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DISPARITIES IN ACCESS TO ASSISTED REPRODUCTIVE TECHNOLOGY  
AMONG HISPANIC WOMEN IN THE UNITED STATES

by

Madison Gallagher

A Thesis Submitted in Partial Fulfillment  
Of the Requirements for the  
University Honors Program

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College of Arts and Sciences  
The University of South Dakota  
April 2021

The members of the Honors Thesis Committee appointed  
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## ABSTRACT

### Disparities in Access to Assisted Reproductive Technology Among Hispanic Women in the United States

Madison Gallagher

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Infertility is a health problem that affects approximately 7 million women in the United States (Ethics Committee of the American Society for Reproductive Medicine, 2015). Due to the high costs of reproductive medicine and infertility treatment, these services tend to be expensive and have limited accessibility without full insurance coverage. Emerging literature outlines the disparities in access to proper treatment for reproductive complications. These existing studies highlight that many minority populations in the United States experience increased challenges regarding access to reproductive medicine and infertility treatment. Among these minority groups are Hispanic women, who are more likely to require reproductive assistance than their Caucasian counterparts. However, due to economic and geographic barriers, these women are less likely to utilize assisted reproductive technology (ART). This paper will analyze the racial and ethnic disparities in access to reproductive technology and obstetric medicine affecting Hispanic women in the United States. The barriers in access to adequate healthcare resources will also be investigated, including socioeconomic status, communication differences, and cultural stigmas. Furthermore, this paper will provide a general explanation of

reproductive techniques and discuss the best practices to prevent cultural stereotyping during treatment.

**KEYWORDS:** ART, Reproduction, Hispanic, Disparity, Infertility

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## I. Introduction

Assisted Reproductive Technology (ART) is used throughout the United States to promote pregnancy and overcome any possible fertility complications that may be preventing conception. ART includes any type of fertility treatment involving a woman's eggs or an embryo. The surgical removal of a woman's eggs is the main procedure of ART. The eggs are then usually combined with sperm *in vitro* and returned to a uterus, whether it be the same woman's or a surrogate's. The prevalence of ART has been increasing over the last few years and continues to expand as technologies improve. Specifically, the use of ART has doubled over the past 10 years, and about 1.7% of infants now born in the US are the result of this technology (CDC, 2020). Since this form of infertility treatment is still relatively uncommon due to its high cost and the novelty of its technologies, it is especially prone to disparity. According to the Ethics Committee of the American Society for Reproductive Medicine (ASRM), these medical disparities are often a consequence of social determinants such as race, socioeconomic status, and cultural stereotypes. These determinants affect many underrepresented populations in the United States, and this paper will analyze these negative effects on the Hispanic population specifically.

The ASRM considers the ability to create a family a fundamental human right, so all populations should have adequate access to fertility treatments and reproductive technologies if needed. The ASRM has also proposed that "all ART stakeholders, including physicians, policymakers, and insurance providers, should address and lessen existing barriers to infertility care" (Ethics Committee of the American Society for

Reproductive Medicine, 2015). Many changes need to be implemented within the healthcare system to overcome existing healthcare disparities and infringements of fundamental human rights. These efforts should reduce the economic burden of fertility treatment and increase accessibility for those who need it. Physicians and healthcare providers must also improve their treatment and awareness of vulnerable populations and end any unintended biases or stereotypes that may be impeding treatment and adding to the disparities within reproductive medicine.

## II. Features of Assisted Reproductive Interventions

The most common type of ART treatment is *in vitro* fertilization or IVF (CDC, 2020). According to the Society for Assisted Reproductive Technology (SART), 99% of Assisted Reproductive Technology procedures are IVF (2020). In addition to IVF, ART also includes laboratory procedures such as gamete intrafallopian transfer (GIFT), zygote intrafallopian transfer (ZIFT), and frozen embryo transfer (FET) (Society for Assisted Reproductive Technology, 2020). According to the Society for Assisted Reproductive Technology, “ART may be recommended when other treatments (such as intrauterine insemination) have not been successful or when there is severe male factor infertility, severe endometriosis or tubal obstruction” (2020).

Understanding the success rates of ART is important for patients seeking care. A 2015 report conducted by the CDC found that almost 30% of ART cycles using a woman’s eggs led to pregnancy. Within this 30%, 70% were single pregnancies and 23% were multiple pregnancies. Furthermore, 82% resulted in a live birth, while 18% resulted



in miscarriage or stillbirth (CDC, 2017, WebMD, 2020). Many women suffer from fertility complications, including those in minority racial and ethnic groups who have shown evidence of higher infertility rates. These women may require ART procedures to promote pregnancy and create a family but face many barriers while receiving treatment.

### ***In Vitro Fertilization (IVF)***

*In vitro* fertilization, or IVF, is the most common and effective form of assisted reproductive technology. This procedure consists of removing and subsequently fertilizing a woman's eggs, followed by implanting the embryo back into the woman's uterus (CDC, 2020). One IVF cycle, which consists of egg removal, fertilization, and transfer, takes about 3 weeks (Mayo Clinic Staff, 2019a). Depending on the patient's circumstances and fertility levels, she can decide whether to use her eggs, a donor's eggs, or even a gestational carrier to carry her fertilized embryo. Success rates of IVF depend on the patient's age and the cause of her infertility (Mayo Clinic Staff, 2019a). For example, IVF is most often used for patients with tubal infertility, issues with ovulation, uterine fibroids, or endometriosis. IVF is also a good option for couples experiencing impaired sperm function or genetic infertility (Mayo Clinic Staff, 2019a). These issues may arise due to genetic factors, environmental conditions, or infections such as chlamydia or other sexually transmitted infections. Some of these complications, such as genetic infertility, may be unavoidable, and affected couples may turn to ART when hoping to have children.

