

Research Progress on Influencing Factors of Medical Delay in Infertile Patients

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Abstract: This paper defines delay in seeking medical treatment for infertility and summarizes and analyzes the status quo and influencing factors of delayed medical treatment among infertile patients worldwide. A major goal of this campaign is to increase public awareness of the disease and establish a basis for intervention measures that will promote timely medical treatment for infertile couples to reduce delays in medical treatment.

Keywords: Infertility; Delayed medical seeking; Influencing factor

1. Introduction

The World Health Organization defines infertility as the failure of a couple to conceive after having regular sexual intercourse for at least 12 months without taking contraceptive measures [1]. It is possible to improve the pregnancy success rate of infertile couples by early detection of the causes of infertility and intervention [2]. Despite becoming a parent being a life goal that most people desire, most patients fail to seek medical assistance on time [3, 4]. The delay in seeking medical care hinders early diagnosis of infertility, which affects timely treatment and reduces the chances of couples experiencing infertility from becoming pregnant. In this paper, the author examines the factors influencing the medical treatment process of infertile patients worldwide. We introduce the medical-seeking behavior of infertile patients and develop interventions to promote timely medical treatment for infertile couples to reduce the possibility of medical delay.

2. The Definition of Infertility Medical Delay

A delay in seeking medical treatment refers to a condition in which individuals fail to seek medical attention on time after realizing abnormal symptoms [5]. A delay in medical treatment is defined as the period of time between when an individual becomes aware of the disease symptoms and when he or she seeks medical attention, which exceeds the clinically recommended timeframe [6]. Symptoms of Infertility do not appear suddenly. Many of these symptoms can be detected by reviewing a complete medical history and conducting a physical examination. At the same time, age is also a very important limiting factor in infertility management. The older the infertile patient is, the smaller the chance of pregnancy [8]. Delay in seeking medical treatment may decrease patient pregnancy success rates [9]. Therefore, numerous literatures proposed that women who have not become pregnant for more than 12 months without contraception should seek medical examination, diagnosis, and treatment as soon as possible (6 months if the woman is 35 years old) [10]. After meeting the WHO definition of infertility, medical consultation should be carried out within six months [3]. In this paper, infertility treatment delay is: a couple without contraceptive measures, for at least 12 months of regular life and failed to get pregnant, more than at least six months of non-medical behavior.

3. Status Quo

Scholars from both domestic and foreign universities have conducted numerous studies on the issue of delayed medical treatment in infertile patients. Sebashi defined the delay of infertility treatment as the delay of the first medical treatment for more than six months after meeting the clinical infertility criteria. Studies show that 69% of patients delay infertility treatment[3]. A study by Bennett et al. investigated the time from marriage to receiving infertility treatment among infertile patients to discover whether

there was a delay in medical-seeking behavior. They discovered that, on average, infertile patients did not seek medical consultation until about 25 months after marriage [4]. By collecting data from 1944 respondents in 9 countries, Domar et al. conducted a more detailed investigation and discussion of the time of infertility diagnosis. Respondents included infertile patients or their partners, and the study examined the length of time spent at different stages of the infertility treatment process. Based on the survey, among respondents, the average time they had tried to conceive on their own before receiving an infertility diagnosis was 38.6 months. There was an average of 23.6 months spent trying to conceive without medical assistance after an infertility diagnosis. Analysis by country showed that the longest average time to diagnosis of infertility reported by respondents in the United States was 41.9 months. European countries' infertility diagnosis time varies, as the longest for France is 41.6 months, and the shortest for Spain is 33.5 months. Chinese respondents' shortest average time for infertility diagnosis was 32.2 months [9]. Based on a literature review, it has been found that patients with infertility often delay seeking medical treatment. They delay the diagnosis and treatment of their infertility for many years, thus greatly reducing their chances of conceiving.

4. Demographic Factor

4.1 Age

There is no unified conclusion on the impact of age on medical delay behavior, and further research is needed. Studies have shown that compared with young women, older women are more likely to delay medical treatment [3], and women over 35 years old are less likely to seek medical help [11]. Many studies from different countries have shown [12-14] that female patients are more likely to seek medical treatment as they age, as well as male patients [13], which is likely due to the increased risk of infertility as they age [15]. Therefore, older people may choose to seek medical treatment promptly due to greater time pressure. The reasons for the inability to reach a consensus on this issue are complex, and other factors may moderate the effect of age on delay in seeking medical care, such as educational level, marital status, or cultural background. The use of different control variables in different studies may be one of the reasons for the conflicting results.

