centers in the country are located in Chisinau Municipality. The majority of the women surveyed (84.9%) use their own financial resources for IVF and consider these costs to be high and very high. 4.5% of respondents benefited from partial financial support provided by CNAM, and only 6.8% received financial support from the Municipal Program.

**CONCLUSIONS:** The presence of gaps and barriers in accessing assisted human reproduction services was established, among them the financial barrier, incomplete information of service beneficiaries, distances from assisted human reproduction centers, bureaucracy when applying to financial support programs.

**Keywords:** infertility, IVF, access.

**Abbreviations.** IVF – in vitro fertilization

CNAM- National Health Insurance Company

human oocytes, sperm or embryos for the purpose of achieving pregnancy. ART techniques are used when, through usual treatments, hormonal, medicinal or surgical, pregnancy is not achieved. The progress made in clinical scientific research in the field of reproductive health, in the treatment of infertility, as well as the expansion of medically assisted human reproduction services, through specialized clinics, are circumscribed by the general objective of finding solutions to increase fertility in countries affected by population reduction and amplification of the phenomenon of demographic aging [5].

Assisted reproductive technologies (ART), mainly intrauterine insemination (IUI) and in vitro fertilization (IVF), have helped many couples overcome infertility. Worldwide, millions of children have been born through ART and now account for >4% of births in some European countries [11].

The IVF process is complex and stressful, consisting of multiple steps that can take up to several months to complete. The main reasons why patients prematurely abandon IVF before achieving pregnancy are financial, physical, and psychological reasons for the treatment regimen. However, promising new approaches in reproductive medicine and technological innovations could improve the accessibility of IVF, while reducing the costs and burden of infertility [12].

People have the right to reproduce, however, when infertility is present, there are many potential barriers to access to treatment, leading to inequity in access. In the context of the above, we set the following goal of the study: to determine the level of accessibility of beneficiaries to assisted human reproduction techniques in the Republic of Moldova.

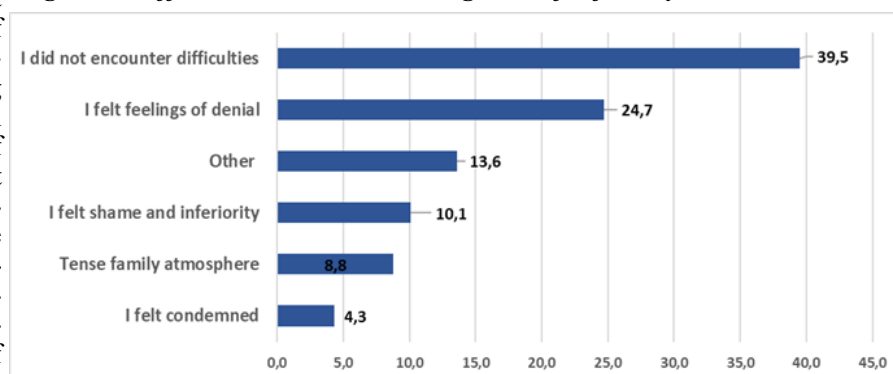
**MATERIAL AND METHODS.** The research in question represents a selective descriptive study, carried out by applying a questionnaire to a representative sample of 397 women who plan to use assisted reproduction techniques. When calculating the sample size, the data of the National Bureau of Statistics of the Republic of Moldova for 2023 was taken into account according to which there are 515098 women of reproductive age (18-49 years) in the Republic of Moldova, taking into consideration the 11% infertility rate in the country (according to the Generation and Gender study (GGS), we obtained a number of 56,660 people. The exclusion criterion was the refusal to participate in the study. The questionnaire was developed taking into account scientific standards and data from international studies on access to medically assisted human reproduction techniques. As a structure, the questionnaire consists of 31 items with 3 compartments, such as: General data of the researched group, Data on infertility, Data on accessibility: informational, geographical and financial of assisted human reproduction services. The questionnaires were distributed to all medical centers that provide assisted human reproduction services. Data collection was carried out between November 2023 and March 2024. Data analysis was performed using Excel.

