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Assessment of personality traits and severity of depressive symptoms in adolescents experiencing gender dysphoria before and after initiating gender-affirming hormonal interventions

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Summary

Aim. The aim of the study was to determine which mental difficulties occur in adolescent transgender individuals before and after initiating gender-affirming hormonal interventions (GAHI).

Materials and methods. The study included 50 transgender individuals. All participants were examined at the diagnostic process stage and at least 6 months after the initiation of GAHI. First, a qualitative study was conducted as an in-depth individual interview, followed by the administration of the following psychological tests: NEO-FFI and the Depression Assessment Questionnaire (DAQ). Statistical processing and visualization of the obtained results were performed using a Microsoft Excel spreadsheet for Office 365 MSO and Dell Statistica 13.1 (data analysis software system).

Results. Statistical analyses showed that after the initiation of GAHI in adolescent transgender individuals, the level of neuroticism and the severity of depressive symptoms decreased.

Conclusions. Initiating GAHI in transgender individuals has a positive effect on the level of neuroticism as well as on the severity of depressive symptoms. Significant relationships were demonstrated between the level of neuroticism and the severity of depressive symptoms in the studied subjects.

Słowa klucze: transpłciowość, dysforia płciowa, niezgodność płciowa, zdrowie psychiczne, adolescenci, hormonalne interwencje afirmujące płeć

Key words: transgender, gender dysphoria, gender incongruence, mental health, adolescent, gender-affirming hormonal interventions

Introduction

Initially, the medical model of transgender identities was inextricably linked to the history of homosexuality and other phenomena of gender and sexual diversity [1]. This is evident in works dating from the late 19th century, such as those by Carl Friedrich Westphal and Richard von Krafft-Ebing [2, 3]. The above-mentioned authors, while characterizing the phenomenon of homosexuality, included descriptions whose content today we attribute to the concept of transgender, i.e., a particular preference for dress or interests, as well as dissatisfaction with one's gender characteristics. The beginning of the 20th century, thanks to authors such as Magnus Hirschfeld and Havelock Ellis, resulted in distinguishing the phenomenon involving the desire to wear the clothes of the opposite sex and to function socially in accordance with that sex. At the time, this phenomenon was referred to as "transvestism" and "eonism." This nomenclature is also in this case incorrect and misleading, because, in terms of content, it is closer to today's "transgender identity" than to "transvestism" [4, 5]. It was not until 1923 that the term "transsexualism" appeared in the literature. It was introduced into medical discourse by Magnus Hirschfeld, and more than 20 years later, i.e., in 1949, it gained prominence as a separate clinical entity through David O. Cauldwell [6, 7]. In 1975, the World Health Organization (WHO) included "transsexuality" as a diagnostic unit for the first time in the International Statistical Classification of Diseases and Related Health Problems (ICD). This classification appeared in the ninth revision of the ICD under the category of sexual disorders and deviations [8]. Similarly, in 1980, the American Psychiatric Association (APA) distinguished "transsexuality" in the Diagnostic and Statistical Manual of Mental Disorders (DSM), categorizing it under gender identity disorder in the third edition of the DSM. In the same classification and category, a clinical unit referring to children was also introduced, namely gender identity disorder in childhood [9]. In 2013, the APA introduced the term gender dysphoria, and in 2018, the WHO adopted the concept of gender incongruence. Both diagnostic classifications recognize clinical entities that apply to both adults and adolescents, namely gender dysphoria in adolescents and adults and gender incongruence in adolescents and adults. The APA's introduction of the term gender dysphoria was intended to shift the focus from the mere fact of having a gender identity incompatible with the assigned sex to the suffering that transgender individuals experience as a consequence. This was met with criticism on the grounds that not every transgender person experiences suffering in the course of gender incongruence. As a consequence of the above, the requirement for significant clinical suffering did not appear in the ICD-11 diagnostic criteria. The presence of a clear and persistent incompatibility between the gender experienced by a person and the gender assigned to him or her was considered sufficient for a diagnosis of gender incongruence. The abandonment of the term transsexualism, which was increasingly gaining pejorative connotations in favor of gender incongruence, contributed to the depsychopathologization and demedicalization of transgender identities. Furthermore, the nomenclature changed, there was a shift in the understanding of gender, and a non-binary model was adopted in place of the dichotomous model, taking into account the multiplicity of possible gender identities, including non-binary ones.

Moreover, a modification was made to place gender dysphoria in a separate chapter, as opposed to including it under a broader category that includes paraphilias and sexual dysfunctions. The WHO introduced a more significant change in this regard, placing gender incongruence in the chapter on conditions relating to sexual health, which has unequivocally contributed to the depsychiatrization of transgender identities. The last change, which is inextricably linked to the move away from a binary understanding of gender, is the abandonment of full gender transition requirements [10, 11].