4.2 Gender

In some studies, the relationship between gender and health-seeking behavior has been examined, and it has been found that women are more likely to seek medical assistance than men [14, 16]. It has been reported that 62.6% of infertility cases in couples are caused by female factors, 9.2% by male factors, 26.5% by common factors, and the rest are caused by unknown factors [17]. Moreover, from a social gender perspective, since women are the ultimate bearers of pregnancy and childbirth, infertility is often regarded as a female problem, regardless of whether male factors are involved [18]. Clearly, women are more likely to be responsible for infertility than men, and therefore may be more proactive in seeking medical care.

4.3 Education Degree

There is a correlation between the low education level of infertility patients and delayed medical treatment [3]. According to a British study [13], infertile women with lower education levels were less likely to seek medical assistance, which may be because the higher the patient's education level, the more likely they are to realize their fertility problems [19], so the possibility of delayed medical treatment is smaller than that of people with lower education levels.

4.4 Income Situation

Since the cost of fertility treatments is relatively high and medical insurance coverage is limited, income level is an important factor affecting infertile patients' medical-seeking behavior. In the United States, numerous studies have shown a positive correlation between family income and patients seeking medical treatment [12, 20]. Patients with higher income levels, especially those with a family income of more than \$100,000, are more likely to seek infertility service consultation [14]. Concerns about the cost of treatment also differed between infertile patients and their partners among infertile families who decided not to seek medical consultation or treatment. Compared with partners of infertile patients, patients more often regard cost as a barrier to medical consultation, ultimately leading to delayed or no

medical treatment [9], which may indicate that infertile patients are more aware of the process, specific costs, and impact of fertility treatment than their partners. Therefore, income plays an important role in the patient's decision-making process for medical treatment, directly affecting whether the patient can seek medical treatment in time.

5. Reproductive Factors

5.1 Reproductive History

Research shows that women who have never given birth are more likely to seek medical help when experiencing infertility for a long period of time [12, 21], and after the birth of their first child, the likelihood of seeking medical assistance increases with age [13]. Compared with those who have had children, those without children have less confidence in their fertility and are therefore more likely to seek medical help. However, this expectation applies to cases where the previous child was conceived naturally without medical assistance [22], which should be discussed separately when conducting research.

5.2 History of Abortion

Generally speaking, women who have experienced miscarriages may be concerned about their fertility, so they are more inclined to seek medical treatment promptly [11, 23], which is also important to distinguish between spontaneous abortion and artificial abortion in research. The mechanism of delay in medical treatment may be different, women with a history of induced abortion lack the initiative in seeking medical consultation for infertility [13]. Because most induced abortions are self-selected by patients, previous pregnancy experiences may give patients confidence in their fertility, so they do not seek appropriate medical examinations and consultations for infertility promptly [22].

5.3 History of Reproductive System Diseases

Infertility caused by reproductive system diseases is common, some of which require early intervention to protect fertility. It is often difficult to restore fertility to patients with endometriosis if they fail to seek medical treatment in time, as endometriosis causes damage to the normal structure of the pelvic cavity, the function of the ovaries and the uterus. Therefore, the impact of medical delay is very serious [24]. There is evidence that patients with endometriosis [11] and pelvic inflammatory disease [12] are more likely to seek medical treatment for infertility, whereas patients with general gynecological diseases are not [12].

6. Psychological Factors

6.1 Fertility Desire

The frequency of seeking medical consultation has been shown to increase with the strength of the female infertile patient's desire to have children. White et al. also included an indicator of the partner's desire to have a child, but did not find that this was associated with seeking medical attention [25]. In Bennett's study, when 40.8% of the respondents reported their motivation for seeking medical treatment, the most common answer was "My partner and I are equally eager to have a child by any means necessary" [4], which shows that the consistency of fertility wishes is also one of the factors that prompt infertile couples to seek medical treatment in time.

