

## Gender Dysphoria, Its Causes and Symptoms: A Review

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### Abstract:

Gender dysphoria (GD) phenomenon is affected by a person's instinct and identity. The aim of this present review study was to examine the causes, symptoms and treatment of GD. Various factors can be involved in the development of GD. And this disorder causes unpleasant physical, psychological and social complications for the individual. Therefore, therapeutic methods; such as, counseling, hormone therapy and transgender surgery can increase the mental health and quality of life for these individuals. The cause of GD can be attributed to a variety of biological, hormonal, psychological, social, family, and childhood abuse factors that are characterized by symptoms; such as, biological sex dissatisfaction, the desire to be the opposite sex, feelings and reactions of the opposite sex. These individuals are interested in transgender surgery with pharmaceutical surgical and other therapeutic methods to improve their quality of life.

**Keywords:** causes, gender identity disorder, symptoms, treatment

### Introduction

One of the most important aspects of human identity is gender identity; wherein, a person within any given community develops perceptual, emotional and behavioral patterns of his or her gender. Sometimes, there are some

disturbances on this path. This means that a person may biologically possess the characteristics of a particular sex but does not belong to that group spiritually and psychologically. Obviously, this dual condition significantly affects the mental disorder and weakens the performance

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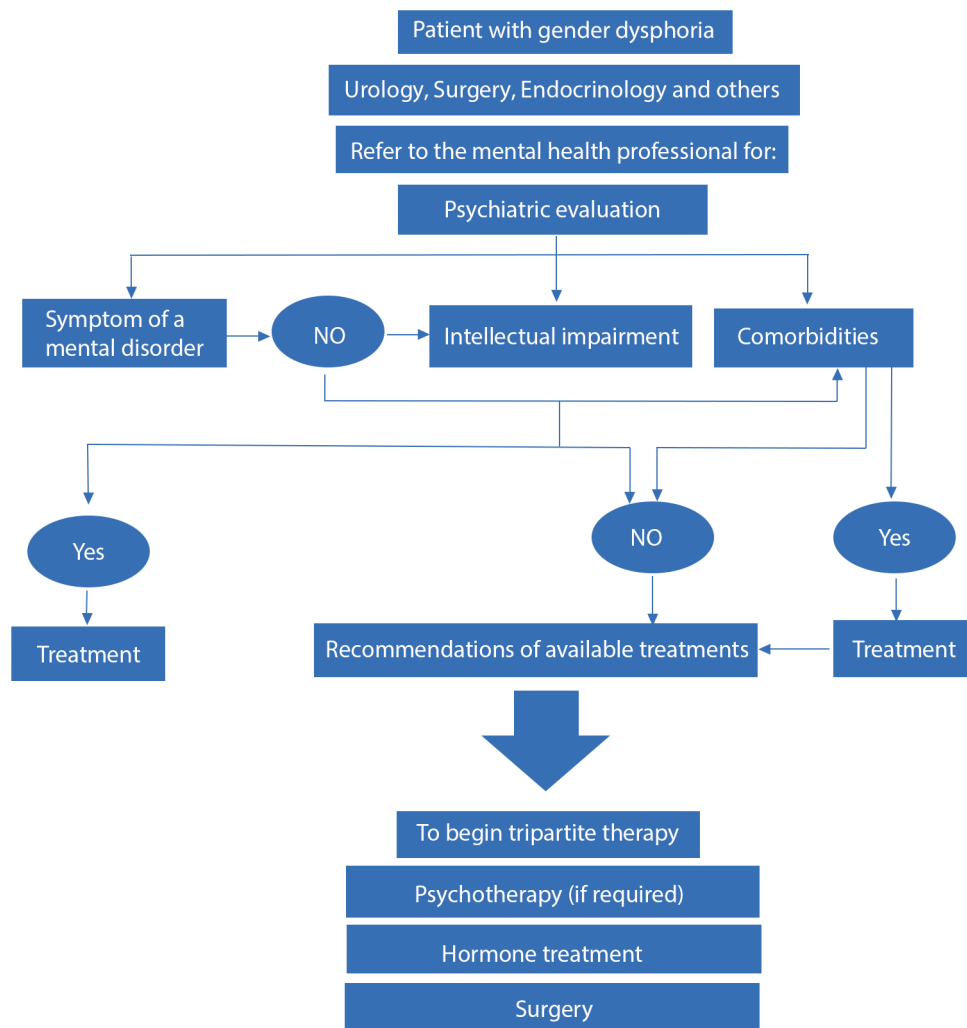
of the individual.<sup>1</sup> Such a condition is called gender identity disorder (GID), which has now been replaced by Gender dysphoria (GD) since as of the publication of the 5<sup>th</sup> edition of the diagnostic and statistical manual of mental disorders (DSM) in 2013. People with gender disorder are often transgender and usually suffer from emotional and social pressures. Trans-sexualism refers to a condition or belief in individuals of the GD that makes them insist that their biological gender is different from their gender identity and psychological identity.<sup>2</sup> They includes different populations within regions and countries around the world.<sup>3</sup> People with this disorder face many problems in different areas of life; including occupation and education. Additionally, the frequency of anxiety and mood disorders is higher in these individuals.<sup>2,4</sup> GD is influenced by instinct and identity, with the most severe form of sexual identity disorder being trans-sexualism.<sup>5</sup> Despite more focus on transgender health research, some basic epidemiological and clinical issues have as of yet been resolved.<sup>6</sup> For example, in the case of this disorder or transsexual population prevalence, the reported estimates are strongly influenced by psychological differences and various definitions of transgender.<sup>7</sup> Most estimates on the prevalence of this disorder are based on the number of people who seek surgery for sex changes; therefore, based on these estimates, the number of males is higher.<sup>8</sup> However, over the past 10 years there has been a significant increase in the number of referrals for psychological counseling, endocrine and surgical treatment, or a combination of these.<sup>9</sup> The incidence ratio of more male to female transgenders than female to male transgenders is significantly different from country to country.<sup>10</sup> Of course, differences in gender and sexual orientation are accepted as a part of the normal spectrum of the human condition.<sup>11</sup> According to published reports, the prevalence of GD is between 0.6 and 2.7%, depending on the selection and age of the study group as well as the study method.<sup>12</sup> Over the