Developments in the scientific understanding of transgender over the past decades have led to a fundamental paradigm shift in the approach to care for people experiencing gender incongruence. Specialists in gender-diverse health care have moved away from the binary model of gender toward a continuous model, replaced the paternalistic approach with a client-centered model, and made diagnostic procedures more flexible and gender-affirming [12]. In September 2020, for the first time in Poland, the journal *Psychiatria Polska* published the "Recommendations of the Polish Sexological Society on Medical Care in Transgender Adults – Position Statement of the Expert Panel", based on the seventh edition of the Standards of Care presented by the World Professional Association for Transgender Health (WPATH) [13]. The creators of the Standards of Care urge professionals to engage in ongoing education, respect and support patients, represent their needs to their families and the wider community, as well as obtain informed consent from them each time before initiating gender-affirming interventions [14]. A team of experts has prepared the "Framework Guidelines for the Process of Caring for the Health of Adolescent Transgender (T) and Non-binary (NB) People Experiencing Gender Dysphoria – the Position Statement of the Expert Panel". After nearly six years of work, the English-language version was published in *Endokrynologia Polska* in February 2025, and the Polish-language version in May 2025 [15].

The process of social, legal, and medical transition can be complicated and is often extended over time. It involves a diagnostic procedure conducted by a multi-specialist team, as well as social, medical, and legal aspects of transition. Medical transition includes puberty-blocking hormonal interventions, gender-affirming hormonal interventions (GAHI), and gender-affirming surgical interventions (GASI) targeting the chest and genitals [16-23]. In adolescents, medical transition primarily involves GAHI, sometimes accompanied by a bilateral mastectomy. It is important to emphasize that any medical intervention requires the consent of a legal guardian. For individuals over 16 years of age, the consent of both the patient and the guardian is required.

Studies on psychopathology prevalence indicate that adolescent transgender individuals experience higher rates of mental health issues compared to their cisgender peers. These primarily include internalizing disorders such as depression, anxiety, suicidal ideation, and non-suicidal self-injury [24, 25]. Dhejne and colleagues published the results of a literature review on the mental health of people experiencing gender dysphoria associated with gender incongruence. Among other findings, they presented a meta-analysis of 11 longitudinal studies describing the mental health of transgender adults before and after initiating gender-affirming medical interventions (GAMI). All of the longitudinal studies observed improvements in mental health after starting GAMI. Moreover, studies have shown that after the start of GAMI, indicators measuring psy-

chopathology in transgender individuals were similar to those in the general population [26]. However, there remains a limited number of analogous studies focusing on adolescents experiencing gender dysphoria associated with gender incongruence. For this reason, access to medical transition for transgender adolescents remains a highly controversial issue in Poland and worldwide. Experts agree that, given the significant increase in the number of adolescents reporting gender dysphoria or gender incongruence in recent years, updating knowledge in this field is particularly urgent.

The aim of this study is to investigate how GAHI affect adolescents experiencing gender dysphoria associated with gender incongruence and influence changes in the intensity of individual personality traits within the five-factor model (commonly known as the Big Five), with a particular focus on the Neuroticism scale. Additionally, this study explores whether and how such interventions impact the intensity of depressive symptoms.

Material and method

The study included 50 adolescents under the care of a specialist (DB) Centre for Clinical and Forensic Sexology and Cognitive-Behavioural Psychotherapy between 2018 and 2023 in Libiaz. All participants had been diagnosed with gender dysphoria associated with gender incongruence. The initial diagnosis, which served as one of the inclusion criteria for the study, was conducted by a certified clinical sexologist (DB). This diagnosis was then verified through an assessment process lasting at least six months. A total of 44 transgender boys and six transgender girls were recruited for the study. Participants were categorized into different stages based on their diagnostic process and GAHI: stage 1 – during the diagnostic process; stage 2 – during GAHI, but before legal gender correction. Participation in the study was voluntary. All subjects were informed about the study's procedures and provided their consent to participate. Eligibility for the study was determined based on specific inclusion and exclusion criteria. Inclusion criteria: age between 15 and 18 years, persistent experience of gender dysphoria, informed consent from the participant and consent from a legal guardian. Exclusion criteria: significant cognitive impairment preventing comprehension of the research questionnaires and withdrawal of consent to participate in the study. No participant withdrew consent to participate in the study. The participants were divided into two groups: GR1/M: adolescents aged 15–17 experiencing gender dysphoria who sought psychological assessment to begin the process of medical and/or legal transition (50 participants); GR2/M: adolescents who had started medical transition before turning 18 and had been undergoing GAHI for at least six months (50 participants). Transgender boys received injectable testosterone, while oral estrogen and cyproterone acetate were administered to transgender girls.

The study employed a mixed-methods approach, conducted in two stages: qualitative research (stage 1) and quantitative research (stage 2). The qualitative study (stage 1) was conducted using the in-depth individual interview (IDI) technique, a well-established qualitative method for exploring complex and nuanced social phenomena. An IDI makes it possible to obtain detailed and multifaceted data on respondents'

subjective experiences, beliefs, emotions and values. The technique was chosen for its usefulness in researching topics of an intimate, sensitive or socially complex nature – in this case, the experience of gender dysphoria associated with gender incongruence. The interviews were semi-structured, conducted on the basis of an interview script covering key research topics, while maintaining flexibility as to the formulation of questions and their order. This allowed the interview flow to be individually tailored to the way respondents communicated and to obtain in-depth responses. IDIs were conducted in the form of face-to-face interviews in a safe, friendly environment conducive to openness and trust. The interviews included participants prior to the second, quantitative stage of the study, and in addition, their parents were interviewed, allowing for a broader analytical perspective. The purpose of using IDIs was not only to explore individual ways of understanding and experiencing gender incongruence, but also to identify interpretive patterns, response patterns and adaptive mechanisms. The use of this technique enabled a deeper understanding of the social-emotional context of the difficulties experienced, which is particularly important in research on complex phenomena that are not always fully realized or revealed in quantitative studies. The interviews also acted as a preliminary stage of the research, serving to clarify the areas of exploration in the quantitative stage. Stage 2 involved quantitative research conducted via the EPSILON platform, a computerized psychological research tool provided by the Psychological Testing Laboratory in Warsaw. Each participant received a set of dedicated questionnaires to complete through the platform.