The timeline of an IVF cycle is relatively complicated and requires multiple visits to the clinic. Before starting a cycle, a physician screens the patient and conducts a uterine exam to analyze her ovarian reserve. The partner or sperm donor may also be

required to receive a semen analysis to promote successful fertilization (Mayo Clinic Staff, 2019a). Some patients may undergo a mock embryo transfer to determine the best route of embryo reinsertion. At the start of the IVF cycle, the patient or egg donor will begin hormonal treatment, stimulating egg production by the ovaries (Mayo Clinic Staff, 2019a). This hormonal treatment usually consists of follicle-stimulating hormone (FSH), luteinizing hormone (LH), or a combination of the two (Mayo Clinic Staff, 2019a). These hormones cause the ovaries to produce multiple eggs rather than the single egg that the female ovaries produce each month, which increases the likelihood of a viable embryo as some eggs will not develop appropriately after fertilization. Other medications may be prescribed before egg removal, such as human chorionic gonadotropin, or HCG, which promotes egg maturation; progesterone, which helps prepare the uterine lining for implantation; and medications that prevent premature ovulation (Mayo Clinic Staff, 2019a). To ensure that the eggs are ready for collection, the doctor will perform various tests such as a vaginal ultrasound or blood screening. Once the patient is prepared for egg retrieval, the doctor will conduct a transvaginal ultrasound to retrieve the eggs. During this procedure, the physician inserts an ultrasound probe into the patient's vagina. Once the follicles are identified, a thin needle is inserted and used to retrieve the eggs (Mayo Clinic Staff, 2019a).

The next step in the IVF cycle is fertilization. According to Mayo Clinic, there are two main methods of fertilization. Conventional insemination consists of the mixture of sperm and eggs, which is then incubated overnight. Intracytoplasmic sperm injection (ICSI), or the injection of a single sperm into each egg, may also be performed. This method is usually utilized when sperm function is impaired or if prior IVF attempts have

failed (2019a). Two to five days after egg collection and fertilization, the patient should be ready for embryo transfer. During this procedure, the doctor will insert a vaginal catheter into the patient's uterus and use a syringe to place one or more embryos into the uterus (Mayo Clinic Staff, 2019a). If this process is successful, the embryo will implant into the uterine lining four to five days later. The doctor will most likely conduct a blood test about two weeks after egg retrieval to determine whether the patient is pregnant (Mayo Clinic Staff, 2019a).

If the embryo does not implant, the patient may require additional cycles of IVF. Other IVF complications may include pregnancy loss, ectopic pregnancy, birth defects, or cancer that may arise from the additional hormonal supplements. In addition, if more than one embryo is transferred to the uterine lining, a multiple pregnancy may result, causing increased stress and complications for the patient (Mayo Clinic Staff, 2019a). The number of embryos implanted is usually determined by the patient's age since the implantation rate is lower in older women. It is recommended that women who are younger than 38 years receive only one embryo because their chances of implantation are higher than those who are older (Mayo Clinic Staff, 2019a). In addition, a woman's overall health is taken into account. A woman with a pre-existing condition may be vulnerable to the effects of a multiple pregnancy and should not receive more than a single embryo. If a patient does receive multiple embryos and more than one undergoes successful implantation, the patient may decide to receive a fetal reduction, but this may come with additional ethical and emotional challenges (Mayo Clinic Staff, 2019a).

### **Gamete/Zygote Intrafallopian Transfer (GIFT/ZIFT)**

Additional forms of assisted reproductive technology include gamete or zygote intrafallopian transfer (GIFT/ZIFT). These types of infertility treatments are essentially modified forms of IVF. Fundamentally, these procedures involve egg retrieval followed by fertilization and reinsertion, which is similar to IVF. In contrast, these procedures are less time-consuming than IVF. During the GIFT process, the eggs and sperm are simply mixed and inserted into the fallopian tubes, where fertilization will hopefully occur. With ZIFT, the fertilized eggs, or zygotes, are returned to the female's fallopian tubes within 24 hours, rather than after three to five days, as seen in IVF (WebMD, 2020). These treatment forms are effective for most infertility cases except for those caused by fallopian tube damage since reinsertion occurs here.

Before starting a GIFT cycle, the patient is treated with hormones to promote egg maturation and development. The eggs are also collected in the same manner as an IVF cycle. Unlike IVF, GIFT involves a surgical incision made in the patient's abdomen. Following this incision, the eggs and sperm are immediately placed into the fallopian tube via laparoscopic injection, which requires general anesthesia (WebMD, 2020). Once the sperm and eggs are inside the fallopian tubes, at least one egg will hopefully be fertilized by the sperm. Following fertilization, the zygote will advance to the uterus for implantation and maturation. One drawback to GIFT is that it is impossible to determine whether fertilization has taken place, so the patient must wait until the embryo is implanted into the uterine lining. Because of this, more eggs are usually used to ensure implantation and subsequent pregnancy. Conversely, this may also increase the chances of a multiple pregnancy (WebMD, 2020).

The ZIFT procedure is very similar to GIFT; the patient will be treated with hormones and undergo a surgical incision followed by laparoscopic injection into the fallopian tubes. The only difference is that the eggs are fertilized before reinsertion. The eggs and sperm are mixed and incubated for approximately 24 hours, allowing fertilization before being returned to the patient's fallopian tubes. This treatment method uses fewer eggs and lowers the risk of multiple pregnancy compared to GIFT because fertilization is determined prior to reinsertion (WebMD, 2020).

GIFT and ZIFT may be preferred to IVF because the processes are more similar to natural conception since the gametes or zygotes are placed into the fallopian tube rather than the uterus. GIFT is even more similar to natural conception because fertilization occurs in the woman's body rather than *in vitro* (WebMD, 2020). In contrast, IVF may be the preferred choice since it does not entail a surgical incision. GIFT and ZIFT are also more expensive than IVF, costing between \$15,000 to \$20,000, compared to approximately \$12,000 per IVF cycle. Each of these treatments' costs depend on the number of cycles needed, the medications given, and the amount covered by insurance (WebMD, 2020). Due to the higher prices and increased invasiveness of GIFT and ZIFT, these procedures only account for about 2% of ART interventions (WebMD, 2020).

### **Frozen Embryo Transfer (FET)**

The final commonly used form of ART is frozen embryo transfer or FET. This process uses an embryo from a previous IVF cycle that has been frozen and saved for future use ("Frozen Embryo Transfer", 2020). According to the article titled "Frozen Embryo Transfers (FET) Explained", "about 40 percent of patients who undergo IVF have an additional embryo(s) that they choose to cryopreserve (freeze) to use for another

attempt, should their first cycle be unsuccessful, or to continue to build their family at a later date” (“Frozen Embryo Transfers (FET) Explained”, 2016). After undergoing an IVF cycle, the patient may choose to have her extra embryos frozen as long as they’ve survived to the blastocyst stage, which usually occurs around day five. The embryos are then frozen via vitrification, which consists of the embryo’s placement into a solution and then quickly freezing it in liquid nitrogen. This process prevents embryo breakage and ice crystal formation, allowing for a higher survival rate and increasing the chance of pregnancy (“Frozen Embryo Transfers (FET) Explained”, 2016). When the patient eventually decides to use her frozen embryos, she will start a cycle similar to IVF, consisting of uterine examinations and ultrasounds to ensure proper conditions for embryonic development. She will also receive hormonal injections such as estrogen and progesterone to promote the growth of the uterine lining. Compared to IVF, patients undergoing FET receive fewer medications, which may lower the chances of medical complications. Thawing only takes about an hour, and the embryo is implanted into the patient’s uterine lining (“Frozen Embryo Transfer”, 2020). The transfer process is substantially less time-consuming than IVF, making it a good option after one or more failed IVF attempts as long as embryos have been saved for later use.

