



Evaluation of Medical Students' Attitudes toward Legal and Ethical Principles of Modern Reproductive Methods in Guilan University of Medical Sciences in 2019

ARTICLE INFO

Article Type

Original Research

Author

Kourosh Delpasand ^(*)

Masoumeh Azadegan ⁽²⁾

(1) Assistant Professor, School of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran.

(2) M.A. Medical ethics and Law Research Center, Shahid Beheshti University of Medical Science, Tehran, Iran.

Corresponding Author's Info

Tell: +989188716156

Email: kd388@yahoo.com

ORCID: 0000-0001-6842-3374

Article History

Received: 07 Oct 2024

Revised: 09 Nov 2024

Accepted: 01 Dec 2024

Published Online: 01 Jan 2025

How to Cite this Article

Delpasand K & Azadegan, M. Evaluation of Medical Students' Attitudes toward Legal and Ethical Principles of Modern Reproductive Methods in Guilan University of Medical Sciences in 2019. ILS. 2025; 1(1): 41-51.

Copyright

This is an open access article distributed under CC BY 4.0 License.

© 2025 The Author(s).

ABSTRACT

Background

The advent of assisted reproductive technologies has led to new perspectives in this area, both in law and religion. In 1978, with the first IVF operation, and in 1980, with the spread of the uterine rental phenomenon and the development of other assisted reproductive technologies over three decades, various techniques and methods to meet the need for reproduction came into being. However, the limits of the rules and the limits of this right have not yet been determined. The scope of these rights starts from the right to want or have a legitimate child and ends with the right to have a child in any way, and then ends with the right to choose the sex of the fetus. The aim of this study was to determine the attitudes of medical students about the legal and ethical principles of modern reproductive methods in Guilan University of Medical Sciences in 2019.

Materials and Methods

The study is analytical-cross-sectional. A randomized cluster sampling was used to assess the attitude of medical students. A total of 121 samples were obtained using a sample size formula. A total of each student was randomly sampled at a time, with a total of 138 participants. After collecting the questionnaires, the information was entered into SPSS software version 22 and using descriptive statistics, the relative frequency percentage, the level of attitude among students and the average attitude score was obtained. Then, a chi-square test was used to determine the level of mood and its relationship with age and sex, and a t-test was used to compare the student's academic level.

Ethical Considerations

Honesty and fidelity in writing the text have been observed.

Findings

The students' attitude score is $53/5 \pm 79/69$, which according to the average score, it can be stated that the student's attitude towards the legal and moral principles of modern reproductive methods in Guilan University of Medical Sciences in 1398 was average. Also, there is no significant relationship between age group variables, educational levels, religion, and marriage with students' attitudes. ($P > 0/05$) and there is an important relationship between gender and student attitudes. ($P = 0/049$).

Conclusion

The attitudes of interns and trainees involved in the study were not significantly correlated. Both spectrums had more than 85% poor attitudes. Information and medical education topics on ethical and legal issues of modern medical treatment methods were not enough. It is suggested that ethical and legal training in modern medical treatment methods be included in effective ways in academic courses, and workshops will be held to increase medical staff's moral and legal awareness.

Key words

Attitude, Legal and Moral Principles, New Methods of Fertility, Medical Ethics.

INTRODUCTION

1- Preface

Reproduction preserves the survival of different living species, and humans are no exception to this general rule.

Throughout the ages, different religions and ideologies have had different views in reproduction, directly related to increasing or decreasing the number of their followers [1].

On the other hand, infertility affects the psychological and economic issues of the individual and society. So that among the stressful events after the death of the mother, the death of the father and the betrayal of the wife, it occupies the fourth place [2].

Advances in science and technology in medicine have opened a new window of new reproduction methods for humans. These new methods have played a significant role in reducing infertility in different societies over the past few decades, but the use of new reproduction methods requires clear and ethical rules to prevent legal problems in areas such as inheritance. Lack of knowledge of these methods' legal, ethical and religious standards can cause more complex issues than infertility, which in addition to the infertile couple applying for a child and donors can affect the attending physician and medical staff.

Therefore, evaluating medical students' attitudes about new reproduction methods'

legal and ethical principles can play an important role in predicting and preventing potential problems.

2- Previous Studies

In a study conducted in 2013 by Azimi *et al.*, the midwifery students' level of knowledge about religious rulings and legal issues related to the midwifery profession at Ahwaz Jundishapur University of Medical Sciences was assessed. The overall average of students' learning in all areas of research was considered as good. This indicates the need for midwives and physicians as the main providers of medical services to be aware of the Shari'a rules [3].