Descriptions of psychometric tools

NEO-FFI Personality Inventory

The NEO-FFI Personality Inventory, developed by P.T. Costa and R.R. McCrae, is a widely used psychometric tool for assessing personality traits within the framework of the "Five-Factor Model", also known as the Big Five. The Polish adaptation of the inventory was created by B. Zawadzki, J. Strelau, P. Szczepaniak, and M. Śliwińska. This tool measures the intensity of five key personality traits: Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness. The NEO-FFI can be administered to both adolescents and adults, either individually or in groups. It is commonly used in scientific research, individual diagnostics, health psychology, education, career counseling, and personnel selection [27].

Depression Assessment Questionnaire

The Depression Assessment Questionnaire, developed by E. Łojek, J. Stańczak, and A. Wójcik, is designed to assess depressive symptoms in adolescents and adults. It can be administered individually or in group settings.

The questionnaire evaluates depression based on five scales: Cognitive Deficits and Energy Loss; Death Thoughts, Pessimism, and Alienation; Guilt and Anxiety Tension; Psychosomatic Symptoms and Loss of Interest; and Self-Regulation. Addition-

ally, a total score is calculated as the sum of the scores from all five scales, serving as a general indicator of the severity of depressive symptoms. The Depression Assessment Questionnaire is used both in clinical diagnostics and scientific research [28].

Results

Descriptive statistics

General characteristics of the study group

The study group comprised 50 adolescent transgender individuals, including 44 transgender boys and 6 transgender girls. All participants were assessed at the diagnostic stage and again after a minimum of six months following the initiation of GAHI. At the diagnostic stage, the participants' ages ranged from 15 to 17 years, with a mean age of 15.8 (SD = 0.8). The mean age for transgender boys was 15.8 (SD = 0.8), while for transgender girls it was 15.8 (SD = 0.7). At the time of re-examination, when participants had already begun GAMI before turning 18, their ages ranged from 15 to 17 years, with a mean age of 16.3 (SD = 0.8). The mean age for transgender boys at this stage was 16.4 (SD = 0.75), while for transgender girls it was 16.0 (SD = 0.9). Among transgender boys at the diagnostic stage, 35 had undergone a full social transition, while 9 had undergone a partial transition. In the group of transgender girls at this stage, 3 had fully transitioned socially, 2 had partially transitioned, and 1 had not yet come out. Among transgender boys undergoing GAHI, 39 had completed a full social transition, while 5 had partially transitioned. In the group of transgender girls receiving hormonal interventions, 5 had undergone a full social transition, and 1 had undergone a partial transition.

Quality of life of transgender respondents

When interviewing the subject and their parents, among other things, information was collected on the support received from family and peers. Support from both parents after coming out was reported by 5 transgender girls, and 1 was supported by a single parent. In the group of transgender boys, 90.9% could count on support from both parents (n = 40), 2.3% were supported by one parent (n = 1), and 6.8% received no support at all (n = 3). After starting GAHI, all transgender boys (n = 44) and all transgender girls (n = 6) could count on support from both parents. Detailed results are shown in Table 1.

Table 1. **Parental acceptance**

		Frequency (%)
Transgender boys undergoing diagnostic process	Support from both parents	40 (90.9)
	Support from one parent	1 (2.3)
	Lack of support from parents	3 (6.8)
	Total	44 (100.0)

dalszy ciąg tabeli na następnej stronie

Transgender girls undergoing diagnostic process	Support from both parents	5 (83.3)
	Support from one parent	1 (16.7)
	Lack of support from parents	0 (0.0)
	Total	6 (100.0)
Transgender boys undergoing GAHI	Support from both parents	44 (100.0)
	Support from one parent	0 (0.0)
	Lack of support from parents	0 (0.0)
	Total	44 (100.0)
Transgender girls undergoing GAHI	Support from both parents	6 (100.0)
	Support from one parent	0 (0.0)
	Lack of support from parents	0 (0.0)
	Total	6 (100.0)

Fifty percent of transgender girls were fully supported by peers after coming out (n = 3), while 16.7% received partial support (n = 1). Two individuals experienced complete peer rejection. Among transgender boys, 90.9% (n = 40) received complete peer support, while four individuals experienced complete peer rejection. After initiating GAHI, transgender boys (n = 44) and transgender girls (n = 6) all received peer support. Detailed results are presented in Table 2.