past decade, the number of young people with GD seeking treatment has increased exponentially worldwide.<sup>13</sup> Stages of treatment for sexual identity disorder in Figure 1 has been brought (Figure 1).

Numerous explanations have been suggested for increasing visits to sex identity clinics for young people; including, changes in attitudes towards seeking help, raising public awareness, the Internet as a source of information, advocacy groups, campaigns for transgender rights, and reducing discrimination in addition to greater awareness of GD among healthcare professionals, and advances in understanding etiology.<sup>14</sup> However, the true, overall prevalence of GD patients is still unknown, due to the low incidence and possible embarrassment associated with the disease; especially within Islamic cultures. Howbeit, data from Western countries shows that a significant number of people was identified as transgender.<sup>15</sup>

## Material and Methods

In this narrative review article, to achieve the related documents, an extensive search of databases; such as, Google scholar, Scopus PubMed, and Science Direct was conducted. To search for articles, we used the keywords of GID: GD, causes, prevalence and treatment of GD, transsexualism and transgender; from 2002 to 2022. In this evaluation, the articles with the most similarity as the review articles were included. In this evaluation, articles with the greatest similarity, associated with the topic of this present review study were included. The study inclusion criterion was any research project that included information on GD and published studies in the English language. Exclusion criteria included online pre-printed studies and studies with a focus on intersex-individuals. At the end of the search, 82 out of a total of 400 obtained articles were reviewed (Figure 2).