FET is commonly used to avoid a hormonal phenomenon called desynchronization. During IVF, estrogen and progesterone levels are increased, and the rise of the latter promotes the development of the uterine lining (“Frozen Embryo Transfer”, 2020). During an IVF cycle, these hormone levels may rise too quickly, preventing the uterine lining from adequately supporting the implanted embryos. This timing discrepancy between uterine lining development and embryonic implantation is

called desynchronization, which decreases the chances of successful implantation (“Frozen Embryo Transfer”, 2020). FET is used to avoid this issue because hormone levels are allowed to return to normal before implantation, which increases the chances of a successful pregnancy. The embryos may implant once the uterine lining has recovered from the hormonal stresses of a standard IVF cycle. FET is a good option for patients who have had previous failed IVF cycles because many clinics offer this service as part of a standard IVF treatment.

### **III. Infertility Rates of Populations**

According to a study conducted by the National Survey of Family Growth (NFSG), infertility can be defined as “failure to achieve pregnancy after 12 months of unprotected intercourse” (Quinn & Fujimoto, 2016). Approximately 6.7 million American women in the United States are negatively affected by infertility (Ethics Committee of the American Society for Reproductive Medicine, 2015). While about 11% of American women experience infertility, an additional 9.4% of American men are considered subfertile or sterile (Ethics Committee of the American Society for Reproductive Medicine, 2015). The high prevalence of infertility in our country leads to an increased need for infertility treatments, such as ART. Analyzing the data reported by infertility clinics across the United States gives valuable information regarding the overall accessibility and success rates of these treatments. As of 2010, 474 ART clinics were operating in the United States. 93.5% of these clinics report their data directly to the CDC, while the remaining 6.5% are considered non reporters (Williams et al., 2015). According to the CDC’s Fertility Clinic Success Rates Report from 2017, 284,385 ART

treatments were performed within 448 of these reporting clinics. These treatments resulted in the birth of approximately 70,000 infants (CDC, 2020). The American Society for Reproductive Medicine (ASRM) and the Society for Assisted Reproductive Medicine (SART) sparked ART data collection efforts, and the CDC is currently working to monitor and improve the use of data collection (CDC, 2019). The efforts of the ASRM, SART, and CDC allow for the in-depth analysis of fertility rates and ART utilization among patients in the United States.

Since minority groups account for a small portion of infertility patients, it is difficult to determine the exact prevalence of infertility among the Hispanic population. While various studies have illustrated higher rates of infertility among non-Caucasian women, the exact degree to which Hispanic women are affected is unknown. The duration of infertility is higher among Hispanic women, with an average of 58 months, compared to 38 months for Caucasian women and 35 months for African American women (USC Fertility, 2021). The combination of prolonged infertility and decreased utilization of services exemplifies the need for reform to promote access to treatment. Additional studies must be conducted to determine whether Hispanic Americans are affected to a higher degree. Still, treatment protocols and insurance coverage should be adjusted to encourage the use and success rates of all infertility patients, especially those in minority groups who experience limited access to care and lower socioeconomic standing. While the relationship between race and infertility is poorly studied, researchers and providers can analyze existing information and causal factors to determine where racial and ethnic disparities exist and improve the accessibility of reproductive technologies and infertility treatments.



#### **IV. Biological Explanation of Hispanic Fertility Rate**

IVF implantation research has shown that minority groups, including African American, Asian, and Hispanic women experience lower rates of successful implantation than their Caucasian counterparts due to complications including uterine fibroids and tubal-factor infertility. These medical issues exemplify the necessity for accessible fertility treatment options. Studies have also found evidence supporting lower pregnancy rates and higher miscarriage rates among these minority groups (Ethics Committee of the American Society for Reproductive Medicine, 2015). While behavioral and environmental factors have the most prevalent effects on the fertility rates of these populations, research has found that there may also be a biological explanation resulting in lower fertility rates of minority populations.

Uterine fibroids, also known as uterine leiomyomas, or ULMs, are benign tumors that grow in the smooth muscle cells within the uterine wall. These tumors are very prevalent and affect about 77% of the female population (Othman et al., 2008). Though they are common among females in general, they are especially prevalent in African American and Hispanic women. Hispanic and African American women are over twice as likely to develop ULMs than white women (Othman et al., 2008). The exact causes of ULMs are unknown, but they are most likely due to environmental factors that interact with existing genetic mutations and give rise to mutated uterine lining cells. These fibroids often arise due to the increased production of estrogen and progesterone, which stimulate the growth of the uterine lining. If the cells of the lining begin to exhibit uncontrolled growth, these fibroids may arise (Mayo Clinic Staff, 2019b). The presence of ULM's has been known to interfere with the successful implantation of a fertilized egg

(Mayo Clinic Staff, 2019a). ULM's may cause difficulties with conception, leading to the potential need for ART services. Minority women are more likely to develop uterine fibroids but are less likely to utilize ART services due to lack of access. This relationship shows the essential need for reform to promote the use of these services among minority populations.

Further research has found that Hispanic women are also more likely to require ART due to a higher incidence of tubal-factor infertility (Schuler et al., 2011, Armstrong & Plowden, 2012). Tubal-factor infertility occurs when either one or both fallopian tubes become blocked or damaged. This can potentially prevent fertilization of the egg and increase the woman's risk of ectopic pregnancy or the implantation of a fertilized egg within the fallopian tube (CCRM Fertility, 2020). Of all IVF patients, approximately 30% seek treatment due to high tubal infertility prevalence (Insogna & Ginsburgm, 2018). According to Fujimoto et al., Hispanic women experience a higher probability of being diagnosed with tubal factors than white and African American women (2008). In a study conducted by Tarun Jain, 27.3% of surveyed Hispanic women had tubal infertility compared to 24% of African American women and only 5.3% of Caucasian women (2006). One possible explanation for these high tubal-factor infertility rates is the higher prevalence of sexually transmitted infections (STIs) among Hispanic and other minority populations. Jain's study found that African American and Hispanic women who had been diagnosed with STIs were more likely to suffer from tubal-factor infertility (2006). Tubal damage may result from any biological stress, such as previous ectopic pregnancy, but one common cause of damage are sexually transmitted infections such as chlamydia or gonorrhea. Chlamydia is twice as common in Hispanic women than white women,

explaining the higher prevalence of tubal infertility in this population (Insogna & Ginsburgm, 2018). The correlation between STI rates and tubal-factor infertility exemplifies the importance of sexual education and public health measures for vulnerable minority populations.

