



# Emotional functions in transsexuals after the first step in physical transformation

Parametry emocjonalne osób transeksualnych obserwowane po pierwszym etapie transformacji

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## Abstract

Transsexuals have to face multiple medical, social and bureaucratic problems. These problems are not only encountered before the transformation, but also during and after medical procedures. In the search for improvement of transsexual individuals' quality of life during therapy, it seems desirable to supplement hormonal treatments with psychological explorations. This study was conducted with the aim of defining emotional conditions and included 28 transsexual female-to-male (F/M) patients and two gender-divided control groups (males and females) of similar age. The following psychometric scales were used: CECS (Courtauld Emotional Control Scale constructed by M. Watson and S. Greer in the Polish Adaptation by Z. Juczyński), ISCL (the Polish Adaptation of the State-Trait Anxiety Inventory for Adults by T. Sosnowski), and GSES (the Polish Adaptation of the R. Schwarzer, M. Jerusalem Generalized Self-Efficacy Scale by Z. Juczyński and K. Wrześniewski). Transsexual F/M patients appeared very similar to males in the male control group in terms of their subjective self-efficacy and state-trait anxiety, while their subjective belief of anxiety and fear control was more comparable to that of the female controls. It was also found to be statistically significantly lower than in the male controls. (*Endokrynol Pol* 2015; 66 (1): 47–52)

**Key words:** transsexuals; female-to-male transformation; psychology

## Streszczenie

Osoby transeksualne muszą stawić czoła wielu problemom zdrowotnym, społecznym i biurokratycznym związanym z podjęciem decyzji o transformacji. Liczne wyzwania występują zarówno przed, w trakcie jak i po zabiegach medycznych. W dążeniu do poprawy jakości życia osób transeksualnych pożądane wydaje się zatem zbadanie funkcji psychologicznych w trakcie postępowania medycznego. Obecne badania prowadzono w celu określenia kondycji emocjonalnej tej grupy pacjentów i obejmowały one 28 transeksualistów w trakcie transformacji z płci biologicznej F/M oraz dwie grupy kontrolne; mężczyzn i kobiet w podobnym wieku. Jako metody badania wykorzystano następujące skale psychometryczne: CECS (Skala Kontroli Emocjonalnej M. Watson i S. Greer w polskiej adaptacji Z. Juczyńskiego), ISCL (polska adaptacja Inwentarza Lęku dla Dorosłych w adaptacji T. Sosnowskiego) i GSES (polska adaptacja Z. Juczyńskiego i K. Wrześniewskiego Skali Uogólnionej Samoskuteczności R. Schwarzer, M. Jerusalem). Wyniki uzyskane w grupie badanych osób transeksualnych (F/M) porównano z wynikami analogicznych testów przeprowadzonych w grupach kontrolnych. Pacjenci transeksualni F/M prezentowali wyniki bardzo podobne do grupy mężczyzn w zakresie poczucia samoskuteczności, oraz stanu i cechy lęku, podczas gdy ich subiektywna ocena kontroli lęku była bardziej zbliżona do grupy kontrolnej kobiet i istotnie statystycznie niższa niż w grupie kontrolnej męskiej. (*Endokrynol Pol* 2015; 66 (1): 47–52)

**Słowa kluczowe:** transeksualizm; transformacja; psychologia

## Introduction

According to the DSM IV, transsexual individuals are people with an identity disorder of gender (GID) connected with emotional discomfort concerning their anatomical sex at birth. Transsexualism should be perceived as a personality trait or a medical condition if it does not destroy social relations and self-acceptance. Most transsexual individuals feel

rejected or outcast from their communities. They are often threatened, harrassed and even subjected to discrimination, abuse, violence and murder by peers. On the one side, this a crucial reason for emotional disturbances and even suicide attempts, while on the other, it motivates for a physical transformation [1]. The process of physical transformation, including hormonal therapy and sexual reassignment surgery, is not always fully successful or easy. Hormonal



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therapy requires systematic drug taking and careful monitoring of individual hormone levels [2]. Through the long-term therapy of hormonal regimens, relief is provided from the discrepancy between body appearance and gender identity, but it also remains difficult to manage and control. It is a difficult task to undertake when patients are required to take hormones for life and even potentially taking the extra step of total physical transformation by undergoing risky and complicated procedures to achieve anatomical sex reassignment (e.g. genital construction). This is not only a great financial challenge for patients, as most patients must pay out of pocket for their treatments, but also requires great motivation from the patient.