**Figure 1** Flowcharts of the stages of treatment for sexual identity disorder

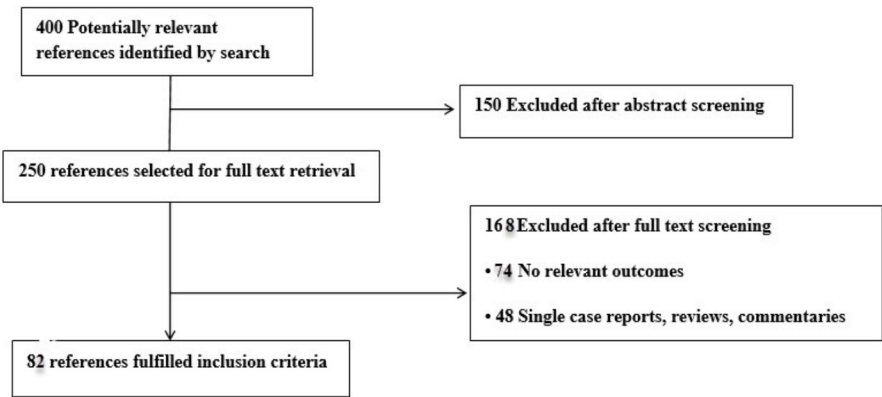
### The cause of GD

The researchers stated that the following factors might be effective (Figure 3).

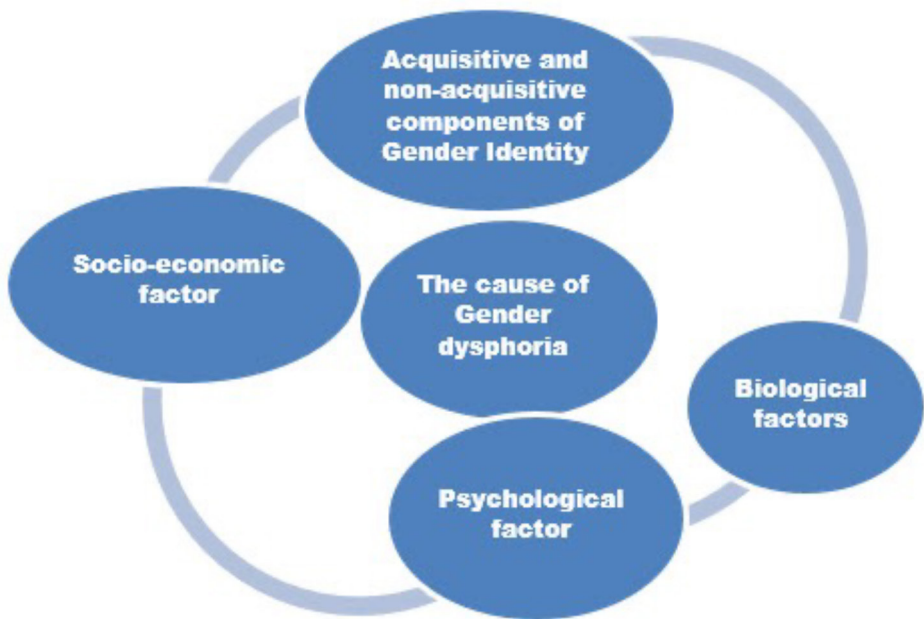
#### 1. Acquisitive and non-acquisitive components of Gender Identity

Human gender identity is determined by two acquired and non-acquired components. Gender, as a non-acquisitive factor includes biological, physical, skeletal and chromosomal features that distinguish between males and females. However, gender as an acquired

factor separates men and women from a socio-cultural perspective. This is based on characteristics that are often specific characteristics of the two sexes, and in general the gender and sexual features of people are usually matched with each other. However, sometimes these features are incompatible with each other<sup>16</sup>, and the exact cause of GD is still unknown, nor is not fully understood.<sup>17</sup> This disorder is probably the result of a combination of biological and psychological factors.<sup>16</sup>



**Figure 2** The process of study selection



**Figure 3** Diagram of causes of gender identity disorder

## 2. Biological factor

In the studies of GD, this disorder is associated with factors; such as, prenatal stress, pre-natal infections, genetic and hormonal disorders, cerebrovascular diseases, and central nervous system disorders.<sup>18-20</sup> Evidence suggests that gene expression, size, and number of neural cells and functions within the brain structure correlate with transsexualism.<sup>21</sup> Structural and functional differences in the hypothalamic nuclei or other brain regions in relation to gender identity and sexual orientation represent a complex neural network involved in various aspects of sexual behavior.<sup>18,22</sup> In a study on 3,990 boy and girl twins, aged between three and four years old during pre-school years; by Alassandar et al., it was concluded that not only genetics but also environments play an important role in sexual behavior.<sup>23</sup> In some studies, it has been reported that there is a relationship between pre-natal toxoplasma infection and the development of schizophrenia and GID<sup>24</sup>; however, there is no direct evidence for this case.<sup>25</sup> In a follow-up study on 7 adult patients with congenital toxoplasmosis, one patient with GID was diagnosed and underwent transgender surgery.<sup>26</sup> Therefore, toxoplasma infection can be a common risk factor for both diseases.<sup>20</sup>