In addition to a higher prevalence of tubal-factor infertility, Hispanics and other minority women are less likely to carry to term. Fujimoto et al. discovered that Hispanic women experienced higher rates of fetal loss compared to white women and were 13% less likely to have a live birth. Hispanic women were also 22% more likely to deliver their child preterm (2008). Similarly, Hispanic women are eight times as likely to have an ectopic pregnancy than their Caucasian counterparts. The higher incidence rates of these populations do not have a clear explanation and have not been thoroughly studied. Still, evidence suggests that most complications arise in response to tubal factor infertility or previous damage to the reproductive system (Schuler et al., 2011). The additional conception complications experienced by Hispanic and other minority groups highlight the need for increased education and reform to promote access to infertility services and conception assistance. Comparing the higher chances of complications to the low rates of utilization can illuminate the racial disparities in access to reproductive care in the United States.

### **V. Utilization of Services Among Hispanic Populations**

While few biological factors have been found to dramatically decrease the fertility rate of Hispanic populations, many environmental and behavioral factors lead to a lower ART utilization rate in Hispanic women. These reduced rates are primarily derived from

socioeconomic and geographic factors, which ultimately affect the overall availability of reproductive medicine. In general, Hispanics are much less likely than whites to have a primary care provider, who would be responsible for referrals for higher-level treatment (Hargraves et al., 2001). According to José Escarce and Kanika Kapur, over one-third of Hispanic immigrants lack a primary healthcare source (2006). While anyone is able to receive medical care in public emergency units if needed, they are less likely to be referred to specialized care. Studies have found that Hispanics experience lower access to healthcare specialists, such as reproductive endocrinologists. A 1997 Community Tracking Study household survey found that only 73.5% of Hispanics had visited a regular provider in the last year, compared to almost 80% of African Americans and 91% of whites. This same survey found that only 22.3% of Hispanics had their last visit with a healthcare specialist compared to 27.5% of whites (Hargraves et al., 2001). The low utilization of specialized medicine among Hispanic populations compared to other racial groups hints at possible barriers impeding access to these fields. Though the healthcare gap between ethnic groups has been narrowing, Hispanics have been found to have less access to prenatal care and fertility services (Escarce & Kapur, 2006). Of the patients that utilize infertility treatment options such as ART, a disproportionately large percentage were Caucasian women. A study conducted between 2006 and 2010 found that 15% of white women utilized ART compared to a mere 7.6% of Hispanic women (Copen & EH, 2010, Quinn & Fujimoto, 2016). Within the United States, Hispanics make up over 12% of the general population, but only 5.4% of ART patients (Quinn & Fujimoto, 2016). According to the Ethics Committee of the American Society for Reproductive Medicine, “when a treatment gap or inequality affects members of certain disadvantaged subgroups

of the population, it is considered a health disparity” (2015). On average, Hispanic women attempt conception for 1.5 years longer than white women and experience increased challenges to make an appointment and pay for infertility treatment (Missmer et al., 2011). Understanding the sociodemographic factors that limit Hispanic utilization of assisted reproductive technologies will promote the fight to end these health disparities, promising equitable healthcare and human rights among all minority groups.

## **VI. Geographic Distribution of Reproductive Care**

One of the most prevalent factors affecting the lower rates of ART utilization among Hispanic women is the geographic distribution of specialized medical services. Quinn and Fujimoto confirm that “geographic distribution of obstetrician-gynecologists and IVF centers varies, and these services may not be physically accessible to many groups” (2016). Since these medical facilities may be far from one’s place of residence, patients must afford to take time to travel and receive care. ART services generally require multiple clinic visits, so travel could potentially become expensive and time-consuming. Understanding the geographic barriers that prevent Hispanic women from seeking infertility treatment can help promote the accessibility of specialty care and reproductive services.

### **Distribution of Physicians and Specialists**

Healthcare specialists are generally located in more affluent urban areas, causing Hispanics tend to experience lower access to specialized medical interventions. Studying the distribution of medical specialists may uncover geographic gaps in access to care. Californian communities with high proportions of Hispanic residents experience much

higher rates of physician shortages, regardless of community income level. Communities with predominantly Black and Hispanic populations were found to be 4 times as likely to experience a scarcity of practicing physicians (Komarony et al., 1996). This lack of physicians is not limited to areas of low socioeconomic status and directly relates to the predominant race of the community. According to research conducted by Komarony et al., “Urban areas of poverty that had neither a high proportion of black nor a high proportion of Hispanic residents had nearly three times as many primary care physicians per capita as areas with high proportions of both black and Hispanic residents” (1996).

Furthermore, this trend was not limited to urban areas. The same study found that the number of practicing physicians was lower in rural areas with higher percentages of minority groups (Komarony, et al., 1996). This trend is most likely due to the high prevalence of white physicians who choose to practice medicine in affluent communities, which are predominantly white due to socioeconomic factors. Hispanic communities have exhibited a similar trend, as Hispanic doctors care for three times as many Hispanic patients as other patients (Komarony et al., 1996). This preference for treating patients of the same race could potentially explain the underutilization of ART among Hispanics since Hispanics only compose 5.8% of the physician workforce in the US (Association of American Medical Colleges, 2019). The low prevalence of practicing Hispanic physicians can be explained by analyzing the disparities in socioeconomic status and subsequent educational attainment within the Hispanic population of the US.