In another study conducted in 1992 by Dr. Mehrzad Kiani *et al.*, They concluded that to plan to improve the level of awareness and practice, reduce the incidence of errors and medical complaints of the medical staff, it is necessary to examine the level of attention of health professionals in various occupations to identify their strengths and weaknesses and strategies to improve their awareness [4].

Also, in a study conducted in 2016 by Seyed Ahmad Batahi *et al.* entitled, the level of knowledge of Qom University of Medical Sciences students about patient rights. This study showed that students' awareness in most areas of the Charter of Patients' Rights was insufficient, leading to non-compliance with patients' rights by students and ultimately cause their dissatisfaction [5].

In a study conducted by Mahmoudian *et al.* In 2017, under the title of examining the attitude of infertile women referring to Shahid Motahari clinic in Shiraz towards a surrogate uterus, the results showed that 73.5% of infertile women had a negative attitude towards surrogacy and the rest had a positive attitude. The most important concerns of infertile women about surrogacy were: Contradiction of this method with culture and religion, possible problems of the child, abuse of the surrogate mother, threatening the relationship with the husband and reducing the sense of belonging to the child. Researchers have suggested that workshops be held to improve women's attitudes toward the alternative uterus [6].

In a study conducted by Heonah *et al.* in Nigeria in 2008 on the attitude of medical students in Enugu regarding donated sperm, the reasons that made a person reluctant to donate sperm can be divided into 7 41.4% due to religious reasons and 22.6% due to moral problems and 10.7% due to fear of the issues caused by donated sperm and 9.5% due to fear of screening for sexually transmitted diseases [7].

In a study conducted by K.BRUCE-HICKMAN *et al.* in 2009 in the United Kingdom on the knowledge and attitude of medical students about rented uterus as a method of assisted reproduction. Researchers concluded that no difference. There is no knowledge between students who have passed the obstetrics and gynecology course and other students.

Students' views in this regard are thought-provoking, and there is a difference of opinion between the legal status of the rented uterus and the personal views of medical students [8].

3- Prevalence of Infertility

According to the World Health Organization, approximately 80 million couples are infertile, 50% of whom can be treated with modern fertility methods. In Iran, this number includes about 1.5 million couples, and in the United States, 1 in 6 teams is infertile [9].

4- Definition, Causes and Methods of Infertility Treatment

Although fertility is defined as the power and ability to conceive, infertility has no clear universal meaning, and there are different interpretations of infertility in other cultures [10].

Infertility is defined in medical sources as follows: If a couple is not fertile within a year without using contraception, they are considered infertile couples; in different cases, different causes can be suggested [11].

Causes of infertility include abnormal sperm count 30%, ovulation failure and ovulation disorder 25% Glenn adhesions, endometriosis, fallopian tube insufficiency and uterine problems 20%, and 25% of cases the specific cause cannot be due to infertility Recognized [12].

In general, infertility treatments can be divided into three groups:

1. Pharmacological treatment
2. Surgical treatment
3. Reproductive assisted treatment

Where pharmacological and surgical treatments can not play an effective role in improving infertility, the use of assisted reproductive therapies has a special place are [12]:

1. Ovule donation;
2. Embryo donation;
3. Intrauterine Insemination: Intrauterine Insemination (IUI);
4. Inoculation of sperm into the uterus using sperm other than the partner;
5. In vitro fertilization (IVF); and
6. Surrogacy.

This set of methods (ART) is called Assisted reproduction technologies [13].

5- Ethical Considerations of Modern Infertility Treatments

Some ethical considerations of contemporary infertility treatments include:

1. Conscious satisfaction;
2. Evaluation and screening of infertility donors and recipients;
3. Confidentiality or non-confidentiality of information;
4. Donation financial issues; and
5. Other considerations related to donated embryos (respect-safety) [12].

6- Jurisprudential Considerations of Modern Reproductive Therapies

Among jurists' cases in current infertility treatments, we can name lineage, confidentiality, inheritance, will, etc. According to the special place of the above issues in our country, knowledge of these jurisprudential rulings is of special importance.

7- Legal Considerations of Modern Reproductive Therapies in Iran and the World

Different laws have been enacted around the world regarding surrogacy. The use of surrogacy is illegal in Sweden and Germany. There is no specific law on the use of surrogacy in France and Denmark, but it is unlawful to pay any money to a surrogate owner.

If there is no problem in receiving a fee in the UK [14].

8- A Study of Embryo and Surrogate Rent in the Iranian Legal System

The Islamic Republic of Iran has enacted a law on 5 donating embryos methods to infertile couples in 5 articles. That only one of the new infertility methods is explicitly included, and there is no civil law for alternative uterus in our country, so the applicants for this work mostly refer to the opinions of jurists and *fatwas* of the Supreme Leader [14].