### Neurological factor

Sexual differentiation of the embryos; such as the appearance of genital organs, occurs in the first 3 months of pregnancy, but sexual differentiation in the human brain begins in the second half of pregnancy. Therefore, it is assumed that these two processes may create a GD in an individual, if they play their roles independently of one another.<sup>24</sup> Post-mortem autopsy studies on a limited number of male to female transgender applicants showed a female pattern with sexual differentiation in two regions of the brain. This would suggest that GD may be a disorder of sexual differentiation under the influence of the brain.<sup>27,28</sup> Meanwhile, Mohammadi's (2018) study states

that in transgender people, the brain can change under the influence of culture, behavior and beliefs.<sup>2</sup>

### Hormonal factors

One hypothesis suggests that endocrine disorders can contribute to the development of sexual disorders. Endocrine disorders could be due to the increase of chemical substances in use today, as they can expose the fetus to a high concentration of testosterone; leading to sexual disorders.<sup>29</sup> This is while Gooren believes that GD cannot be explained by changes in chromosomal patterns or hormonal abnormalities.<sup>27</sup>

## 3. Psychological factors

There is no evidence that the postnatal social environment has any effect on gender identity or sexual orientation.<sup>30</sup> It seems that GID patients may also be associated with psychiatric disorders; such as anxiety and depression.<sup>31</sup> Studies in Amsterdam, Ghent, Hamburg, and Oslo showed that 70% of people with GD had more emotional and anxiety disorders.<sup>32</sup> In one study from Iran, the three most common illnesses in people with GD were major depressive disorder (33.7%), phobias (20.5%), and adjustment disorder (15.7%). Hence, it was found that the majority of patients with GD also suffered from psychological illnesses.<sup>33</sup> Studies have also shown that autism in people with GD is higher within this population than that of the general population.<sup>20,31,34,35</sup> Evidence suggests that there is a relationship between GID and autism.<sup>36</sup> Studies have also shown that both GD and schizophrenia are caused by neurodevelopmental disorders.<sup>37</sup> Additionally, evidence suggests that both of these diseases have common brain pathways that are involved in gender differentiation.<sup>20</sup>

### Sexual abuse

Sexual abuse in children is recognized as the cause of various types of psychiatric disorders; such as, impulsivity disorders, stress disorders and sexual dysfunction, and these effects extend throughout their adult

life.<sup>38</sup> There is a strong correlation between sexual abuse in childhood and subsequent disorders.<sup>39</sup> A wide range of psychosocial and interpersonal problems are more common among those who are, or have been, sexually abused.<sup>40</sup> An approach, based on growing evidence, indicates that there is a relationship between childhood abuse and adult psychological damages.<sup>41–43</sup> In a study in Florence, 109 patients who met the criteria for GD due to emotional abuse, negligence, gross abuse and sexual abuse were interviewed. The results showed that a large number of people had a history of being abused during childhood; therefore, neglect and abuse in childhood can cause GD.<sup>44</sup>

John Bolby, the father, attributed the theory of attachment to disturbed children's problems to a complex interaction between genetic factors, intrauterine experience, the quality of child attachment relationships, family experience, the impact of adverse childhood as well as socio-political and cultural experiences.<sup>44</sup> In this way, each stage of development, together with the lived experiences of each child, provides a basis for the next stage. Consequently, population-based prospective studies have shown that low-quality attachment relationships (high-risk attachment patterns) are a risk factor for later life pathology.<sup>45</sup> Scientists also believe that environmental factors; such as, family, lifestyle, cultural and social values may also predispose a person to becoming transgender.<sup>14</sup> It is important to note that gender has been conceptualized differently over time and in different contexts. Therefore, an individual's experience of gender identity is likely to be affected by a complex range of biological and environmental factors.<sup>46</sup> In a study by Glidden et al. (2016), individuals with sexual dysfunction reported mother-child relationships characterized by neglect, rejection, psychological and physical abuse as well as domestic violence.<sup>47</sup> Another study found that children with sexual dysfunction from unstable families, conflict, parental psychiatric disorders, financial