### **Distribution of ART Clinics**

Studying the geographic distribution of ART clinics can allow us to better recognize existing disparities in access to care. In the United States, 442 ART clinics are located within 76 metropolitan areas, each with an average population of approximately 1.45 million people (Harris, et al.). Reports have shown that ART clinics and reproductive specialists are concentrated in areas with high populations and high-income levels (Harris et al., 2017). These clinics are concentrated in highly populated metropolitan areas, but approximately 30% of the U.S. population lives in areas with nonexistent access to ART clinics. Furthermore, almost 40% of the U.S. population, or over 25 million reproductive-age women, have limited or absent access to ART services (Harris et al., 2017). This information is crucial because it allows us to analyze the additional barriers that women face when seeking infertility treatments, especially in minority populations where access is further limited. Patients who have limited access to ART clinics face added barriers including travel time, reduced social support from fellow ART patients, and longer waiting times to receive care (Harris et al., 2017). The extended commute time also places additional financial barriers on these women, as they are expected to take time off from work and acquire transportation to appointments. Examining the limited access to specialty physicians and ART clinics can help promote the creation of additional clinics and assistance programs to allow minority women to receive care that may be currently inaccessible.

### **Distribution of Hispanic Population**

According to the U.S. Census Bureau, Hispanics made up approximately 18% of the U.S. population in 2017. Out of 323 million Americans, over 57 million are of Hispanic ethnicity (2017, Hernández-Nieto & Gutiérrez, 2017). While the Hispanic

population tends to be concentrated mainly in Western states, the three states with the highest Hispanic populations are California (15.3 million), Texas (10.9 million), and Florida (5.1 million). California has the largest Hispanic population, but New Mexico has the highest proportion of Hispanic residents relative to its overall population (U.S. Census Bureau, 2017, Hernández-Nieto & Gutiérrez, 2017). Looking forward, the Hispanic population in the United States is projected to grow considerably. A report published in 2016 by Stepler and Lopez found that the Hispanic populations in Pennsylvania, New Jersey, and New York had the highest growth between 2000 and 2007. However, the top three counties with the highest Hispanic population growth were all found in North Dakota (2016, Hernández-Nieto & Gutiérrez, 2017). Overall, the US census bureau predicts that the Hispanic population will rise from 57 million to 106 million by the year 2050, raising the overall percentage of Hispanics from 17.8% to 26.6% (2014, Hernández-Nieto & Gutiérrez, 2017). In addition, the Hispanic population in the United States is remarkably young. While the median age of the U.S. population is 37.9 years, the median age of Hispanic-Americans is 28.9 years (American FactFinder, 2016, Hernández-Nieto & Gutiérrez, 2017). This information shows that a high proportion of Hispanics are current or future reproductive-aged women who may need extra assistance with successful conception. The high population levels and the young average age of Hispanics in the US exemplify the importance of healthcare equity and the availability of specialized reproductive medicine. Understanding the geographic distribution of Hispanics and other minority populations helps better understand existing healthcare disparities and allows physicians to better serve their surrounding communities.



## VII. Socioeconomic Barriers in Hispanic Populations

In addition to the geographic distribution of ART clinics compared to the Hispanic population, socioeconomic factors also serve as barriers to reproductive technology among minority groups. Primarily, fertility services are costly, which further adds to the disparities of the field. Quinn and Fujimoto confirm that “the cost of care has been identified as the greatest barrier to access to infertility care in the U.S.” (2016). According to Armstrong and Plowden, IVF treatments in the US cost over \$12,000 per cycle, and the additional cost of birth without insurance is over \$40,000, though this typically receives coverage (2012). Chambers et al. report that one IVF cycle can cost up to 50% of the average annual disposable income in the United States (2009). Of ART patients studied in Massachusetts, over 60% had an annual household income above \$100,000 (Quinn & Fujimoto, 2016). The high cost of ART is problematic for minority populations, especially since 68.2% of the Hispanic population in the US has an annual household income of less than \$100,000 (Jain, 2006). The average income of Hispanic-American households is about \$42,000, compared to over \$60,000 for white families (DeNavas-Walt, 2014, Quinn & Fujimoto, 2016). While IVF is the most expensive ART option, other infertility treatments “may also be above the reach of those in lower-income categories which tend to disproportionately include ethnic and racial minorities” (Quinn & Fujimoto, 2016).

Within the population of infertility patients, Hispanics are disproportionately underrepresented (Ethics Committee of the American Society for Reproductive Medicine, 2015). Studies have found that women who utilize infertility services are predominantly

white women of high educational and socioeconomic standing. A study conducted by Escarce and Kapur has concluded that 23% of Hispanics lived under the poverty line in 1999, compared to only 8% of whites (2006). Due to the high cost of infertility treatments, patients tend to be of high socioeconomic status, allowing them to afford these specialized treatments. Wellons et al., confirm that “women who undergo assisted-reproductive technologies (ART) have higher education and incomes than the general population and greater access to medical care” (2012). Income, education level, and insurance rates are three main socioeconomic factors that explain the racial and ethnic disparities in reproductive medicine.

### **Education Levels**

Since education levels are usually positively correlated with overall income and socioeconomic status, education can be analyzed as a factor that affects healthcare disparities in the United States. According to Rosana Hernández-Nieto and Marcus Gutiérrez, “a higher level of education is correlated with higher income, better job prospects, higher proficiency in the English language, and better quality of life indicators” (2017). In 1999, only 56% of Hispanics had completed high school compared to 88% of whites (Escarce & Kapur, 2006). Studies have shown that Hispanics are generally the least likely population to achieve each level of education. These challenges are most likely due to the additional financial burden faced by this population, preventing them from pursuing higher education (Hernández-Nieto & Gutiérrez, 2017). In the United States, Hispanics are more likely to be employed in low-wage fields including agriculture, construction, domestic services, and other industries that do not require high education levels (Escarce & Kapur, 2006). These financial barriers keep this minority

population in an ongoing cycle of limited access to higher education and low socioeconomic status. A study conducted by Jain found that about 41% of Hispanic women studied had less than a 4-year college degree compared to only 13.2% of white women (2006). When looking at patients who receive infertility treatments such as ART, none of the patients had less than a high school degree, and almost half of the patients possessed advanced degrees (Quinn & Fujimoto, 2016). The educational disparities among potential ART patients can help explain the lack of utilization among Hispanic populations, as education level generally correlates with socioeconomic status and average household income. By alleviating the financial burden on infertile minority women, racial and ethnic minorities will receive necessary infertility treatments, overcoming existing inequities in reproductive medicine.