MATERIALS AND METHODS

This research is a cross-sectional analysis, and the statistical population was studied by medical students of the internship and internship of Guilan University of Medical Sciences in 2019. In this study, cluster random sampling was used so that from 366 students of all medical fields, at least 121 samples of all students of each level were randomly sampled, which a total of 138 people participated in the study. Data collection it was performed by a self-administered questionnaire which consists of 2 parts.

The first part of the questionnaire is the demographic information of the participants and the second part of the questionnaire includes 20 questions related to legal standards and modern methods of fertility. To determine the questionnaire's validity using the content validity method, the questionnaire was given to 7 respected faculty members.

Each question's CVR coefficient was obtained based on the answers, and the questions that have a CVR coefficient below 0.7 were removed. The CVR coefficient of the total questions was 0.78. In the CVI index study, in terms of relevance and clarity, and acceptability, all questions had a CVI rate above 0.8, and the CVI index was 0.79. In evaluating the reliability of the questions using correlation coefficients and the degree of agreement of individuals in answering the questions, it has been more than 80% in two stages, which indicates the high reliability of the

questions. Using descriptive statistics, the relative frequency of attitude level among students and the average attitude score was obtained. Then, to determine the level of attitude and relationship with age and gender, a chi-square test and t-test were used to compare students' educational levels.

DISCUSSION

Of the total participants (138), 60 (43.5%) were male, and 78 (56.5%) were female.

The subjects' mean age was (2.04 ± 24.67) , with a minimum age of 22 and a maximum age of 38 years. The highest percentage of students' complete agreement with modern reproduction methods with the legal and ethical principles was with question 9 (ovule and sperm donors should be controlled for infectious diseases such as AIDS and hepatitis) and their highest disagreement with question 10 (ovule and sperm donors). Sperm can be married or single.

This questionnaire's questions included the following items, which included the answers: strongly agree, agree, have no opinion, disagree and strongly disagree.

1- Rental uterus is a good method for those who have infertility problems.

2- Accepting a rented womb from friends and acquaintances is not a moral or legal problem.

3- Accepting a rented uterus from a relative and causal incest does not have a moral or legal problem.

4- Accepting a rented womb for childbearing is better than adopting a child.

5. The government should design a process so that all offspring from donated ovules are registered and precisely controlled.

6- The government should design a process so that all the donated fetus's offspring are registered and precisely controlled.

7- Ovule and embryo donation methods are cheaply and widely available to applicants and covered by insurance.

8- The media should inform about the moral, legal and religious standards of new reproduction methods.

9. Ovule and sperm donors should be monitored for infectious diseases such as AIDS and hepatitis.

10. Ovule and sperm donors can be married or single.

11. The offspring of sperm inherited from a non-biological father.

12- It should be possible to use donated embryos in all infertility treatment centers.

13- In my opinion, the owner of the rented uterus is the child's birth mother.

14- In the father's death in the rented womb, the child belongs to the surrogate mother.

15. In case of the father's death in a rented womb, the surrogate mother has no legal responsibility for this child.

16. A baby born from a donated ovule and a rented uterus has three mothers.

17. Ovule and sperm donor information should not be kept confidential and given to the resulting child.

18- Before performing any intervention in modern reproduction methods, patients should be given the necessary knowledge of all religious norms.

19- Sharia couples should use donated ovules to have their desired child (in appearance).

20. Sharia couples should be able to use donated sperm to have their desired child (in appearance).

The students' attitude score is $53.79 + 5.69$. According to the mean score, it can be said that students' attitudes toward the legal and ethical principles of new methods of reproduction at Guilan University of Medical Sciences in 2019 were moderate. Determining the relationship between participants' attitudes and their age indicates no significant relationship between age group and students' attitudes ($P = 0.129$) so that in both groups, more than 80% have a weak attitude towards the legal and ethical principles of the method. They had new fertility at Guilan University of Medical Sciences.

Determining the relationship between participants' attitudes and their gender indicates a significant relationship between gender and students' attitudes ($P = 0.049$) so that the group of women had a weaker attitude towards the legal and moral principles of new methods of reproduction.

Determining the relationship between participants' attitudes and their marital status and using Fisher exact test showed that there is no significant relationship between marital status and students' attitudes ($P = 0/213$) so that married people have a weaker attitude towards legal principles and Ethically, they had new methods of reproduction. However, this difference between the two groups was not significant.