Table 2. **Peer group acceptance**

		Frequency (%)
Transgender boys undergoing diagnostic process	Total peer support	40 (90.9)
	Partial support from peer group	0 (0.0)
	Lack of support from peer group	4 (9.1)
	Total	**44 (100.0)**
Transgender girls undergoing diagnostic process	Total peer support	3 (50.0)
	Partial support from peer group	1 (16.7)
	Lack of support from peer group	2 (33.3)
	Total	**6 (100.0)**
Transgender boys undergoing GAHI	Total peer support	44 (100.0)
	Partial support from peer group	0 (0.0)
	Lack of support from peer group	0 (0.0)
	Total	**44 (100.0)**

dalszy ciąg tabeli na następnej stronie

Transgender girls undergoing GAHI	Total peer support	6 (100.0)
	Partial support from peer group	0 (0.0)
	Lack of support from peer group	0 (0.0)
	Total	**6 (100.0)**

Statistical analysis of the relationship between level of neuroticism, severity of depressive symptoms and stage of the study

NEO-FFI Personality Inventory

Adolescent participants completed a standardized personality inventory assessing traits from the widely recognized five-factor model, known as the Big Five. They responded to 60 self-descriptive statements, rating the accuracy of each in relation to themselves on a five-point scale. Each participant completed the questionnaire twice—once during the diagnostic stage and again after initiating GAHI.

The relationship between neuroticism levels and the stage of the diagnostic process and GAHI was found to be statistically significant. A statistical analysis using the Mann–Whitney U test revealed that neuroticism levels were significantly lower in individuals at stage 2 (after initiating GAHI) ($U = 688$, $p < 0.001$) compared to those at stage 1 (during the diagnostic process) ($U = 630$, $p < 0.001$) (Figure 1).

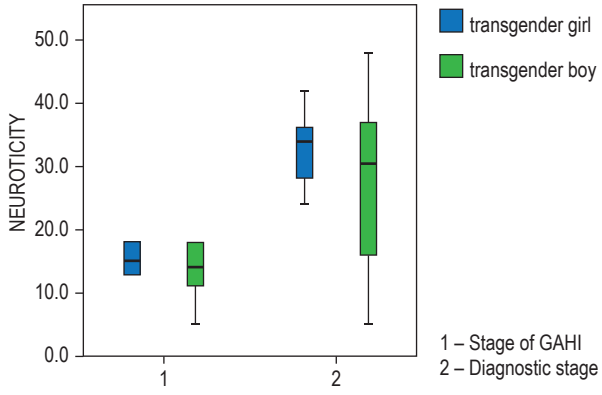

Figure 1. **Neuroticism levels in transgender boys and transgender girls at the diagnostic stage and after initiating GAHI.**

Depression Assessment Questionnaire

Adolescent participants completed a questionnaire assessing the presence and severity of depressive symptoms by responding to 75 statements, indicating their agreement on a four-point scale. Each participant completed the questionnaire twice—once during the diagnostic stage and again after initiating GAHI.

The relationship between depressive symptom severity and the stage of the diagnostic process and GAHI was found to be statistically significant. Statistical analysis using the Mann–Whitney U test indicated that the severity of depressive symptoms decreased following the initiation of GAHI. Specifically, reductions were observed in the following scales: Cognitive Deficits and Energy Loss (**CDEL**) ($U = 704$, $p < 0.001$); Death Thoughts, Pessimism, and Alienation (**DTPA**) ($U = 756$, $p = 0.001$), Guilt and Anxiety Tension (**GAT**) ($U = 517$, $p < 0.001$); and Psychosomatic Symptoms and Loss of Interest (**PSLI**) ($U = 544$, $p < 0.001$). Conversely, an increase in the Self-Regulation (**SR**) scale was observed following the initiation of GAHI ($U = 782$, $p = 0.001$) (Figures 2–6).