### **Insurance Coverage**

The primary cause of Hispanic underrepresentation as ART patients is the lower prevalence of health insurance coverage in Hispanic populations and the overall lack of coverage for infertility in the United States. Patients with public or federal insurance do not receive coverage for infertility treatments, adding financial barriers to these minority populations when seeking ART treatment (Insogna & Ginsburgm, 2018). Within the United States, many IVF and other ART patients are forced to pay out-of-pocket due to limited insurance coverage for infertility treatment services. According to Jain, infertility treatments remain privately funded in many states, and they are not covered by insurance because it treats a preexisting condition or may not be medically necessary (2006). Even with standard insurance coverage, the average IVF cycle would still cost about 44% of the average disposable income, compared to 50% without coverage (Chambers et al.,

2009). While insurance coverage would significantly increase ART availability, socioeconomic inequalities would also continue to exist among the racial groups receiving infertility treatments. Insogna and Ginsburgm explain that “for most people, paying for ART out of pocket is impossible, leaving many without a financially feasible way to manage their disease or achieve their reproductive goals” (2018).

Even though a physician may do their best to provide effective care to all patients, their hands may be tied due to the shortcomings of healthcare economics. The lack of coverage for infertility treatment makes it very difficult, if not impossible, for providers to reach patients of lower socioeconomic standing. Even if a specific insurance plan offers coverage for ART treatments, Hispanics are less likely than whites to have any source of coverage. A 2004 study found that only 64% of Hispanics had health insurance compared to 85% of whites (Rhoades, 2005, Escarce & Kapur, 2006). Upon analyzing the insurance rates of different Hispanic populations, studies have found that rates broadly vary according to each subgroup. For example, Olveen Carrasquillo et al. have shown that Mexican Americans and Cuban Americans have higher uninsurance rates than other Hispanic subgroups. Factors that most strongly influence the insurance rates of these populations are citizenship status, income level, and time spent in the United States (2000). Due to this lack of coverage, Hispanics rely more strongly on public clinics and outpatient departments than primary physicians or specialty clinics (Doty, 2003, Escarce & Kapur, 2006).

While a handful of states, including Connecticut, Illinois, Maryland, Massachusetts, New Jersey, and Rhode Island, provide insurance coverage for infertility treatments, populations that receive government health coverage such as Medicaid are

excluded from this coverage (Quinn & Fujimoto, 2016). Over 17 million Hispanics in the US receive insurance from Medicaid, and they make up over one-third of the Medicaid enrollees (National Committee to Preserve Social Security and Medicare, 2020). The high proportion of Hispanics covered by Medicaid or not covered at all is forced to pay for these expensive infertility treatments out of pocket, which may not be an option for most couples. Many women who would benefit from IVF and other therapies cannot receive treatment due to financial constraints or limited access to specialty clinics (Jain, 2006). Studies have shown that insurance coverage for IVF would increase utilization rates by 277%, benefitting many women and couples who desire to create a family (Jain, 2006). Existing disparities in access to ART services could be drastically minimized by policy changes that include infertility treatment in insurance coverage, lessening the financial burden on Hispanic and minority populations seeking treatment.

### **VIII. Social Stigmas within Hispanic Populations**

Compared to white women, surveys have found that Hispanic and other minority women are more concerned about the stigma associated with being labeled “infertile”. According to a study conducted by Missmer et al., minority women were seven to 18 times more likely than white women to be concerned about the stigma of infertility (2011). These deep concerns may be partially responsible for the low utilization rate of ART among Hispanic and other minority populations. The Ethics Committee of the ASRM reports that researchers who have studied minority populations, including Hispanics, notice that “communication differences, cultural stigmas (including male and female aversion to being labeled “infertile”), cultural emphasis on privacy, and

unfamiliarity or prior bad experiences with the US medical system” play a role in the low utilization rates of ART (2015). In addition, the concern regarding the stigma of infertility also affects the support system available for these women. According to Missmer et al., these women are often less likely to communicate their health problems with friends and family due to the shame of being infertile, limiting the potential for medical referrals and informal support (2011). Religion and family values are fundamental within the Hispanic culture, and these factors are primarily responsible for concern over the cultural and social stigmas of infertility.

### **Influence of Religion**

Historically, Hispanic populations tend to be mainly dominated by the Catholic faith. In 2014, almost 50% of the Hispanic population of the United States identified as Catholic. An additional 19% identified as Evangelical Protestant, while the remaining 33% was distributed over many other Christian and Non-Christian faiths. This study also found that religion is either somewhat important or very important to 84% of Hispanics (Pew Research Center, 2020). The influence of religion among Hispanic populations may be a decisive factor in the concern regarding the infertility stigma. In a 2009 study on the cultural stigma of infertility treatment, Culley et al. noted that over 85% of Hispanics in his study group were Catholic. They were found to possess strong beliefs that having children was their duty under God. The men and women in the study also believed that having a child was the basis of their relationship and were often demoralized if conception did not occur (2009). Among infertile patients, the failure to meet the religious expectation of creating a family leads to powerful feelings of embarrassment, disappointment, and shame. These feelings, along with the religious belief that

conception will eventually occur with perseverance, prevent these couples from seeking further treatment. These religious influences lead to additional concern and aversion to seeking infertility treatment and ART procedures.

The religious stigma and feelings of failure surrounding infertile women are major barriers to seeking ART therapies, but the Catholic Church's aversion to ART and reproductive interventions is a prevalent cultural barrier to receiving treatment. Dr. Joseph Stenker explains that, "According to the Catholic Church Doctrine, procreation may not be performed by the physician" (2005). Furthermore, Pope Pius XII asserted in 1956 that IVF is an immoral and unacceptable means to conception (Stenker, 2005). Since Catholicism places a high emphasis on the marital duty of creating a family, the Church views IVF as a "disregard of human life" (Stenker, 2005). The Catholic Church's strict aversion to ART treatments may be responsible for the underuse of reproductive medicine among the Hispanic demographic, since this population is predominantly Catholic.

### **Cultural Expectations**

Along with the Catholic faith, Hispanic tradition and culture place a strong emphasis on constructing a family. Because of this influence, infertile Hispanic couples experience increased marital conflict and reluctance to seek treatment to avoid being labeled "infertile". According to Culley et al., "childless marriages were considered a failure, there was a widespread expectation that a relationship would end if no children were ever born. Women and men were demoralized by repeated failures to conceive and increased fault-finding with each other" (2009). Because parenthood and the creation of a family are such culturally solid expectations, childless families are often viewed as

incomplete. This often led to marital conflict as each partner begins to blame the other for failure to conceive. In addition, Hispanic culture places high responsibility on women to raise their children. While this is a very traditional belief, it undoubtedly exists today. Within many modern Hispanic families, the woman is mainly responsible for household affairs including cooking, cleaning, and caring for the children. At the same time, the man is expected to work and earn money for his family. This stigma has changed drastically over the years as women have gained educations and financial independence, but many women still hold the majority of the responsibility for raising their children. Understanding specific cultural beliefs and values allows providers to fully grasp the feelings and attitudes of the demographic they serve. For example, Culley et al. write that *marianismo* is the Hispanic belief that “a woman’s self-esteem is manifested in her ability to be a generous mother” (2009). The failure to meet this cultural expectation could drastically affect a woman’s self-esteem and worsen the social and cultural stigmas surrounding her infertility. Normalizing treatment by making ART clinics more accessible and providing educational programs to increase awareness could dramatically improve the well-being of infertile couples by giving them the chance to create a family of their own.