**RESULTS.** The study collected social and demographic data to outline the profile of women who use assisted reproduction services, including: age, area of residence, level of education, monthly income, number of children, etc. Accordingly, in the study of the total number of participating women (no. 397), who use in vitro fertilization procedures: predominant are those in the age group 30-39 years (57.80%), who reside in urban areas (73.8%). Women from all over the country use medically assisted reproduction techniques, most of them from Chisinau Municipality (41.2%), and the Central area of the Republic of Moldova (36.3%). It should be noted that there are 5 private clinics in the country that provide such services and all of them are located in Chisinau. About 2/3 of the women surveyed have university and postgraduate studies. Most of the respondents, about 39%, have a total income of 4000-11000 lei, followed by the group with a total income of 12000-22000 lei (37%). Women who have used in vitro fertilization services have established the diagnosis of infertility for 2-5 years (46.1%), followed by women who

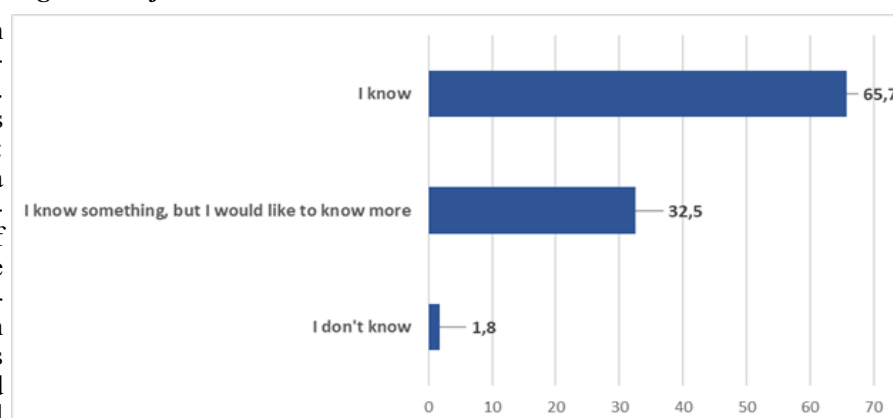
have been facing this problem for 6-10 years (28%). About  $\frac{3}{4}$  of the women do not have children, and 17.9% have a child. Most of the respondents do not know the exact cause of infertility (27.5%), followed by the group of women with tubal infertility as the causal factor (24.9%).

Establishing the diagnosis of infertility is an important dimension, which can raise a number of difficulties for the woman. In the study, we explored this topic and found that

**Figure 1. Difficulties related to the diagnosis of infertility**



**Figure 2. Information access**



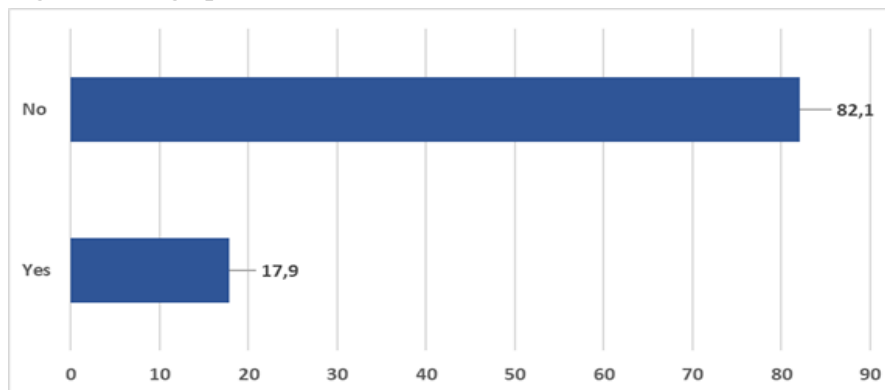
more than half of the respondents encountered difficulties related to the diagnosis of infertility, namely 24.7% had feelings of denial (they did not believe it was true), 10.10% of women felt shame and inferiority towards those around them, and 8.8% were faced with a tense family atmosphere. (figure 1).

Several questions regarding access to information on ART were asked in the study, including data on the source of information regarding ART, the quality of information obtained in assisted human reproduction clinics, the clarity of this information, etc. Accordingly, it was found that access to information regarding assisted human reproduction services is reported by some respondents to be limited (figure 2).