stress, and incidents of abuse (physical abuse, sexual abuse, emotional abuse, neglect, and exposure to domestic violence), have experienced relationship breakdowns; which in small numbers have included the rejection or abandonment of children by a father, sister or sibling. The data from this study also shows that the developmental pathways of children with gender dysfunction have been accompanied, at least in part, by abuse, loss of family stability and cohesion, and socio-economic harm; However, from the perspective of attachment theory and systems thinking, the problems of troubled children; including children with sexual dysfunction, arise from a complex and ongoing interaction between genetic factors, experience, and the quality of childhood attachment relationships.<sup>48</sup>

#### 4. Socio-economic factor

As to the influence of social factors, in particular the family factor, (absence of parents) on the development of GD, parents played an important role in the normal development and learning of gender practices, so that one parent's absence disturbs the normal process of sexual behavior in children.<sup>49</sup>

#### Parenting

Psychosocial factors; such as, the role of the father in the first years of life, the mother's death, the absence of sexual role models with the same sex of the child, parents' explicit or implicit encouragement of behaving the opposite sex in the same way of that of the same sex are involved in the development of GID in children. The quality of the relationship between mother and child in the first years of life is the most important basis for the formation of gender identity.<sup>50,51</sup> GD has been reported less in girls than in boys. The evaluation of a 6-year-old girl diagnosed with GID, who was adopted as a stepchild, showed that the relationship between the child and parents; especially the mother, influenced the natural development of the child in addition to the development of this disorder.<sup>1</sup> The process

of GID is very complex in both children and adolescents. It is often associated with behavioral and emotional problems and most of them; especially teenagers, have experienced severe distress<sup>52</sup> Age of the onset of the disease and sexual ratios vary between European countries.<sup>53</sup> Studies indicate that there is a relationship between GD, emotional negligence of parents<sup>54</sup>, and rejection by parents.<sup>49</sup> Family factors affecting the development of GD in boys include excessive relationship with mother and distance between boys and their father; wherein for girls, they include the presence of depressed mother during the first months of life and absence of a father who does not support the mother.<sup>55</sup> Alanko et al. in a field study made an attempt to answer the question of whether parenting method (parental domination) could affect the abnormal sexual behavior of children. According to the results of this study, the one-sided domination of one of the parents in the family was considered as a social variable affecting the degree of GD. The variable of expressing the parents' desire to have a child with a specific gender had a direct and significant relationship with the incidence of abnormal child sexual behaviors.<sup>56</sup>

### 5. Common symptoms of GD

Transgender people do not have gender identity in line with the culture of society; they are uncertain in identifying their gender identity and do not have a stable gender. Stress, depression, isolation and confusion, distress from stigmatization, decreased self-esteem, a reduced sense of responsibility, suicide and suicidal thoughts are common features amongst these people that can lead to some patients being hospitalized in psychiatric departments.<sup>24,57-62</sup> Reduced social relationships, mistrust, exclusion from family and a reduced sense of security of these individuals, social inequalities, degraded quality of life, a reduced sense of satisfaction of life and happiness, and the creation of conflicts in society are other significant

