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Original Article

A comparative evaluation of mental health, depression and post-operative role adaptation in Iranian transgender people living in Iran and Germany

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Abstract

Introduction: The present study examined mental health, depression, and role adaptation in Iranian transgender people after sex reassignment surgery in Iran and Germany.

Materials and Methods: The study population of this descriptive casual-comparative included Iranian transgender people living in Iran and Germany who underwent sex reassignment surgery after undergoing all treatment stages. Among them, 50 people (25 Iranian transgender people living in Iran and 25 Iranian transgender people living in Germany) were selected by the convenience sampling. Data were obtained online through General Health Questionnaire (GHQ), Beck Depression Inventory, and Bem Gender Role Inventory in 2020. Multivariate analysis of variance was used to analyze the relationships between variables.

Results: The results showed that 70% of the transgender people were male and 30% were female, with a mean age of 29±6 years. The general health (mental health) mean score was 22±10, and the mean score of depression was 2.9. The general health (mental health) was higher in males than females. The general health (mental health) of the participants was higher in Germany than in Iran but the difference was not significant. Also, the post-operative role adaptation between transgender individuals in the two societies was not different significantly ($P > 0.05$).

Conclusion: Due to the lack of significant differences in mental health and role adaptation between the two groups in Iran and Germany, it can be said that environmental and social differences have not been effective. Individual and familial structures have been much more effective than the community and social culture.

Keywords: Depression, Mental Health, Role Adaptation, Transgender

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Introduction

Gender identity means a person's perception of being a woman or a man and how he/she feels about being a woman or a man (1). Gender role acceptance disorder or gender identity disorder is one of the disorders that confuses people and deprives them of accepting their real role because most people in society refuse to accept these people (2). Human gender identity is organized under the influence of two components, acquired and non-acquired. Sex, as a non-acquired factor, includes biological,

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physical, bodily, and chromosomal characteristics that distinguish men and women. However, gender as an acquired factor separates men and women socio-culturally and is formed by the characteristics that are often specific for each gender (3,4). Gender role behavior is also derived from gender identity. Gender role is not established at birth but is gradually gained through experiences in accidental and unforeseen encounters and interactions and explicit instructions and instincts. Thus, learning is a significant factor in gaining a gender-appropriate role (5). Gender role is a broad concept that defines many responsibilities and duties in the family because gender role is the definition of femininity and masculinity in society. Gender role is the characteristics and tasks that culture, society, adults, and biological nature expect from each sex (6). Sex steroids effectively express the sexual behavior of an adult male or female. Testosterone can increase libido and aggression in females, and estrogen can lower libido and aggression in males. However, gender identity results from postpartum events than the hormonal activities before birth. The same principle of feminization and masculinity applies to the brain. Testosterone affects brain cells, contributing to the masculinity of the brain in areas such as the hypothalamus. Whether testosterone contributes to so-called female or male behavioral patterns in gender identity disorders is controversial (7,8).

Gender dysphoria refers to a mismatch between the experienced gender and his or her physical gender. This inconsistency is a component of the diagnosis. Also, there must be evidence of discomfort with this discrepancy (9). Not everyone with such inconsistency may experience distress and discomfort, but most do express discomfort if they do not undergo interventions such as hormone injections and surgery (10). In recent decades, interest in evaluating and improving patients' quality of life with a gender identity disorder has increased (11).

Transgender people (individuals with gender dysphoria) are under pressure and stress from various dimensions in society and family. The first problem in the family is that the family does not accept such an issue due to cultural, social, religious, and economic views. Fear of state as a transgender, disgrace in the family and neighborhood, loss of trust, and rejection cause the family to resist the wishes of the children, and the results, in some cases, are quarrels, conflicts, fights and drive them away from family and home (10-12). On the other hand, due to the appearance and behavior of these people and also due to the lack of public awareness, many people consider this dysphoria as a kind of sexual perversion and therefore do not accept these people in their social network. In other words, there is a somewhat unusual appearance and behaviors and negative attitudes about transgender people, which causes most people in society to avoid accepting masculine females or feminine males. So, transgender people are deprived of accepting and presenting social responsibilities, rights, and privileges, and their lives are changed, and they also face many problems in all physical, psychological, social, economic, and familial dimensions (13,14).