## **IX. Communication Barriers**

Communication plays a vital role in the healthcare field, especially when conquering existing ethnic disparities. Proper communication can significantly promote



the accessibility and delivery of medicine, so adequate strides must be taken to treat all patients and ensure health equity. The Ethics Committee of the ASRM states that, “researchers who have studied African American, Hispanic, Muslim, and Asian populations in the United States have noted that communication differences (...) can dissuade members of certain racial, ethnic, or religious groups from seeking care for infertility” (2015). Since the Hispanic population is one of the fastest-growing ethnic groups in the United States, there is no reason that communication barriers should prevent them from receiving care. Hernández-Nieto and Gutiérrez explain that after English, Spanish is the most widely used language in the United States with over 40 million speakers, excluding undocumented immigrants. This number places the United States as the second country with the highest number of Spanish speakers, only behind Mexico (2017). Despite these statistics, Molly Quinn and Victor Fujimoto report that minority populations face increased challenges when seeking infertility services due to increased communication barriers (2016). Infertility treatment can be extremely daunting to non-English speakers, leading to the low utilization of ART among Hispanic populations. Minority patients often experience challenges such as understanding diagnoses and communicating their concerns to their healthcare providers while seeking treatment (Quinn & Fujimoto, 2016). If a patient is uncomfortable receiving medical treatment due to communication barriers, interpreters and translators should be available to allow them to utilize these services. Physicians and healthcare providers should also increase their cultural competency and awareness to best treat their patients.

In general, infertility patients are often unsatisfied with their physician interactions and communication levels. A study conducted by Robert Klitzman found that

infertility patients viewed their physician interactions as insufficient, despite claiming that proper communication is critical for effective care (2018). Many of these patients were unsatisfied with physician interactions because they were “wary of the sterile, mechanical procedures and routinization” of infertility treatments (Klitzman, 2018). These patients reported feeling “a lack of empathy” from the physicians and staff members in the clinic (Klitzman, 2018). Moreover, a study conducted by Dancet in 2011 found that infertility patients would trade almost 10% of their possible pregnancy rates in exchange for a friendly and empathetic doctor, affirming the importance of effective communication and respect while performing ART procedures (2011, Klitzman, 2018). Overall, infertility physicians should emphasize patient-centered care, especially when communication barriers may already be present. Klitzman also stresses that physicians must effectively communicate the statistics of IVF success rates to avoid raising the hopes and expectations of their patients, avoiding future disappointment in the case of a failed cycle (2018). Physicians must be able to communicate the psychological and emotional difficulties involved in ART procedures and be prepared to interact with their patients empathetically in the case of miscarriage or a failed cycle. This sense of empathy may be lost in translation without a trained medical interpreter, which is a major reason for facilities to employ professional interpreters rather than relying on untrained interpreters or family members.

### **Use of Interpreters**

As the United States becomes more diverse, language interpreters in the healthcare field are becoming increasingly vital. While this is the case, Cheri Wilson reports that healthcare facilities struggle to provide Culturally and Linguistically

Appropriate Services (CLAS) for Limited English Proficient (LEP) patients (2013).

While the Civil Rights Act of 1964 considers “the denial or delay of medical care due to language barriers to be discrimination” and the U.S. Department of Health has issued national standards for linguistically appropriate services, communication continues to be a barrier for minority populations receiving healthcare (Wilson, 2013). Flores et al. report that only 23% of teaching hospitals educate their physicians about properly engaging with an interpreter (2003, Wilson, 2013). Moreover, many hospitals may not have a formal interpreter on hand, forcing untrained interpreters or family members to step in and communicate for the patient. Rose et al. report that only 42% of physicians who had worked with LEP patients in the last 12 months had used a trained interpreter. 75% of these physicians had used untrained interpreters to communicate with these patients (2010). The use of unqualified interpreters can raise privacy issues, especially in the invasive field of reproductive medicine. According to Flores et al., this can lead to an increase in interpretation errors that may have highly adverse consequences (2003, Wilson, 2013). The Institute of Medicine explains that these consequences may entail “misunderstanding of a patient’s concerns, misdiagnosis, unnecessary testing, poor patient compliance, inappropriate follow-up, and poor patient satisfaction” (2002, Wilson, 2013).

The only way to provide adequate care for non-English speakers is to employ trained interpreters who can capably communicate with patients in their preferred language. It is also important for trained interpreters to maintain the sense of empathy that the provider wishes to portray. These feelings and emotions are likely lost when using untrained interpreters, possibly making patients extra wary and uncomfortable

when receiving care. Untrained interpreters may also lack proper medical knowledge and violate patient confidentiality and privacy (Wilson, 2013). Especially in reproductive medicine, privacy is critical, and patients may not want untrained interpreters to be involved in the discussion of sensitive issues. According to Decola (2016), “healthcare professionals face potential civil liability when they fail to provide qualified interpreters”, especially if confidentiality is breached or if the patient receives improper medical care as a result (Gaurab et al., 2017). To overcome this lack of interpreter availability, hospitals and medical institutions should provide trained interpreters, whether in-person or via on-demand telephone or video conferencing technology. These services should also be advertised to all patients to promote their utilization and the patients’ overall comfort while receiving care.

While most fertility clinics offer interpreter services free of charge, some may charge an additional fee to bring in a trained interpreter. This could pose an additional barrier for Hispanic and minority patients, who may not be able to afford the extra cost of an interpreter. According to Rose et al., specialty physicians were less likely to use trained interpreters or telephone services, as they were less available in these fields than HMO physicians (2010). The low availability of qualified medical interpreters, especially within specialty fields, demonstrates an additional challenge for Hispanic women seeking infertility treatment. Lack of access to an interpreter may prevent these women from seeking care, adding to the racial and ethnic disparities in the field of ART and further impeding the human right to create a family.