damages among people with sexual identity disorder.<sup>24,63,64</sup>

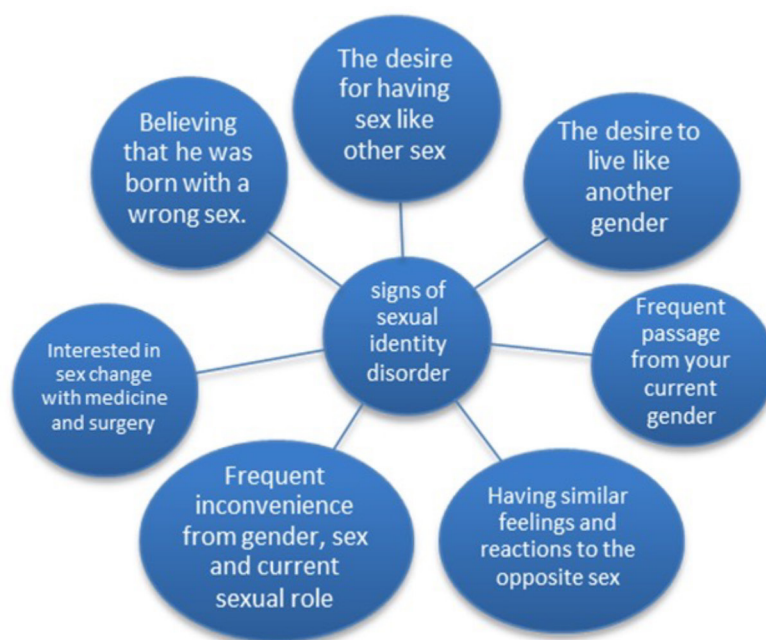
The diagnosis of GD is very difficult, and the afflicted patients undergo widespread and complex psychiatric assessments. Many of the different diagnostic features and symptoms that are raised in this regard are an intersex state, psychosis, transvestitism, autogynephilia and self-amputation.<sup>65</sup> Symptoms of GD, based on the book: "DSM-5 in Adolescents and Adults", are the stated desire to be of the opposite sex, desire to live or be treated as the other sex, frequently passing as the other sex, conviction that he or she has the typical feelings and reactions of the other sex, persistent discomfort with his or her sex or sense of inappropriateness in the gender role of that sex, the desire to change his/her current gender through hormone therapy; surgery, and other therapies to achieve the desired gender and believing that he/she was born with the wrong sex,<sup>64</sup> (Figure 4).

To prevent the onset of adverse health outcomes in different transgender populations, interventionists should reduce the factors that cause stress and intervene directly to help trans-people reduce their stress. Interventions should be developed to change attitudes and improve coping at the individual level, by changing the norms, with policies and systems that perpetuate the stigmatization of transgender people.<sup>62,66</sup> In evaluating the effects of transgender advocacy groups, Bockting et al. (2013) found that participants could get rid of shame, fear, disability, alienation, and lack of originality. In addition, transgender social support and social participation have been shown to protectively moderate the association between stigma and psychological distress.<sup>67</sup>

## Discussion

Gender identity includes the feeling and perception of a person about being male or female and all thoughts, feelings and behaviors related to sexual satisfaction.<sup>68</sup> The sexual identity of most people is formed from the 2-3 year





**Figure 4** Diagram of sexual identity symptoms

old range, and it is usually consistent with the person's biological sex<sup>69</sup>; however, gender identity is acquired over time.<sup>70</sup> This means that gender identity is shaped by social experiences, and requires time to become stable and lasting. A person whose gender identity is healthy can say with certainty that he/she is a man or a woman.<sup>71</sup> For most patients with gender identity disorder, about 66% with the disorder, occurs in childhood with an early onset, whilst in others the disease develops in the later stages of life.<sup>64</sup> Consultants recognize GD as a psychiatric condition that is listed in the DSM classification.<sup>64,72</sup> The family affects the entire person's relationship from birth to adolescence and puberty, which in turn creates value for the individual.<sup>59</sup> Family is a network of communication in which parents and children interact in a two-way process. The family also has a supportive and protective role in the lives of young people.<sup>73,74</sup> Parent and family support for people

with GD causes life satisfaction and the mental health of these people.<sup>74</sup> It has been proven that good mental health reduces the symptoms of anxiety and depression and improves quality of life.<sup>75</sup> In the developmental perspective of psychopathology, one can predict how the factors of biology and the family environment interact with each other in order to influence the course of the disease. On the other hand, when a family member suffers from a chronic illness, stress will enter the family, and one of these chronic diseases can be referred to as GD. GD in children, which encourages family engagement and involvement.<sup>74</sup>

A study showed that transgender stigma limits opportunities and access to resources in a number of vital areas (such as; employment and health care), and constantly affects both the physical and mental health of transgender people.<sup>66</sup> Gender is also an important factor in mental health and mental health problems. There is a wide gap of