This determination should be acknowledged and permanently supported by the participating physicians. To ensure the safety and success of therapy, the appropriate cooperation and consistency of transsexual patients are required. Physicians are confronted with the great dilemma of weighing the medical risks of hormonal treatments against the psychological expectations exhibited by the patient [3]. For these reasons, medical standards recommend the cooperation of transsexual patients with a psychotherapist before inducing hormonal therapy.

In Poland, there are no complex legal regulations concerning a person's status before, during and after a sex change. The law does not define the exact point when sex change has occurred. According to common practice, sex change occurs as soon as the initiation of hormonal therapy begins. Gynaecologists and andrologists usually provide the care of transsexual patients. Psychiatrists with a specialisation in sexology are encouraged, but this team care approach is still not well organised. That is why it is a challenge to establish the accurate number of transsexual patients being under and behind controlled care. Surgical procedures, including castration and plastic surgery, are not refunded, so it is a major financial challenge for patients. Accessing healthcare and social acceptance is usually difficult for transsexuals, resulting in many different forms of distress. Counselling has been indicated to be a useful tool in the process and is recommended at least during the treatment course. Psychological assessment and care should be regarded as an undisputed element in the complex therapy of transsexual patients.

There is not much literature assessing the psychological parameters in transsexual patients. Some studies have concentrated on quality of life indicators, levels of satisfaction and psychological functioning after surgery [4–6]. There was also one study conducted using MMPI tests (Minnesota Multiphasic Personality Inventory), which describes distress, lack of psychopathology and psychological adjustment before and after hormonal

treatment and surgery [7, 8]. There are not many studies concerning emotional functions in transsexual patients.

By obtaining more knowledge about the psychological conditions of transsexual patients, physicians can use the most suitable and specific tools to ensure the finest medical care during hormonal therapy and essentially optimising the patient's quality of life. The results of psychological investigations can assure both physicians and patients about the effectiveness of their choices.

The aim of this study was to estimate the emotional parameters of female-to-male (F/M) transsexual individuals being under the care of the Gender Identity Disorders Section in the Department of Endocrinology, Metabolism and Internal Diseases at Poznan University of Medical Sciences, using dedicated psychometric scales.

## Material and methods

The study group consisted of 28 transsexual individuals who were in the process of physical transformation from female to male (F/M). The average age for the group was 24.93 years (SD  $\pm$  4.06) and age range was from 21 to 41 years. The mean age of diagnosis in all studied patients was 22.51 with SD  $\pm$  4.95. Hormonal therapy using parenteral testosterone preparations was conducted for  $8.89 \pm 4.74$  years before study. All transsexual participants underwent two routine phases of surgical procedure — mastectomy and hysterectomy with bilateral salpingo-oophorectomy. Mastectomy was performed during the first or the second year of hormonal treatment, whereas hysterectomy with salpingo-oophorectomy was conducted after  $6.89 \pm 4.98$  years before our psychological assessment.

The control group comprised 28 males (mean age  $26.07 \pm 3.44$ ; age range from 20 to 33 years) and 28 females (mean age  $25.75 \pm 4.19$ ; age range from 23 to 37 years). Any potential psychiatric and somatic disorders in these individuals were excluded during the initial qualification interview.

In order to identify the presence of chosen psychological features, the following standardised psychometric methods were used:

- **The State-Trait Anxiety Inventory for Adults (STAI)** by Charles D. Spielberger in the Polish Adaptation by J. Strelau, M. Tysarczyk, and K. Wrześniewski, estimates anxiety. It clearly differentiates between the temporary condition of "state anxiety" and the more prolonged "trait anxiety". Trait anxiety is a construct of personality and is defined by Spielberger as a "general tendency to respond with anxiety to perceived threats in the environment" (Spielberger et al., 1970) [9].