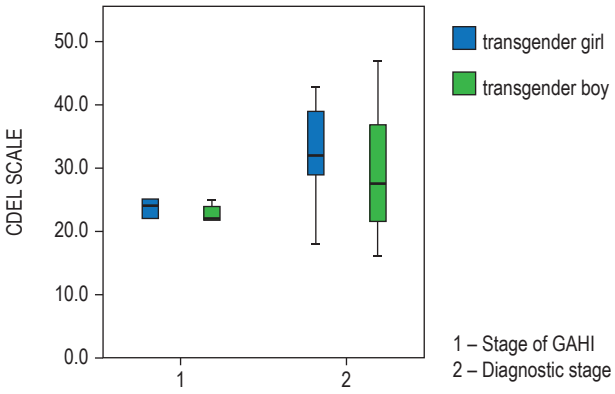

Figure 2. **Depression symptom severity level – CDEL scale**

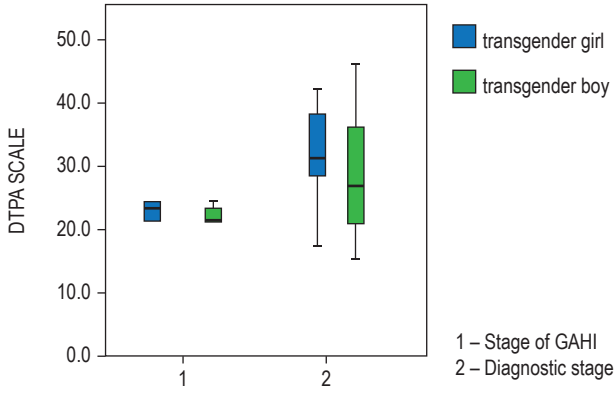

Figure 3. **Depression symptom severity level – DTPA scale**

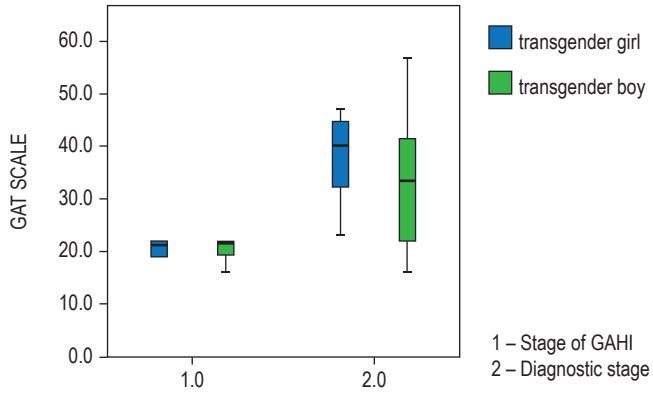

Figure 4. **Depression symptom severity level – GAT scale**

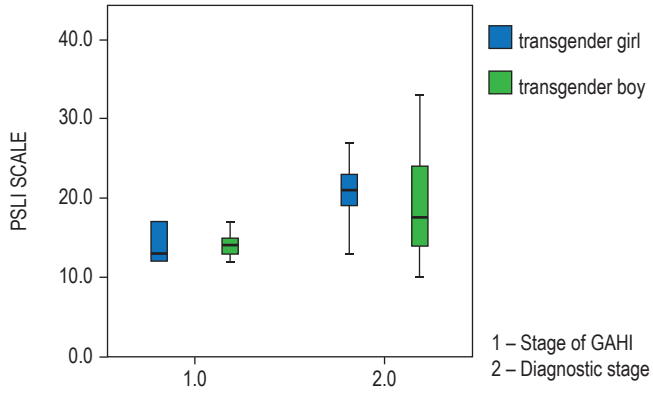

Figure 5. **Depression symptom severity level – PSLI scale**

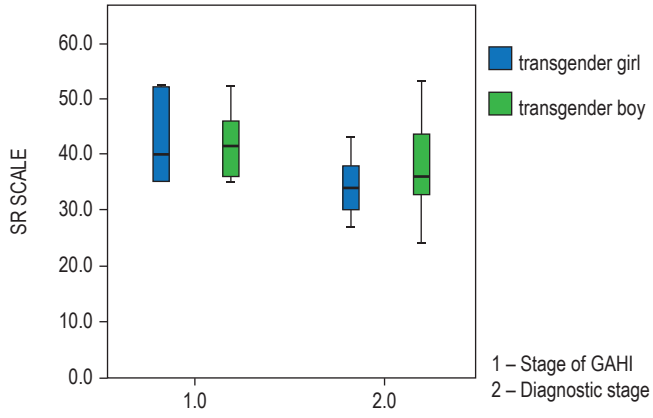

Figure 6. **Depression symptom severity level – SR scale**

Correlation coefficient between the Neuroticism scale and the individual scales of the Depression Assessment Questionnaire

In the group of adolescents experiencing gender dysphoria associated with gender incongruence, statistically significant positive correlations were demonstrated (Table 3) between the level of neuroticism and the level of depressive symptoms in the following scales: Cognitive Deficits and Energy Loss; Death Thoughts, Pessimism, and Alienation; Guilt and Anxiety Tension; and Psychosomatic Symptoms and Loss of Interest. Statistically significant negative correlations were demonstrated (Table 3) between the level of neuroticism and depressive symptoms in the Self-Regulation scale.

Table 3. **Spearman's rho correlation coefficients between the Neuroticism (NEU) scale and scales measuring the severity of depressive symptoms**

	Neuroticism level (NEU)		
	r	*p*	*n*
Cognitive Deficits and Energy Loss (CDEL)	0.805	0.000	100
Death Thoughts, Pessimism and Alienation (DTPA)	0.425	0.000	100
Guilt and Anxiety Tension (GAT)	0.824	0.000	100
Psychosomatic Symptoms and Loss of Interest (PSLI)	0.502	0.000	100
Self-Regulation (SR)	-0.692	0.000	100

Discussion

The purpose of this study was to analyze how GAHI in adolescents experiencing gender dysphoria associated with gender incongruence affects modifications of personality traits within the framework of the five-factor model (the so-called Big Five), with the main emphasis on neuroticism, and to examine how this intervention affects the severity of depressive symptoms. In the present study, the mental health of adolescents experiencing gender dysphoria associated with gender incongruence was verified with such tools as the Depression Assessment Questionnaire and the NEO-FFI Personality Inventory. The study mainly focused on demonstrating statistically significant correlations between the level of neuroticism and the severity of depressive symptoms in adolescents experiencing gender dysphoria before and after starting GAMI. After the start of GAHI, the level of neuroticism decreased, as well as the severity of depressive symptoms in scales such as Neuroticism; Cognitive Deficits and Loss of Energy; Death Thoughts, Pessimism, and Alienation; Guilt and Anxiety Tension; and Psychosomatic Symptoms and Loss of Interest. In addition, the Depression Assessment Questionnaire score on the Self-Regulation scale increased after starting GAHI.