**Table 1** Summarizes the studies conducted on the factors associated with sexual identity impairment

Source	Main method	Purpose of the Study	Result
Mohammadi et al. (2018)	Systematic search; study selection; quality assessment	Brain changes in transsexualism	transgender individuals experience change in lifestyle, context of beliefs and concepts and, as a result, their culture and behaviors. Given the close relationship and interaction between culture, behavior and brain, the individual's brain adapts itself to the new condition (culture) and concepts and starts to alter its function and structure.
Alessandra et al. (2005)	Original research article	Genetic and environmental influences on sex-typed behavior during the preschool years	These findings extend previous research conducted with older samples by showing not only important genetic contributions to gender role behavior but also an important role for shared environment. The inclusion of non-twin siblings showed that some of the shared environmental influence is specific to twins.
Gooren et al. (2006)	Systematic search; study selection; quality assessment	The biology of human psychosexual differentiation	The example of female-to-male transsexuals, without evidence of prenatal androgen exposure, indicates that a male gender identity can develop without a significant androgen stimulus. So we are far away from any comprehensive understanding of hormonal imprinting on gender identity formation. Brain studies in homosexuals have not held up in replication studies or are in need of replication in transsexuals.
Mazaheri Meybodi et al. (2014)	Cross-sectional study	Assess psychiatric comorbidities in a group of patients	The majority of patients with gender dysphoria had psychiatric comorbidity.
Alanko et al. (2008)	Original research article	The Association Between Childhood Gender Atypical Behavior and Adult Psychiatric Symptoms is Moderated by Parenting Style	Negative parenting style was associated with psychiatric symptoms. Structural equation modeling showed that parenting style significantly moderated the association between childhood GAB and adult psychiatric symptoms with positive parenting reducing the association and negative parenting sustaining it.
Bandini et al. (2011)	Original research article a consecutive series of 162 patients with a male genotype was evaluated for gender dysphoria	Childhood maltreatment in subjects with male-to-female gender identity disorder	More than one-fourth of patients reported CM. Maltreated subjects reported a higher body dissatisfaction and display a worse lifetime mental health. The presence of reported CM in these patients has relevant psychopathological implications, and therefore should be carefully investigated.

knowledge in mental health regarding gender and gender diversity. However, psychological support from family, friends and health care providers are protective factors for mental disorders in both women and the opposite sex. In addition, many women and sexually diverse populations

face violence, harassment, and discrimination. Therefore, health care providers need a knowledge-based framework to operate comprehensively.<sup>11</sup> Interventions to reduce transgender stigma and its effects should not be limited only to transgender people, but should also be offered to

people who have the power to limit the opportunities and resources of transgender people,; such as, family members, peers, and service providers. Interventions aimed at family members can have positive effects; including strengthening the perception and acceptance of transgender people, as well as recognizing that the person is not alone.<sup>76-78</sup> One of the main components of many family support groups is education about transgender experiences, which allows non-transgender participants to develop a humane view of their transgender family member and no longer see them as “other”.<sup>77,79</sup> To inspire and educate people, the core values and beliefs of gender equality; especially in mental health, must begin with basic education systems. Schools, educators and administrators should emphasize harassment and gender discrimination as an unacceptable issue. In addition, curricula should educate students about gender diversity. On the other hand, gender diversity is part of the natural spectrum of the human condition. Primary health care services play an important role in strengthening their competence to recognize the mental health consequences of violence against women as well as other genders, which include health care providers, law enforcement, and social services. Psychological support from these teams is an essential, protective factor in preventing mental illness within these populations.<sup>11</sup> Evidence-based research is currently needed to influence policymakers to make spending statements on women and other genders in mental health care, and to legislate against gender-based discrimination and violence. Summarizes the studies conducted on the factors associated with sexual identity impairment in Table 1.

## Conclusion

The results of this study showed that the cause of GD can be attributed to a variety of biological, hormonal, psychological, social, family, and childhood abuse factors that are characterized by symptoms; such as, biological sex

dissatisfaction, the desire to be of the opposite sex, feelings and reactions of the opposite sex, persistent discomfort with his or her sex or sense of inappropriateness in the gender role of that sex, sexual relationships and the desire to change his/her current gender; with said people being interested in transgender surgery with pharmaceutical, surgical and other therapeutic methods. Psychotherapy, hormone therapy and transgender surgery are the methods used to increase the quality of life of these individuals and adapt gender and biological identity.

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