- **The Courtauld Emotional Control Scale (CECS)** by Watson and Greer (1983) in the Polish Adaptation by Z. Juczyński, is a self-rating questionnaire that estimates the control of negative emotions. It consists of 21 items (seven items in each subscale) scored from 1 ("not at all") to 4 ("very much so") and measures the extent of emotional control by the suppression and control of the following: anger, depression, anxiety, and total negative emotion. It estimates four parameters: 1. Control of anger (7–28), 2. Unhappiness/depression (7–28), 3. Anxiety (7–28), and 4. Total control score (21–84). High scores represent greater degrees of control and more intense emotional repression. Emotional suppression predicts clinically significant distress [10].
- **The Generalised Self-efficacy Scale (GSES)** by R. Schwarzer and M. Jerusalem in the Polish Adaptation by Z. Juczyński, assesses a general sense of perceived self-efficacy. It consists of ten items mixed at random into a larger pool of items, which present the same response format. The scores of the scale predict coping with difficult life demands as well as levels of adaptation after various stressful events. The General Self-Efficacy Scale (GSES) assesses optimistic self-efficacy (the belief that one's actions are responsible for successful outcomes) [11]. The score for each question ranges from 1 to 4, where a higher score indicates a stronger belief in one's own competencies. Self-efficacy plays a significant role in the formation of behavioural intentions, action planning and initiation. Generally, people tend to avoid tasks where self-efficacy is low and prefer to engage in tasks where their self-efficacy is high. Patients with high self-efficacy appear to be more likely to consider challenging or difficult tasks to be something to be mastered, rather than something to be avoided [12].

### Statistical analysis

Depending on the distribution characteristics of the analysed parameters, we employed either a variance analysis (ANOVA) in the cases of normal distribution or a Kruskal-Wallis test if the distribution characteristics were deemed abnormal. Post-hoc comparisons between the different groups were conducted using a Tukey's LSD test. Differences between averages in particular groups were calculated using variance analysis (ANOVA). The Kruskal-Wallis test was used for non-parametric data. Differences between studied groups were considered to be significant at  $p < 0.05$ . All analyses were performed using *Statistica 10.0*.

## Results

All the examined groups presented with moderate levels (ISCL = 38–44) of situational anxiety ("state anxiety" — X1). Additionally, moderate levels of personal tendency to anxiety reactions ("trait anxiety" — X2) were confirmed in F/M transsexuals and the control males, while the control females presented with insignificantly higher ( $p = 0.06$ ) levels of personal tendency to anxiety reactions ("trait anxiety" — X2). Results of psychometric tests are shown in Table I. In most of the personally related repression scales (CSES), there were found to be no differences between scores of the study group and the controls. The total level of emotional control (Sum) observed in the study group was increased (48.9) as well as in both controls ( $M = 52.6$ ;  $F = 50.7$ ). Additionally, the levels of subjective control of anger (G) were increased in the F/M study group ( $T = 15.7$ ) and both of the controls ( $M = 15.6$ ;  $F = 16.5$ ). Likewise, the control of depression (D) was not observed to be different in the group of female-to-male transsexuals ( $T = 15.2$ ) and in both controls ( $M = 16.3$ ;  $F = 16.6$ ). Only in regards to anxiety were the scores of emotional control observed to be different between female-to-male transsexual individuals and control males. The achieved level of anxiety repression (L) in control males was significantly higher ( $M = 20.7$ ) than in the F/M study group ( $T = 17.9$ ) and control females ( $F = 16.8$ ).

The scores of GSES indicate high general self-efficacy (7sten) in both female-to-male transsexuals (T) and control males (M), while medium general self-efficacy (6sten) in control females (F).