Many patients with gender identity disorder insist on sex reassignment through sex reassignment surgery (11). People who experience gender dysphoria need a diagnostic term that supports their access to treatment and is not used against them in social, occupational, or legal situations (15). Replacing the word "disorder" with "dysphoria" on the diagnostic label is more appropriate and consistent with clinical sexology terms and eliminates the implication that these people are "sick." Changes related to gender dysphoria provide diagnostic psychiatric disorders in the diagnostic and statistical guide that are more appropriate for the symptoms and behaviors of people experiencing it, without compromising their access to beneficial treatment options (16,17).

Given the importance of this issue in these individuals and society and the limited research in this field, this study compares mental health, depression, and post-operative role in transgender people living in Iran and Iranian transgender people living in Germany to examine the relationship between cultures and family acceptance and community awareness to gather reliable results.

Materials and Methods

The statistical population of this causal-comparative study is Iranian transgender people living in Iran and Germany who have undergone sex reassignment surgery in recent years, after undergoing all stages of treatment (confirmation of gender dysphoria by a psychiatrist, psychotherapy sessions under the supervision of a psychologist, and hormone

therapy) and are now living a life of their own desired identities and genitals.

Among them, 50 people (25 Iranian transgender people living in Iran and 25 Iranian transgender people living in Germany) were selected through the purposeful sampling method.

Research instruments

A) Demographic checklist: It included age, gender, and educational level.

B) General Health Questionnaire (GHQ-28): This questionnaire is consisted of 28 questions and four subscales included somatic symptoms, anxiety and sleepless, social dysfunction and depression. Each question is scored zero and three. Therefore, the score of the total questionnaire ranged 0 to 84. This questionnaire can be applied for clinical and research aims in different populations (18).

C) Beck Depression Inventory (BDI-II): This inventory is one of the most common tools to assess depression. It consists 21 items which scored 0 to 3. The scores 14-19 indicate mild depression, 20-28 moderate depression, and 29-63 indicate severe depression. The validity and reliability of this instrument were reported as acceptable in Iranian population (19).

D) Bem Sex-Role Inventory: Sandra Bem is the inventor of the "gender schema" theory. This test consists of 60 descriptive expressions scored on a scale of 1 (never or rarely true) to 7 (always or almost always correct). Of the 60 traits available, 20 are female stereotypes, 20 are male stereotypes, and 20 are neutral traits. People get two scores in this test, one for masculinity and one for femininity. The masculinity score is the mean score of their self-assessments in cases of masculinity, and their femininity score is the mean score on their self-assessments in cases of femininity. Bem defines being high as the above median. The median on each of these scales is usually 4.9. Therefore, there are bisexual people whose scores are higher than the median in the masculinity scale and the femininity scale. A person with feminine characteristics who score high (above median) on the femininity scale but scores low (below median) on the masculinity scale has a dominant feminine characteristic, as does a person with masculine characteristics who scores high on the masculinity scale but scores low in femininity scale has a dominant masculine characteristic. After all, people who score low on both scales are called indistinguishable. Because they do not score high in any masculine or feminine traits, therefore, by doing this questionnaire, a person can be placed in one of 4 groups: male, female, bisexual, or indistinguishable. This inventory is used in Iranian studies and it has acceptable psychometric properties (20).

Researchers first obtained permission from Mashhad University of Medical Sciences, referred to the Transgender Support Association of Khorasan Razavi and Ibn-e-Sina Hospital in Mashhad city, Iran. They selected the sample subjects based on the purpose of the research, obtained satisfaction from the participants. Finally, the participants fulfilled the questionnaire online after explaining the research process to them. The cases were identified through their previous visits to Ibn-e-Sina Psychiatric Hospital and transgender people in Germany and introducing their friends. The information were obtained through online questionnaires in 2020.

The descriptive statistics tests such as mean and standard deviation were used to analyze the data, and multivariate analysis of variance was used in inferential statistics. All statistical calculations of this study were done using SPSS software (version 22) at the level of 0.05.

Results

The results showed that 70% of the subjects were male, and 30% were female, with a mean age of 29 ± 6 years. The minimum age was 19 years, and the maximum age was 43 years. 17% of the subjects had a diploma or less, 11% had an associated diploma, 14% had a bachelor's degree, and 8% had a master's degree or a doctorate. The mean general health (mental health) is 22 ± 10 with a range of 0 to 84. The mean score of depression is 2.9. The mean general health (mental health) was higher in males than females. 70% of people with depression denied depression, 28% had no depression, and 2% (one person) had severe depression. The mean general health (mental health) of the study participants was higher in Germany than in Iran. However, no significant difference was observed in general health (mental health) of the two groups. Participants in the study in both Iranian and German groups had the highest rate of denied depression and the absence of depression. 30% of the study participants were bisexual, 24% were male, 28% were female, and 18% were indistinguishable. Being bisexual and

indistinguishable indicates dissatisfaction with role adaptation, and adaptation of male and female roles was a sign of satisfaction and positive feeling in sex reassignment surgery.