## **X. Cultural Stereotyping During Treatment**

One final barrier to adequate ART services among Hispanics is the effect of racial stereotyping during medical treatment. To ultimately promote healthcare equity and minimize the violation of human rights in medicine, it is imperative to avoid all types of bias or stereotyping during treatment. These beliefs or actions could lead to unequal treatment among different races or groups. According to Missmer, et al., minority women were less likely to find a physician with whom they felt comfortable and believed it was more difficult to receive treatment due to their race or ethnicity (2011). A 2014 study of minority stereotypes among medical professionals found that most nursing and medical students possessed stereotypes that minority patients were more likely to be non-compliant and have risky health behavior and less likely to communicate effectively (Bean, et al., 2014). According to Aronson et al., minority groups are at a higher risk for unpleasant interactions in the medical field, potentially explaining the lower healthcare utilization rates and poorer health among these populations (2013). Aronson et al. also clarify that physicians' awareness of existing racial stereotypes may result in unintended bias, which may negatively affect their interactions with these populations. These stereotypes may have many adverse effects on the patient, contributing to poorer health (2013). If a patient has previous experience receiving unpleasant treatment, they are less likely to seek medical care in the future and may not effectively communicate their health concerns with their providers. (Aronson et al., 2013).

To overcome these unintended biases and stereotype threats, Aronson et al., suggest treating all patients with equal empathy and friendliness, no matter their race, appearance, or socioeconomic status. They also explain that hiring minority employees or becoming more aware of "highly competent role models" from other gender or racial

groups could help decrease bias in the workplace (2013). Since ART is relatively invasive and personal, it is essential to avoid all types of stereotype threat. Maintaining a warm, welcoming, and personable demeanor can better help a physician serve patients from all backgrounds. Physicians should be sure to stress the normalcy of a patient's concerns and effectively work with them, clearly communicating to construct a thorough treatment plan (Aronson et al., 2013). Since Jain (2006) reported that racial discrimination is a significant potential barrier to effective infertility treatment, ART specialists should do their best to avoid stereotypes, including implicit and explicit bias. The elimination of these stereotypes can better allow teams of competent professionals to treat minority patients, further narrowing racial disparities in assisted reproductive technology in the United States.

## **XI. Discussion**

Increasing awareness of the disparities and barriers to assisted reproductive technology among Hispanic and other minority populations in the United States can help promote these populations' human rights. Since the American Society of Reproductive Medicine considers creating a family a fundamental human right, all possible actions must be taken to promote this ability, especially among populations that experience greater difficulty in conception or those with heightened barriers in access to healthcare. Missmer et al. report that more women would seek infertility care if access to these services were equal, especially women with lower education and income levels (2011). To promote equal access to reproductive care, geographic, socioeconomic, and cultural barriers must be broken. For this reason, the ASRM has proposed that the responsibility

falls on the physicians, policymakers, and insurance providers to abolish the existing barriers to infertility treatment. Efforts should also be made to increase insurance coverage for these procedures, improve awareness of the current racial and ethnic disparities, and reach these underserved minority populations. (Ethics Committee of the American Society for Reproductive Medicine, 2015). Analyzing the uneven rates of utilization between racial groups illuminates the inequalities in access to care. Hispanic women are less likely to receive this essential treatment due to socioeconomic, geographic, and cultural barriers that must be abolished. If access to care was universal, Hispanic and minority groups would have much higher utilization rates, especially since they may be more likely to experience complications with conception in the first place.

Many steps need to be taken to promote the use of treatment among minority groups. Health insurance coverage should be reformed to include the costs of infertility treatments, especially for women who cannot conceive or face additional economic barriers. This would help make treatment more affordable and less prone to socioeconomic disparity. Educational programs should also be created to inform minority groups about the availability of ART procedures and sexual wellness to prevent complications such as STIs that can potentially affect fertility. In hospitals and clinics, healthcare providers need to be educated about the prevention and avoidance of ethnic and cultural bias that may be preventing minority groups from receiving care. Trained language interpreters must also be available to accommodate patients, helping them feel more comfortable seeking infertility care. Taking these steps can promote the use of ART among minority populations, promoting human rights and allowing women the right to

conceive a child successfully. Breaking these barriers is vital in the fight for social justice and healthcare equity in the United States.

## **XII. Conclusion**

Assisted Reproductive Technology consists of various forms of treatment used to help those who experience fertility complications. These treatments include *in vitro* fertilization, gamete and zygote intrafallopian transfer, and frozen embryo transfer. Since reproductive medicine is a very specialized field, it is highly prone to disparity. Hispanic women have been found to show an increased need for reproductive treatments due to the higher incidence of reproductive complications such as uterine fibroids and tubal factor infertility. Their increased likelihood of STIs including chlamydia also leads to decreased fertility, ultimately leading to the potential need for reproductive interventions.

Accessible sexual education programs for minority populations could play a role in reducing the transmittance of STIs and avoid possible reproductive complications in the future.

Hispanic Americans show a decreased rate of utilization compared to the general population. Hispanic women are less likely to seek specialized treatments for a variety of reasons. Specialized medical care is often unevenly centralized in large cities, making it hard for rural residents to find appropriate treatment options. Furthermore, reproductive clinics are found in more affluent white communities, making it difficult for Hispanic women, especially those of lower socioeconomic status, to receive care. The low percentage of practicing Hispanic physicians also contributes to the limited reproductive care available in Hispanic communities. Receiving ART care is expensive and is not



usually covered by insurance. Since the Hispanic population exhibits a lower average annual household income than whites, it is much harder for many of them to afford specialized treatment. This minority population also exhibits lower education levels, contributing to lower socioeconomic status and the lack of sexual education and increased rates of STIs and infertility.

Other factors preventing Hispanic Americans from receiving infertility care include social stigmas, cultural expectations, and communication barriers in the clinical setting. Hispanic Americans often demonstrate religious values that stress the importance of creating a family and may experience shame and embarrassment if troubles conceiving arise. These negative feelings may prevent them from seeking care, which could be avoided with educational programs and additional social support to lower the negative stigma surrounding ART procedures. Hispanic Americans are also less likely to seek specialized care due to fears of bias and stereotypes on the part of the provider. The low utilization of trained medical interpreters also contributes to the fear and discomfort that Spanish speakers may have when seeking medical care. These problems can be corrected with increased professional training and competencies about avoiding bias when providing care. Training programs for medical interpreters and physicians can help decrease discrimination and promote infertility services among Hispanic populations. Paying particular attention to the factors that limit the use of ART among minority groups is vital for promoting human rights in the medical community.

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