## Discussion

The daily life of a transsexual individual is undoubtedly more distressing than that of a person without any gender identity disorders (GID). During the physical transformation, transsexuals expect to blend into society by looking and acting just like non-GID individuals. Unfortunately, usually after transformation completion, they must face a double-sided reality: they feel more 'normal' and ready to form social connections, but society readily discriminates against them through such exemplified ways as problems with employment or general rejection. Personal stability and stress resistance seem necessary to stand up to such demands. Few studies have shown significant evidence of positive changes in transsexual psychological functioning after the introduction of hormonal therapy [13]. Some authors like Mate-Kole et al. have reported trends for improvement in this group of patients with the reduction of neurotic symptoms and increased social activity [14]. Yet their negative emotions, such as anxiety, may

**Table I. Results of psychometric tests conducted in transsexual (T) patients and both (M—male and F—female) control groups**  
**Tabela I. Zestawienie wyników testów psychometrycznych w grupie badanej (T—pacjenci transseksualni) oraz w grupach kontrolnych (M—mężczyźni, F—kobiety)**

DATA	Sum	G	D	L	pws	sten	x-1	x-2	sat	Sten
<b>Mean M</b>	52.64	15.57	16.39	20.68	32.32	7.39	38.11	36.03	21.96	6.11
T	48.89	15.71	15.25	17.93	32.07	7.36	36.28	36.89	23.64	6.46
F	50.68	16.5	16.68	16.788	28.578	6.10	37.43	41.141	22.03	6.071
<b>Median M</b>	50	15	16.5	21	32	7	34	35.5	23	6
T	48	15.5	15.5	18	32.5	7.5	34	37.5	24	6.5
F	51.5	16	17	16.5	28	6	33	38.5	22.5	6
<b>SD M</b>	9.94	5.14	3.07	4.25	3.33	1.31	10.63	6.99	5.59	2.09
T	10.20	5.47	3.27	4.36	4.01	1.42	9.17	5.57	5.69	1.93
F	10.27	4.71	3.16	4.60	3.38	1.37	9.09	9.05	5.11	1.88
<b>Minimum M</b>	38	7	10	11	27	5	23	25	11	2
T	31	7	9	7	20	3	21	25	13	3
F	29	8	8	7	23	4	25	31	11	2
<b>Maximum M</b>	76	27	25	27	40	10	70	53	32	10
T	68	27	22	27	40	10	56	47	36	10
F	69	25	22	27	36	9	55	68	32	10
P value	0.38	0.59	0.21	0.004	0.0002	0.001	0.79	0.06	0.43	0.76

appear more intense and can potentially destroy their self-esteem and negatively influence their behaviour. Anxiety differently modifies behaviour. Mild anxiety may have positive effects such as the following: motivation, creativity and the improvement of perception and learning. Severe anxiety narrows the awareness of the situation and may disturb the potential for effective problem solving. Such levels may disturb perception and attention, but do not make presented problems impossible to solve [15]. Therefore, the increased anxiety and difficult medical or social problems experienced by transsexual individuals would be more easily managed when their personal abilities are facilitating increase of stress resistance. It also appears that solving difficult medical (e.g. chronic hormonal treatments and complex surgical procedures) and social (e.g. legal, familial and professional repercussions) problems experienced by transsexuals requires special personal abilities for coping with stress.

One of the most useful psychological parameters that influence constructive stress coping style and psychological adaptability is emotional intelligence (EI). EI is related to emotional control and stress tolerance. The adequate control of emotions help in social relations as far as the emotion is not being repressed. Emotional repression is defined as the tendency to inhibit the experience and expression of negative feelings or unpleasant cognitions in order to prevent one's positive self-image from being threatened (*repressive coping style*)

[16]. In some situations, inhibition of negative emotional expression may be part of making a favourable impression on others, although the repressive person must manage social situations with a positive attitude [17]. Repressive tendencies may lead to poorer psychosocial adjustment and somatisation tendencies [18].