In order to assess the level of mental health (depression) of the participants in the study, the results of the Beck Depression Inventory were analyzed. Due to the significance level of the Mann-Whitney test (more than 0.05), no significant difference was observed between the mental health (depression) of the participants in Iran and Germany. Although the mental health means were slightly higher among Iranians living in Germany, this difference was insignificant.

Table 1. Evaluation of the difference between depression, mental health, role adaptation, and satisfaction in Iranian transgender individuals living in Iran and Germany

Variable	Results			
	Mann-Whitney statistic	Wilcoxon statistic	Z statistic	P
Depression	296	621	-0.38	0.690
Role adaptation	296	594	-0.8	0.382
Mental health	255	580	-1.1	0.26
Satisfaction	287	612	-0.56	0.570

Iranian subjects have a 44% feeling of dissatisfaction with gender identity, and in subjects living in Germany, there is a 52% feeling of dissatisfaction with gender identity. However, according to the significance level of the Mann-Whitney test (more than 0.05), no significant difference was observed between role adaptation and satisfaction with sex reassignment in study participants in Iran and Germany.

In this section, to examine the relationship between general health (mental health) of transgender people operating in Iran and Iranians living in Germany, Mann-Whitney test was used. There was no significant difference between the general health (mental health) of the participants in Iran and Germany. Although the mental health scores were higher among Iranians living in Germany, this difference was not significant. In Iran, 56% of the participants in the study had a feeling of satisfaction (positive emotion), and 44% had a feeling of dissatisfaction (negative emotion). In Germany, 48% of the participants had a feeling of satisfaction (positive emotion), and 52% had a feeling of dissatisfaction (negative emotion). In other words, the feeling of satisfaction (positive emotion) was higher in people inside Iran. However, the Mann-Whitney test results showed no significant difference between feelings of satisfaction and dissatisfaction between people in Iran and Germany. Due to the significance level of the Mann-Whitney test, no significant difference was observed between the satisfaction with sex reassignment surgery of the participants in Iran and Germany.

Discussion

The mean score of general health (mental health) among Iranian transgender individuals in Germany was higher than in Iran. Both groups had the highest rates of denied depression and absence of depression. According sex-role inventory, 30% of the participants were bisexual, 24% were male, 28% were female, and 18% were indistinguishable. Also, in Iran, 56% of participants felt satisfied, and 44% felt dissatisfied, and in Germany, 48% of participants felt satisfied, and 52% felt dissatisfied.

The study conducted Pourebrahimi et al. in Iran entitled "quality of life following male to female gender reassignment surgery" showed an increase in the quality of life of transgender people in the field of interpersonal and social relationships and a decrease in the field of physical health despite their satisfaction of the surgery. The results are variable in terms of changes in the field of psychology, and further studies are needed in this field, because all participants in the study had satisfaction and role adaptation, which indicates the optimal quality of the studied samples in the study (2). Also, the study of Hejazi et al. entitled "a preliminary analysis of the 12 transsexual patients with regards to their adaptation in means of the role and gender identity after a

sexual reassignment surgery" showed that several factors such as economic status, satisfaction with interpersonal relationships, the existence of active support system and family reaction and the possibility of additional surgeries play a significant role in adapting patients to their new condition, which is inconsistent with the results of the present study, which can be due to the short experience in our two communities (12). Gender adaptation is one of the most essential and fundamental components of transgender people shaping their role after surgery and its adaptation in the family and community. People who undergo sex reassignment and appear in the community as a new gender are often rejected by the family or some of the community and will not be accepted if their surgery becomes apparent. This is consistent with the present study because fear of rejection and depression was also observed in the present study. The study by Pourebrahimi also showed the increased quality of life in transgender people in interpersonal and social relationships and decreased physical health despite their satisfaction of the surgery. The results are variable in terms of changes in psychology, and further studies are needed in this field. More evaluations are also necessary for the present study, including the time elapsed after surgery in Iran and Germany (2). Several studies on the effects of surgery on the quality of life of male to female transgender people after surgery examine the physical and psychological dimensions of quality of life. In different studies, the duration of post-operation follow-up and questionnaires are different. Many studies indicated decreased physical health of transgender people after surgery, while the participants are generally satisfied with the surgery despite the difficulties ahead. These subjects have come to stabilize gender identity after surgery. Due to the adaptation of sexual behaviors with the physiological characteristics of the individual in the psychological field, the results generally indicate that the quality of interpersonal relationships and social performance are improved following sex reassignment surgery. Although there is always the fear of revealing their past, which is consistent with the present study (16,21-23).