This study showed that 109 (79%) of the participants believed that a rented uterus was a suitable method for infertility problems. In Bruce and Higman's study, 72.2% of participants agreed that rented uterus as a means of reproduction in infertility treatment. In this study, 26.8% of the participants believed renting a uterus from friends and acquaintances was not a moral and legal problem, while 46.4% were against it.

In this study, 37.7% of the participants believed that getting a rented uterus from a relative or causal incest is not a moral and legal problem, while 36.2% of the participants were against this, which was 70.8% in the Bruce and Higman study. In the Bruce and Higman study, only 29.2% of

students had the correct rental uterus attitude in the UK.

In this study, 32.6% of the participants believed that having a child through a rented uterus is better than adopting a child. In the Ohan and Agbatha study, 18% of Nigerian medical students thought adoption was better than accepting donated sperm to treat infertility [7]. In this study, 61.6% (85 people) considered the rented uterus owner to be the child's birth mother, but in the Bruce and Higman study, 28.7% of the participants identified the surrogate mother as the legal mother [8].

The topics discussed in our study were the students' attitudes in jurisprudential and legal cases. The students' attitudes were as follows: 50.8% (70 people) correctly believed that the child obtained from sperm donated from their non-biological father would not inherit. Also, 30.4% (42 people) of students correctly believed that in the event of the death of the father in the rented womb, the child belongs to the mother who owns the ovule, 23.6% (34 people) also rightly believed that the legal responsibility of the child lies with the mother who owns the ovule and not with the mother who has a rented uterus. 52.9% (73 people) believed that the baby from a donated ovule and a rented uterus has three mothers, which in these cases did not exist in previous studies.

Also, more than 55.1% (76 people) of the students believed that the government should implement a process that records and

accurately records all offspring of donated ovule and embryos, of which 37% (51 people) believed that information The donor of the ovule and sperm should not be kept confidential and should be donated in the future. In the Ohan and Agbatha study in Nigeria (n = 35), 90% of medical students believed that sperm and ovule donors were confidential [7].

In our study, 93.5% (129 people) believed that ovule and sperm donors should be controlled for sexually transmitted diseases such as AIDS and hepatitis. In our study, 15.2% (21 people) believed that ovule and sperm donors could be married or single, against moral and religious standards. (120 people) 86.9% of the participants believed that the media should inform about the moral, legal and religious standards of new methods of reproduction and that 76.1% (105) of them believed that before any intervention In modern methods of reproduction, patients must be informed about all the religious norms. And (86 people) 62.3% of students believed that ovule and embryo donation methods should be cheaply and widely available to the needy and insured.

Fifty-four percent (39.2%) of students mistakenly believed that couples had the right to choose their child based on gamete donors' appearance, which was against medical ethics. In the study of Ohan and Agbatha (n= 20), 35% of female participants did not accept this treatment due to the

psychological and emotional effects of sperm donation on their spouse.

CONCLUSION

The present study results showed that students' attitudes toward legal principles and ethics of modern reproduction methods in Guilan University of Medical Sciences in 2019 were moderate, and there was no significant relationship between students' attitudes and age, religion, and students' educational level. The interns' attitudes and trainees participating in the study were not significantly correlated, and both groups had a weak attitude of more than 85%. Information and topics on medical education about the ethical and legal issues of modern medical treatment were insufficient. It seems that the moral and legal teachings of modern medical treatment methods should be effectively included in university courses, and training workshops should be held to increase the ethical and legal awareness of medical staff.

Undoubtedly, by taking such measures, the moral and legal problems of the medical staff will be reduced, and the increase of physical and mental health of the community of applicants for new infertility treatments will be guaranteed more than before, and we will enter the future with a stronger and healthier generation. There are many considerations regarding the law on embryo donation. According to this law, the Transplant Management Center of the Ministry of Health and Medical Education is

obliged to exercise strict supervision over the receipt, maintenance, and transfer of embryos following the said ministry's instructions. This issue is worth pondering because this center has not had any successful mechanism during this period, and there is no supervision.

There is ample evidence that infertility treatment centers are not monitored for illegal sales. Recently, it was mentioned in one of the cases. In one of the centers of specialized gynecological hospitals in Tehran, the donated ovule owners' photo album is given to the applicants for selection (viewed by the researcher). Similar cases have been reported at the American Hospital in Beirut for having a blonde child. Unfortunately, the high volume of turnover in these centers has also provided the ground for corruption, resulting from a lack of transparency of processes and monitoring [8].

One of the most obvious human rights is the right to know one's origin, which should be considered in donated embryos. Using the poor as a surrogate mother has many human rights challenges, often referred to as a new form of slavery, because a woman's right to physical integrity is violated.