Two-thirds of respondents (65.7%) stated that they know what the IVF procedure consists of, almost a third stated that they know something, but would like to know more details, and around 1.8% responded that they do not know.

There are also limitations in terms of geographical accessibility, resulting from the fact that all 5 assisted human reproduction centers are located in Chisinau Municipality.

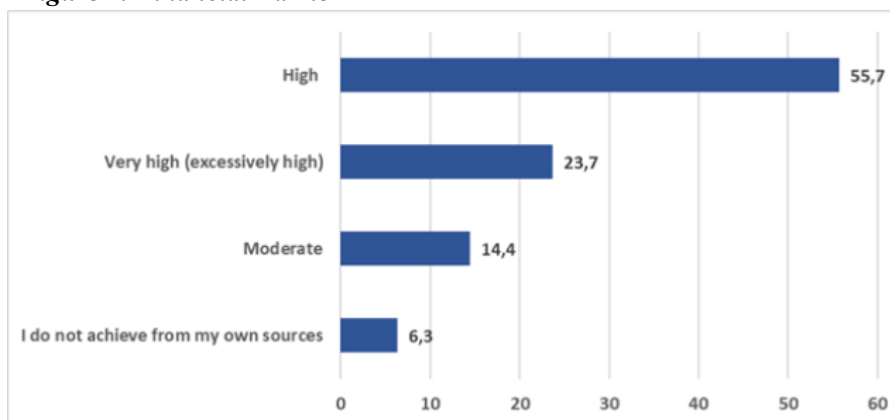
Figure 3. Geographical access



barriers of older age, lower education level, lower socioeconomic status, trust in fertility treatment, and side effects of medications.

There are studies that address this topic. Thus, it has been shown that the psychological state of the couple acts as a barrier to both initiating and continuing ART. Existing depression has been identified as a factor in decreasing the likelihood of subjects undergoing infertility treatment [9]. Treatment initiation has also been hindered due to the patient's experiences of stigma, shame, and embarrassment, which to a lesser extent have also contributed to treatment discontinuation [10]. Geographic location is the most frequently identified and investigated barrier to a patient's access to ART, and can act as a barrier in several ways, from the state or country in which the patient resides, the number and location of fertility clinics, to geographic isolation [6]. It has been identified that globally, most ART services are in larger metropolitan or regional areas, which can make distance a problem for people living outside these localities [7]. Due to the nature of most ART services, patients are often required to attend the clinic at regular intervals for investigation or intervention, which is necessary for the success of treatment [8].

Figure 4. Financial Barrier



these services in a proportion of 77 percent is the central area of the country (figure 3).

Accordingly, in the given study, only 17.9% of respondents report that they encounter difficulties related to the location of these centers, for the other women surveyed it does not represent a problem. At the same time, we can indirectly conclude that women from the northern and southern areas of the country have a comparably lower geographical access to the given centers and here we must also take into account the multiple visits to these centers assumed by the procedure itself.

The biggest barrier in accessing assisted human reproduction services reported by the respondents was the financial aspect (figure 4).

The majority of respondents (93.7%) use their own resources for assisted reproduction services. Around half of respondents (55.7%) consider the costs of in vitro fertilization to be high, another 23.7% qualify them as excessively high, and only 14.4% of women who perform IVF from their own resources declared the costs to be moderate.

**DISCUSSION.** Infertility and childlessness have devastating consequences, which has led to considerable interest in the development of IVF procedures [2]. ART services are not accessible to the majority of people with infertility. There are a number of barriers to accessing, initiating, and continuing ART, namely financial barriers, psychological barriers, race/culture/ethnicity barriers,

In our study, psychological, informational and geographical barriers were identified, but the most noticeable barrier mentioned by IVF beneficiaries is financial accessibility. The majority of women surveyed (84.9%) use their own financial resources for IVF, and consider these costs to be high and very high. Partial financial support provided by CNAM was received by 4.5% of respondents (the rest of the costs being qualified as a high financial burden), and full financial support from the Municipal Program was received by only 6.8% of respondents.