The results report that initiating GAHI in transgender boys and transgender girls is justified. By providing adolescents experiencing gender dysphoria associated with gender incongruence with the opportunity to begin the diagnostic and, consequently, gender-affirming process, their quality of life was statistically significantly improved.

The source of the improvement can be traced to several areas. First, in the effects of GAHI on a transgender person's body. The effects of GAHI, such as changes in body shape, facial features, body hair, voice mutation in transgender boys and the appearance of breasts in transgender girls, contribute to a reduction in the experienced body dysphoria. These changes also generate improvements in adolescent functioning in society. Transgender girls and transgender boys begin to be seen and treated through the lens of the gender with which they identify. This reduces the level of social dysphoria. Second, according to the above studies, as medical transition begins, the level of support from parents and the peer group increases. This is explained by the fact that cognitive dissonance in dealing with a transgender person is reduced due to the fact that they begin to present themselves in accordance with the gender they experience.

The results of the present study at the stage of the diagnostic process showed that more than 50% of transgender boys and more than 80% of transgender girls exhibited high scores on the Neuroticism scale. This level decreases in both groups with the onset of medical transition. The results also show positive correlations between the level of Neuroticism and the severity of depressive symptoms. This is another argument in favor of the validity of starting GAMI before the age of 18 for patient participants.

When analyzing the data from the present study, its limitations cannot be overlooked. The follow-up time for adolescent subjects experiencing gender dysphoria associated with gender incongruence after starting GAHI was short. Multiple studies of the same group at successive stages of medical and legal transition could have provided more data. Moreover, repeated studies could increase the reliability of the results of the present study and confirm their validity. In addition, a limitation was the imbalance in the size of the boys' and girls' transgender groups, as the number of girls participating in the study was relatively small. Similar methodological challenges, such as unequal gender representations, are also reported by Kaltiala-Heino et al. [29].

Reports on the mental health of adolescents experiencing gender dysphoria associated with gender incongruence are limited, and most focus on mental functioning before GAHI. Results from a Canadian study indicate that 44% of transgender boys and 33% of transgender girls met criteria for a diagnosis of anxiety disorder. A study in Finland, on the other hand, found that 64% of adolescents with gender dysphoria were treated for depression, and 53% of the subjects were observed to have suicidal thoughts and engage in self-harm. Similar results were found in London, where 42% of transgender people surveyed reported depressed mood and 39% had self-harmed. A systematic review by Marconi et al. confirms the high risk of suicidal behavior and self-harm among adolescents with gender dysphoria, pointing to the urgent need for comprehensive health care to reduce these risks [30-34]. The results of the present study, indicating high levels of neuroticism and depressive symptoms prior to the start of GAHI, are consistent with these reports, confirming the significant psychological burden of adolescents with gender dysphoria. At the same time, the present study found that starting GAHI leads to a significant reduction in neuroticism and depressive symptoms, as reflected in the literature. For example, van der Miesen et al. showed that access to gender-affirming care, including GAHI, is associated with a reduction in depressive symptoms and anxiety among youth with gender dysphoria [35]. Similarly,

Green et al. report a reduction in depression and suicidal thoughts among transgender youth after initiating GAHI [36]. These findings support the conclusion that GAMI can significantly improve the mental health of transgender youth, which is consistent with the observations of the present study.

Undoubtedly, transgender adolescents' access to medical transition is the most controversial both in Poland and internationally. Opponents of such a solution emphasize that transgender adolescents are characterized by personality immaturity due to their young age and thus lack the resources to give informed consent to initiate GAMI, which is partially irreversible in nature. Others point to legal problems, that is, the lack of self-determination in the case of being a minor and the need to involve legal guardians, who have a variety of attitudes toward gender nonconformity, in the medical transition process. However, the results of studies showing the positive impact of medical transition on the quality of life of transgender people underscore the importance of addressing the topic.

The publication of the "Framework Guidelines for the Process of Caring for the Health of Adolescent Transgender (T) and Non-binary (NB) People Experiencing Gender Dysphoria – the Position Statement of the Expert Panel" in *Endokrynologia Polska* represents an important step toward standardizing health care for adolescents experiencing gender dysphoria associated with gender incongruence in Poland. The developed evidence-based guidelines provide a consistent framework for the diagnostic process and gender-affirming interventions, enabling standardization of clinical practices in the care of transgender and non-binary adolescents. The implementation of these recommendations contributes to the safety and effectiveness of medical transitions by minimizing potential side effects or inappropriate clinical decisions and providing appropriate support for patients and their families. In addition, the introduction of such recommendations responds to existing gaps in the Polish health care system, where access to specialized, gender-affirming care for adolescents has so far been limited and varied. Standardizing the approach to care for transgender and non-binary adolescents can also help reduce stigma, build trust in the health care system, and improve the psychological well-being of patients who often struggle with difficulties stemming from gender nonconformity. Thus, the guidelines not only raise the standards of medical care but also support the development of a more inclusive approach to the mental and physical health of young transgender people.