ETHICAL CONSIDERATION

Authenticity of the texts, honesty and fidelity has been observed.

AUTHOR CONTRIBUTIONS

Planning and writing of the manuscript was done by the authors and Co-authors.

ACKNOWLEDGMENTS

None

CONFLICT OF INTEREST

No conflict of interest was reported by the author.

FUNDING

This Research received no external funding.

REFERENCES

- [1] Qaeni M, Mu'ini M. The concept, examples and origin of the right of human reproduction and fertility in Islam and liberal ethics and law. *Journal of Medical Ethics & History of Medicine*. 2015 Jan 15; 8 (2). [Persian].
- [2] Rashidi H, Malek Afzali B, Haghollahi H, Abedini F, Islami M, et al. Investigating the use of infertility services and treatments in infertile couples referring to infertility treatment centers in Iran in 2012-2013. *Iranian Journal of Obstetrics, Gynecology and Infertility*. 2017 Apr 21; 20 (2): 1-2. [Persian].
- [3] Azimi N, Tadayon Najafabadi M, Bakhshandeh Bavarsad M, Kiani M. Survey of midwifery students' knowledge of religious and legal rules related to the midwifery profession in Ahvaz Jundishapur University of Medical Sciences in 2013. *Medical Figh .;* 5 (17): 71-89. [Persian].

- [4] Azimi N, Tadayon Najafabadi M, Ziaghham S, Kiani M. Survey of medical sciences students' knowledge of criminal midwifery laws in forensic medicine, Ahvaz Jundishapur University of Medical Sciences in 2013. *Iranian Journal of Forensic Medicine*. 2013 Sep 10; 19 (2): 313-9. [Persian].
- [5] Batahi S, Asayesh, H. Qom Medical Students' Awareness of Patient Rights in 2010. *Iranian Journal of Medical Education*. 2012 Aug 15; 12 (5): 347-55. [Persian].
- [6] Mahmoudian H, Sabourian N, Nabii P. The attitude of infertile women referring to infertility clinics towards surrogacy in Shiraz University of Medical Sciences. *Sadra Journal of Medical Sciences*. 2017 Jun 22; 5 (3): 131-40. [Persian].
- [7] Onah HE, Agbata TA, Obi SN. Attitude to sperm donation among medical students in Enugu, South-Eastern Nigeria. *Journal of Obstetrics and Gynaecology*. 2008 Jan 1;28(1):96-9.
- [8] Bruce-Hickman K, Kirkland L, Ba-Obeid T. The attitudes and knowledge of medical students towards surrogacy. *Journal of Obstetrics and Gynaecology*. 2009 Jan 1;29(3):229-32.
- [9] Heikkilä K, Länsimies E, Hippeläinen M, Heinonen S. Assessment of attitudes towards assisted reproduction: a survey among medical students and parous women. *Gynecological endocrinology*. 2006 Jan 1;22(11):613-9.
- [10] Abbasi Shavazi M, Razeqi Nasrabad H.B, Behjati Ardakani Z, Akhoondi M. Infertile women 's views on gamete donation: A case study in Tehran. *Fertility and infertility (JOURNAL OF REPRODUCTION AND INFERTILITY)*. 2006 [cited 2022April10]; 7 (2 (series 27)): 139-148. Available from: <https://www.sid.ir/fa/journal/ViewPaper.aspx?id=50473>. [Persian].
- [11] Sadat Hoseini S A. Infertility from the view Point of Forensic Medicine. *Medical Law Journal*. 2009; 3 (8) :93-107. Available from: <http://ijmedicallaw.ir/article-1-78-fa.html>. [Persian].
- [12] Bani Aqeel AS, Zarei Abolkhair A, Keshavarz A, Ahmadi SM, Vakili MA. The effect of comprehensive third-party infertility and fertility counseling on women candidates' attitudes for egg donation regarding assisted reproductive methods. *Iranian Journal of Obstetrics, Gynecology and Infertility*, 2016; 19 (36): 1-10. DOI: 10.22038 / ijogi.2016.8143. [Persian].
- [13] Ibn Sina Research Institute. *New methods of human reproduction from the perspective of jurisprudence and law*. Tehran Yaran Publications.2002. [Persian].
- [14] Taghadosinejad F, Sheykh AA, Yaghmaie A, Rojarei M. A survey on obtaining informed consent from patients admitted to shariati hospital (Tehran, Iran). [Persian].

COPYRIGHTS

© 2025 The Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution (CC BY 4.0), which permits unrestricted use, distribution and reproduction in any medium, as long as the original authors and source are cited. No permission is required from the authors or the publishers.