## CONCLUSIONS.

1. The study data allow us to make a series of findings directly derived from the responses of the study participants regarding access to medically assisted human reproduction services, such as limited informational accessibility, psychological difficulties (24.7% report feelings of denial of the diagnosis); problems related to the geographical location of ART centers for some of the respondents (17.9%); a large and very large financial burden is reported by the overwhelming majority of women who cover the costs of the procedure from their own sources.

2. At the same time, we can assume that the limitations in the geographical and financial accessibility of ART services in general are even greater than those perceived by the study respondents, who in significant proportion have a residence visa in the central area of the country (only about 22% are from the southern and northern areas of

the country) and have incomes higher than 4 thousand lei per month (only about 10% of women report an income less than 4 thousand MDL).

**CONFLICT OF INTEREST** The authors have no conflicts of interest to declare.

**ETHICAL APPROVAL** The article was not approved by the Ethics Committee as it does not contain any ethical

risks. The research consists of a survey of adults that maintains all rigor for anonymizing data and maintaining participant confidentiality.

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## References

1. World Health Organization. Sexual and Reproductive Health and Research (SRH).2024. ISBN: 978 92 4 006831 5. <https://www.who.int/news-room/fact-sheets/detail/infertility>
2. Legea Sănătății Reproductive nr.138 din 15.06.2012, Capitolul II. SĂNĂTATEA REPRODUCERII, Articolul 4 Drep-  
turile în domeniul sănătății reproductive, p.3
3. Diana Antonia Iordachescu, Corina Gica, Elena Otilia Vladislav. Emotional disorders, marital adaptation and the moderating role of social support for couples under treatment for infertility. In Ginekologia Polska. 2021.vol 92, pag 98-104
4. Newman, J.E.P.R.; Chambers, G.M. *Assisted Reproductive Technology in Australia and New Zealand 2019*; National Perinatal Epidemiology and Statistics Unit, the University of New South Wales: Sydney, Australia, 2021.
5. Center for Disease Control and Prevention. Assisted reproductive technology success rates 2004. National summary and fertility clinic report. 2006.
6. Bennett, L.R.; Wiweko, B.; Hinting, A.; Adnyana, I.B.; Pangestu, M. Indonesian infertility patients' health seeking behaviour and patterns of access to biomedical infertility care: An interviewer administered survey conducted in three clinics. *Reprod. Health* 2012, 9, 24.
7. Herbert, D.L.; Lucke, J.C.; Dobson, A.J. Early users of fertility treatment with hormones and IVF: Women who live in major cities and have private health insurance. *Aust. N. Z. J. Public Health*. 2010, 34, 629–634.
8. Kyei, J.M.; Manu, A.; Kotoh, A.M.; Meherali, S.; Ankomah, A. Challenges experienced by clients undergoing assisted reproductive technology in Ghana: An exploratory descriptive study. *Int. J. Gynaecol. Obs.* 2020, 149, 326–332.
9. Eisenberg, M.L.; Smith, J.F.; Millstein, S.G.; Nachtigall, R.D.; Adler, N.E.; Pasch, L.A.; Katz, P.P. Predictors of not pursuing infertility treatment after an infertility diagnosis: Examination of a prospective U.S. cohort. *Fertil. Steril.* 2010, 94, 2369–2371.
10. Chin, H.B.; Howards, P.P.; Kramer, M.R.; Mertens, A.C.; Spencer, J.B. Racial Disparities in Seeking Care for Help Getting Pregnant. *Paediatr. Perinat. Epidemiol.* 2015, 29, 416–425.
11. MOȘIN, Veaceslav, EȘANU, Anatol. Aspecte etice ale reproducerii umane asistate medical. In: *Buletin de Perinatologie*, 2012, nr. 3, pp. 89-97. ISSN 1810-5289.
12. Shapiro AJ, Darmon SK, Barad DH, Albertini DF, Gleicher N, Kushnir VA. Effect of race and ethnicity on utilization and outcomes of assisted reproductive technology in the USA. *Reprod Biol Endocrinol.* 2017;15(1):44. <https://doi.org/10.1186/s12958-017-0262-5>.