Yildizhan et al. study showed that gender reassignment surgery, social support, and quality of life increased in those who underwent surgery, and anxiety related to discrimination and victimization due to gender identity decreased in those who underwent surgery (24). Another study by Yildizhan et al. showed that the mean scores of perceived social supports and quality of life increased significantly after surgery (25).

Also, a study conducted by Jellestad et al. reported that medical procedures taken for gender adaptation have a positive effect on their psychological well-being. However, their quality of life was reported to be lower than the general population, which is consistent with the present results (26).

Bayani et al. study also showed that the variables of "feeling satisfied with social interaction with same-sex companions" and "gaining social approval by the same-sex adults" have a significant and inverse relationship with the gender identity disorder. Also, the variables of "the extent of being affected by the pattern of heterosexual behavior" and "receiving the social label of the opposite sex from others" have a significant and direct relationship with gender dysphoria. Also, social factors, with an emphasis on social learning, and family factors have a significant relationship with the incidence and development of dysphoria, which is not consistent with the results of the present study, which may be due to differences in communities or a limited number of study samples (27). In a prospective study, Lindqvist et al. found that the quality of life of transgender people before surgery was much lower than the general population. After the initial recovery from surgery, the quality of life has increased but decreased over time. Therefore, it can be said that if the time elapsed after surgery was the inclusion criterion in the present study, for example, five years or more, the effect of time on the quality of observation had a significant role (28). In the present study, there was no significant difference between the mental health (depression) of the participants in Iran and Germany. In the study of Mahmoodi et al. entitled "comparison of depression, suicidal ideation and social support between transsexual people with and without gender change", no significant difference was observed between the two groups. However, there was a relationship between social support and suicidal ideation. Improved quality of life after gender reassignment, can increase mental health and life expectancy and decrease suicidal ideation (29). Bayani et al. study also showed that the

quality of life of men and women who undergo sex reassignment surgery generally increases after the surgery, consistent with the present study. However, in general, the quality of life of women who undergo sex reassignment and become men, especially in terms of social desirability, emotions, dependence, and physical perfection, is much higher than men who undergo sex reassignment to women. Since the gender variable was not considered in the present study, it can be considered a future study (27). In the present study, no significant difference was observed between the role adaptation and the degree of satisfaction with sex reassignment in the participants in Iran and Germany. Furthermore, Cohen et al. evaluated individuals, 15 years after sex reassignment surgery to evaluate and compare Switzerland's quality of life and satisfaction. Also, these people's satisfaction was significantly lower than the control group. Furthermore, quality of life was lower in various fields, including public health and role limitation, after 15 years of sex reassignment surgery (30).

Jellestad et al. study showed a significantly reduced social functioning and emotional role in transgender individuals compared to the general German population. However, physical activity scores in both men and women groups were significantly higher than in the general population. Furthermore, in all physical aspects, the quality of life was higher than the general population in both men and women groups (26). The results of Parola et al. study showed that sex reassignment surgery increases the quality of life of transgender people in several essential and different areas, such as quality of social life and quality of sexual life, which is consistent with the results of the present study on the existence of general and mental health among the subjects (5).

Power et al. examined the health, well-being, and access to health care for transgender people in Australia and New Zealand with an online survey from October 2006 to January 2007 among 229 cases in Australia and 24 cases in New Zealand. They showed that transgender people in Australia and New Zealand had lower quality of life and health scores than the general population, but no significant differences were observed between Australia and New Zealand, consistent with the present study (31).

It is suggested that in the future, studies be conducted to evaluate and compare the quality of life in male-to-female and female-to-male transgender individuals in Iran and Germany. Given that the statistical population of this study is Iranian transgender people living in Iran and Germany, the results cannot be generalized to other communities.

Conclusion

The findings of the present study showed that there are not significant differences between Iranian transgender people living in Iran and Germany in mental health, depression, role adaptation, and satisfaction. It can be said that environmental and social differences have not made a difference in individuals. According to the present results, individual and family structures have been much more effective than the community and social culture.

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