Assessing the mental health of transgender girls and boys requires addressing the complex psychosocial challenges faced by this group. GAHIs, while effective in alleviating gender dysphoria, do not address all of this population's psychological problems. It is crucial to provide comprehensive specialized care, including not only medical transition but also psychotherapy and, if necessary, pharmacotherapy, for all adolescent transgender individuals experiencing co-occurring psychiatric disorders such as depression or anxiety. Such a holistic approach, in line with the latest WPATH Version 8 Standards of Care [37], has the potential to significantly improve the quality of life and psychological well-being of transgender adolescents. It is worth noting that the integration of social support, including acceptance from family and peers, plays an important role in enhancing therapeutic outcomes, helping to reduce stigma and improve the social functioning of transgender adolescents.

Limitations of the study

One of the limitations of this study is the short observation period of the subjects. In similar studies conducted in Scandinavian countries and the United States, individuals experiencing gender dysphoria who begin medical transition during adolescence are assessed multiple times using the same research methods at different stages of their transition. These assessments typically occur at the initial diagnostic stage, after the initiation of GAHI, following legal transition, and after GASI. This approach allows researchers to determine whether improvements in quality of life are sustained over time and throughout the various stages of gender transition.

The second limitation is the imbalance in the participation of individuals assigned male at birth and those assigned female at birth. This discrepancy is closely linked to the fact that, in Poland, transgender men or transgender boys seek professional care four times more often than transgender women or transgender girls.

Conclusions

The results of the study showed that the inclusion of GAHI in adolescents experiencing gender dysphoria associated with gender incongruence leads to a statistically significant reduction in the level of neuroticism in the five-factor model and a decrease in the severity of depressive symptoms, as measured by the Depression Assessment Questionnaire. The observed reduction in neuroticism and depressive symptoms, along with an increase in Self-Regulation, indicates that GAHI has a positive impact on the mental health of transgender youth. The obtained correlations between neuroticism and depressive symptoms further emphasize the importance of early initiation of gender-affirmative interventions in alleviating the psychosocial difficulties of this group.

References

1. Beccalossi C. *Female sexual inversion: Same-sex desires in Italian and British sexology, c. 1870-1920.* Basingstoke: Palgrave Macmillan; 2012.
2. Krafft-Ebbing R. von. *Psychopathia sexualis with especial reference to antipatic sexual instinct. A medico-forensic study.* New York: Reman Company; 1886/1922.
3. Westphal C. (1869). *Die konträre Sexualempfindung. Arch. Psychiatr. Nervenkr*. 1869; 11: 73-108.
4. Hirschfeld M. *The transvestites: The erotic drive to cross-dress.* In: Stryker S, Whittle S, editors. *The transgender studies reader*. New York: Routledge; 1910/2006. pp. 28-39.
5. Ellis H. *Eonism and other supplementary studies. Vol. 7 of studies in the psychology of sex.* Philadelphia: Davis; 1928.
6. Hirschfeld M. *Die intersexuelle Konstitution.* Jahrb. Sex. Zwisch. 1923; 23: 3-27.
7. Cauldwell DO. *Psychopathia transsexualis.* Sexology 1949; 16: 274–280.
8. WHO. *The ICD-9 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines.* Geneva: WHO; 1977