6.2 Disease Stigma

In a study by Bunting and Boivin [26], women who chose not to seek medical attention or delay seeking medical attention were more afraid of being labeled infertile than those who sought medical help within a year. Approximately 20 % of people with delayed medical treatment had a pregnancy preparation time of nearly two years. They are also pessimistic about natural pregnancy but have never sought medical assistance. Because infertility is an undesirable feature, patients have actual or imagined fears of being humiliated and rejected [27], so they insist on natural pregnancy and delay diagnosis and treatment.

6.3 Perception of Infertility Problems

Most social cognitive models of health regard awareness as a prerequisite for behavior [28, 29]. For women who are medically classified as infertile, awareness of infertility problems is also the key to medical help-seeking behavior [30]. As shown in White's research [25], about 60% of women who meet the medical criteria for infertility believe that they have no fertility problems. The author explains this result. Such as fear of stigmatization, blaming the problem on the husband, thinking that 1-3 years of pregnancy preparation is normal, and so on. According to the survey, patients who do not seek medical consultation about infertility issues do not believe that there is a problem with their fertility and believe that they will eventually become pregnant naturally. They are more willing to receive medical treatment [26]. As a result, medically classifying a person as infertile does not mean much in terms of timely medical-seeking behavior, and action will only be taken when people perceive a problem.

6.4 Social Pressure

People can be influenced by family and friends to seek or not seek medical help, leading them to believe that family and friends want him to have a baby, thereby causing him to do whatever he can to accomplish this, which includes medical treatment, so some scholars believe that increased social pressure may be an important driving force in seeking treatment and achieving pregnancy [31]. Greil's research indicates [32] that those who feel encouraged to seek fertility treatment from their partners and family are more likely to seek care or adhere to treatment. Having friends and family around them who are undergoing fertility treatment can also encourage patients to seek treatment.

7. Social Factors

7.1 Medical Insurance

The cost of fertility treatments remains one of the most significant barriers to counseling, starting treatment, and continuing treatment. Having health insurance may significantly reduce the financial burden associated with fertility treatments. Some studies in the United States have found that people with private health insurance are more likely to seek medical help because in the United States, health insurance is not mandatory and fertility treatments are expensive, so income and health insurance are strong predictors of seeking treatment [20]. The cost of infertility treatment is fully covered by countries such as France, Denmark, and Spain [33]. Of the 5 million IVF babies born worldwide over the past 40 years or more, a significant proportion have indeed come from Europe [34]. Medical insurance coverage nationwide may greatly ease the concerns of some infertile patients and their partners, encouraging them to seek medical treatment as soon as possible.

7.2 Accessibility of Reproductive Health Services

The availability of assisted reproductive services influences the willingness and behavior of infertile couples to seek treatment [35]. Fertility treatment is complex and time-consuming. The medical process may involve multiple outpatient consultations, examinations, and treatments. When the medical distance is far, the medical time is further extended, and the patient may need to take multiple leave or even resign. It may further increase the economic burden of treatment, so geographical restrictions are a major obstacle to access to professional reproductive health services [36]. Bennett investigated the behavioral patterns of Indonesian women seeking reproductive health care, and the results showed that they strongly preferred high-quality providers and lacked trust in general medical services [4]. According to Domar's research, patients who seek medical treatment pay more attention to their medical team's communication skills and psychological support capabilities, and prefer couple-centered medical services [9].

8. Conclusion

In summary, infertile women often delay medical treatment for various reasons, such as demographic, reproductive history, psychological, and social factors. Generally, research focuses largely on demographics and socioeconomics, with less emphasis placed on psychological factors and reproductive history. In addition, most of the research subjects are female patients, and there is a lack of research on male patients, which still needs to be expanded. At present, research on delays in seeking medical treatment among infertile patients in China has been carried out late and in small quantities. Different

cultural backgrounds between China and the West may lead to differences in patients' medical behavior patterns. To further clarify the influencing factors of delayed medical treatment among infertile patients in China, it is necessary to understand the current situation of delayed medical treatment among infertile patients. A deeper understanding will allow interventions to minimize delays, thereby improving the clinical outcomes of infertile patients.

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