While examining expressed psychological problems both during and post physical transformation in our female-to-male transsexual patients, we did not find much significant evidence for the alteration of their emotional activity. Despite recorded evidence of the minimally different emotional control significance compared to the control groups (males and females without gender identity disorders), there was an observed increase in the total mean score. Our findings were compared to those from earlier published reports on transsexuals and suggested that such levels of repression are comparable to the levels exhibited by the following groups of patients: haemodialysed patients, diabetic patients, and patients with a post-myocardial infarction episode [19]. This indicates that the level of repression is similar to those patients with impending somatic diseases. Additionally, observed increased scores of anger and depression disclosed information that the repressive tendencies were not differing F/M transsexual individuals from controls, but rather placed them near patients suffering from chronic diseases. The only emotion suggesting differentiation of repressive tendencies of F/M transsexuals and the male control

group was anxiety. These results seem consistent with numerous studies showing females to not be as able to suppress feelings of fear as males, and they suggest similar tendencies in transsexuals [15].

Female-to-male transsexuals seem to show less repressive tendencies, similarly to the female control group. This potentially suggests that it is typical for females to be less prone to suppress fear, which also cannot be overestimated for transsexual patients. Females' and F/M transsexuals' tendencies for increased levels of anxiety are probably connected to a more common innate attitude to exhibit anxious reactions [20]. Increased incidences of depression and anxiety have been reported in females with polycystic ovary syndrome (PCOS), of which a characteristic feature is hyperandrogenism [21]. Alternatively, moderate levels of anxiety (state and trait) located F/M transsexuals closer to males in the scale analysis, while further away from the females who were described as being more prone to anxiety. However, such levels of anxiety do not deem it impossible to cope with reality, but rather potentially cause a disturbance in perception, attention, and memory. It may also affect information processing and learning, therefore consequentially decreasing the performance and daily existence.

Based on the study's results, female-to-male transsexual individuals appear not to be significantly different from similarly aged males and females. They proved to have a strong control over emotions and experienced a moderate level of anxiety. The tendency to avoid the expression of negative emotions may lead them to disturbed communication, resulting in false conclusions. Long-term repression may yield effects through negative somatic consequences and increased risk of various disorders. Many psychologists have suggested encouraging repressive patients to express negative emotions to maximise therapeutic improvement [22].

On the other hand, our study confirmed that the high level of self-efficacy of these patients is proven to be a useful tool for achieving their important goals, despite the numerous problems they have to face during the physical transformation process. Self-efficacy appears to be one of the most crucial tools needed to succeed in facing difficult situations, which are undeniably commonly experienced in the lives of transsexual individuals. According to Albert Bandura, the sense of self-efficacy can play a vital role in how one approaches goals, tasks and challenges [12]. This may suggest that female-to-male transsexuals, like the control males, are more likely to view difficult tasks as something to be mastered rather than something to be avoided. High self-efficacy is supposed to help in the formation of behavioural intentions, plans and action. It additionally indicates the ability to construct effective coping styles for stress.

The study's results reveal that the emotional characteristics of F/M transsexual individuals might be as problematic as those found in other males and females. The observed lack of significant psychological disturbances in this group of patients may also be considered to be an effect of the 'paradise syndrome' observed by psychologists within the gender community. Gender psychologists suggest that due to transsexuals' high expectations regarding sex change, and with their tremendous investments in terms of money, time, and energy that they have devoted to achieving their goals, that when they finally attain their aim, everything must be perfect.

Therefore, their general difficulties and daily problems seem to be 'little' compared to their desire for transformation. These feelings may positively stimulate coping strategies for dealing with 'new' life demands and consequently decreasing the risk of major complications during the physical transformation.

## Conclusions

There were no significant differences observed when comparing the studied emotional parameters of F/M transsexuals to those of two groups of men and women of similar age. The results of this study suggest that age seems to be a more critical parameter of conditioning of emotional functions than gender. Increases of emotional control and fear parameters in most transsexual subjects showed substantial similarities to those of their male and female peers. Despite this similarity, increased emotional parameters may result in more negative consequences for transsexuals when confronting specific everyday problems.

In order to avoid destructive psychological consequences, transsexual patients should be expertly supported and encouraged to discharge and express their negative emotions. A high level of self-efficacy seems to be a significant psychological parameter that facilitates social adaptation, coping with stress, and achieving important goals in their overall transformation.

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