9. APA. *Diagnostic and Statistical Manual of Mental Disorders* (3rd edition). Washington, DC: American Psychiatric Press; 1980.
10. APA. *Diagnostic and Statistical Manual of Mental Disorders* (5th edition). Washington, DC: American Psychiatric Press; 2013.
11. WHO. *International classification of diseases for mortality and morbidity statistics,* 2018. https://icd.who.int/browse11/l-m/en [retrieved: 17.04.2023].
12. Grabski B. *Modele opieki i standardy postępowania.* In: Grabski B, Mijas M, Dora M, Iniewicz G, editors. *Dysforia płciowa i niezgodność płciowa. Kompendium dla praktyków.* PZWL; 2020. pp. 41-64.
13. Grabski B, Rachoń D, Czernikiewicz W, Dulko S, Jakima S, Müldner-Nieckowski Ł et al. *Recommendations of the Polish Sexological Society on medical care in transgender adults – position statement of the expert panel.* Psychiatr. Pol. 2020; 187: 1–8. doi: 10.12740/PP/OnlineFirst/125785.
14. The World Professional Association for Transgender Health. *Standards of care for the health of transsexual, transgender, and gender nonconforming people. Version 7*. 2012.
15. Gawlik-Starzyk A, Dora M, Baran D, Szostakiewicz Ł, Trofimiuk-Müldner M, Müldner-Nieckowski Ł et al. *Framework guidelines for the process of caring for the health of adolescent transgender (T) and non-binary (NB) people experiencing gender dysphoria — the position statement of the expert panel.* Endokrynol. Pol. 2025; 76(1): 1–28. doi: 10.5603/ep.104289.
16. Sarnik A, Zborowska K, Jorg D, Skrzypulec-Plinta V. *Leczenie i terapia hormonalna osób transseksualnych.* Forum Położnictwa i Ginekologii 2018; 39: 28–34.
17. Mazurczak A. *Zagadnienia prawne związane z tranzycją. Jak przez to przejść?* In: Grabski B, editor. *Zdrowie osób transpłciowych i niebinarnych. Podręcznik psychoedukacyjny dla osób i pacjentów oraz ich bliskich.* Trans-Fuzja; 2022. pp. 101-106.
18. Dulko S, Stankiewicz S. *Klinika transpozycji płci.* In: Lew-Starowicz Z, Skrzypulec V, editors. *Podstawy seksuologii.* Warszawa: Wydawnictwo Lekarskie PZWL; 2010. pp. 216-226.
19. Depko A, Bobińska K, Orzechowska A, Talarowska M, Gałecki P. (2016). *Ocena seksuologiczna osób z zaburzeniami identyfikacji płciowej ubiegających się o sądowe sprostowanie płci metrykalnej.* Seksuologia po Dyplomie 2016; 1: 21–31.
20. Grabski B, Dora M, Baran D, Żołądek S, Mijas M. *Zasady diagnostyki i oceny.* In: Grabski B, Mijas M, Dora M, Iniewicz G, editors. *Dysforia płciowa i niezgodność płciowa. Kompendium dla praktyków.* PZWL; 2020. pp. 65-114.
21. Dziedziak M. *Inne interwencje afirmujące płeć.* In: Grabski B, editor. *Zdrowie Osób Transpłciowych i Niebinarnych. Podręcznik Psychoedukacyjny dla Osób i Pacjentów oraz ich Bliskich.* Trans-Fuzja; 2022. pp. 79-88.
22. Trofimiuk-Muldner M. *Postępowanie hormonalne.* In: Grabski B, Mijas M, Dora M, Iniewicz G, editors. *Dysforia płciowa i niezgodność płciowa. Kompendium dla praktyków.* PZWL; 2020. pp. 159-198.
23. Żołądek S, Pliczko M. *Procedury chirurgicznej korekty płci.* In: Grabski B, Mijas M, Dora M, Iniewicz G, editors. *Dysforia płciowa i niezgodność płciowa. Kompendium dla praktyków.* PZWL; 2020. pp. 247-258.
24. Leibowitz S, de Vries ALC. *Gender dysphoria in adolescence*. International Review of Psychiatry 2016; 28(1): 1–15.
25. Maguen S, Shipherd JC. *Suicide risk among transgender individuals.* Psychol. Sex. 2010; 1(1): 34–43.

26. Dhejne C, Van Vlerken R, Heylens G, Arcelus J. *Mental health and gender dysphoria: A review of the literature.* Int, Rev. Psychiatry 2016; 28(1): 44 –57.
27. Zawadzki B, Strelau J, Szczepaniak P, Śliwińska M. *Inwentarz osobowości NEO-FFI Costy i McCrae. Podręcznik do polskiej adaptacji.* Warszawa: Pracownia Testów Psychologicznych PTP; 1998.
28. Łojek E, Stańczak J, Wójcik A. *Kwestionariusz do pomiaru depresji. Podręcznik.* Warszawa: Pracownia Testów Psychologicznych PTP; 2015.
29. Kaltiala-Heino R, Sumia M, Työläjärvi M et al. *Transgender identity in adolescents: Prevalence, clinical characteristics, and mental health outcomes.* J. Youth Adolesc. 2018; 47(5): 1043–1055. doi: 10.1007/s10964-018-0826-9.
30. Khatchadourian K, Amed S, Metzger DL. *Clinical management of youth with gender dysphoria in Vancouver.* J. Pediatr. 2014; 164(4): 906–911.
31. Hewitt JK, Paul C, Kasiannan P, Grover SR, Newman LK, Warne GL. *Hormone treatment of gender identity disorder in a cohort of children and adolescents.* Med. J. Aust. 2012; 196(9): 578–581.
32. Leibowitz S, de Vries ALC. *Gender dysphoria in adolescence*. Int. Rev. Psychiatry 2016; 28(1): 1–15.
33. Holt V, Skagerberg E, Dunsford M. *Young people with features of gender dysphoria: Demographics and associated difficulties*. Clin. Child Psychol. Psychiatry 2016; 21(1): 108 –118.
34. Marconi E, Monti L, Marfoli A, Kotzalidis GD, Janiri D, Cianfriglia C et al. *Suicidal and non-suicidal self-injurious behaviour in young people with gender dysphoria: A systematic review.* Eur. Child Adolesc. Psychiatry 2023; 32(5): 767–781. doi: 10.1007/s00787-022-02014-6.
35. van der Miesen AIR, Steensma TD, de Vries ALC, Bos H, Popma A. *Psychological functioning in transgender adolescents before and after gender-affirmative care compared with cisgender general population peers.* J. Adolesc. Health 2020; 66(6): 699–704. doi: 10.1016/j.jadohealth.2019.12.018.
36. Green AE, DeChants JP, Price MN, Davis CK. *Association of gender-affirming hormone therapy with depression, thoughts of suicide, and attempted suicide among transgender and nonbinary youth.* J. Adolesc. Health 2022; 70(4): 643–649. doi: 10.1016/j.jadohealth.2021.10.036.
37. The World Professional Association for Transgender Health. *Standards of care for the health of transsexual, transgender, and gender nonconforming people. Version 8*. 2022.

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