

# Alexithymia in adolescents in Poland: an important issue in the holistic approach to patients' care

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## Abstract

**Introduction:** Alexithymia is defined as a disturbed ability to identify and verbally express emotions with a limited imaginative capacity as well as externally oriented thinking. The literature on alexithymia is limited and scarce research concentrated on alexithymia in different gender groups.

**Aim:** As alexithymia may influence the therapeutic outcome, the objective of the study was to assess the prevalence of alexithymia in adolescents in Poland, paying special attention to gender differences.

**Material and methods:** This cross-sectional study was run on a group of 730 high school students in Poland. The mean age of this group was 17.05 ±1.18 years (age range: 15–19 years). Alexithymia was assessed with Toronto Alexithymia Scale (TAS-20).

**Results:** Alexithymia was found in 31.0% of adolescents. 56.0% of subjects presented with signs of at least intermediate (borderline) alexithymia. Significantly more females than males suffered from alexithymia (37.0% and 20.8%, respectively;  $p < 0.001$ ). TAS-20 scores were also significantly higher in females than males (55.59 ±12.32 points and 49.40 ±12.00, respectively;  $p < 0.001$ ). The same phenomenon was observed for the following domains of alexithymia: difficulty in identifying feelings (DIF) and difficulty in describing feelings (DDF). However, there was no difference in gender distribution in the externally oriented thinking (EOT) domain.

**Conclusions:** Alexithymia was shown to be common among adolescents in our country. More females than males suffer from this condition. This seems to be of importance in the holistic approach to patients' care.

**Key words:** alexithymia, gender differences, therapy.

## Introduction

The decreased ability to identify and verbally express emotions with limited imaginative capacity as well as externally oriented thinking used to be called alexithymia [1–3]. The term was first introduced by Sifneos [4] in the early 1970s and means “no words for emotions”. It is a personality trait occurring in about 10–13% of the general population [5–7]. The literature concerning the gender differences in alexithymia is rather limited. Scarce data from selected geographical regions suggested that alexithymia occurs more commonly among the male population or with the same frequency both in females and males [8]. Alexithymia was shown to be much more common in people suffering from various disorders [9–15]. Perceived psychological stress can influence the prevalence and severity of alexithymia [16, 17]. It especially

influences interpersonal communication, has a negative impact on therapeutic outcomes [18].

In March 2020, the World Health Organization (WHO) declared COVID-19 pandemic [19]. Many countries, including Poland, introduced a lockdown to prevent the virus SARS-CoV-2 from spreading [20, 21]. Restrictions lasting for several months were enforced in order to strictly limit social contacts; hold down daily activities. During this period many people experienced psychological stress, some developed symptoms of depression and anxiety. The level of anger and frustration raised markedly [22–24]. It was even suggested that COVID-19 pandemic increased the risk of suicidal thoughts and attempts [25].

As alexithymia may have a negative influence on the therapeutic process in many patients, including dermatological one, this study was undertaken to assess the prevalence of alexithymia in Poland, paying special at-

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tention to adolescents and gender differences. The study was performed during COVID-19 pandemic.

## Material and methods

### Study design and participants

The study was designed as a cross-sectional one and was performed in randomly selected two high schools in Wrocław – the city located in south-west Poland with a population of almost 650 000 inhabitants and in one school in Sieradz – a smaller town of central Poland with a population of nearly 43 000 inhabitants. The representative study population size for high school students in Poland was calculated with 95% confidence level as 384 (margin of error of 5%). The study was run in accordance with all requirements of the Ethics Committee of the Wrocław Medical University (KB-750/2021). The acceptance of the project was granted by directors of all high schools selected. The participation in the study was fully voluntary. All adult students gave their consent to be part of this project. Moreover, the study also considered students under the age of 18 years, but only if their parents gave the written agreement to include them in the study.

The study was based on a self-filled questionnaires. Demographic data were collected from all the students. Alexithymia was assessed with Toronto Alexithymia Scale (TAS-20). All data were collected during the classes, after detailed explanation of the study purpose by one of investigators, within a period of 2 months from September to November 2021. In September 2021 all high school students in Poland returned to normal face-to-face learning after the lockdown due to COVID-19 pandemic. It is worth mentioning that during the previous months of pandemic, classes were mainly virtual.

### Toronto Alexithymia Scale (TAS-20)

Alexithymia was assessed with the use of three-domain scale – Toronto Alexithymia Scale (TAS-20) [26]. The whole questionnaire contains 20 questions, each rated on the 5-point Likert scale (1 point – strongly disagree, 2 points

– disagree, 3 points – neither agree nor disagree, 4 points – agree and 5 points – strongly agree). Five out of 20 questions are negatively keyed. The instrument assesses the following domains of alexithymia: difficulty in identifying feelings (DIF), difficulty in describing feelings (DDF) and externally oriented thinking (EOT). The maximum score of TAS-20 is 100 points (range: 20–100 points). Subjects classified as non-alexithymic ones score less than 52 points, with intermediate alexithymia (borderline alexithymia) score between 52 and 60 points and with alexithymia, score at least 61 points. The Polish validated language version of TAS-20 by Ścigata *et al.* [27] was employed for this study.

### Statistical analysis

Data were analysed by using IBM SPSS Statistics version 26 (SPSS INC., Chicago, IL, USA) software. Parametric and nonparametric distribution of the data were considered. The minimum, maximum, mean, and standard deviation were calculated. The Mann-Whitney *U* test and the  $\chi^2$  test were used where appropriate. All analyses were performed as two-sided tests; *p*-values less than 0.05 were considered statistically significant.

## Results

A total number of 738 students were invited to participate in the project. 730 agreed and completed the study questionnaires (98.9% response rate). Among them there were 446 (61.1%) girls and 284 (38.9%) boys. Their mean age of the study group was 17.05 ±1.18 years, ranging from 15 to 19 years. No significant difference between females and males was documented (Table 1).

Alexithymia was found in 226 (31.0%) respondents. Intermediate (borderline) alexithymia was reported by additional 183 (25.0%) subjects, so 409 (56.0%) students presented with symptoms of at least intermediate alexithymia (Table 2). Alexithymia appeared to be significantly more common ( $p < 0.01$ ) among females (37.0%) than in males (20.8%). The same ( $p < 0.001$ ) was demonstrated for those classified with at least symptoms of interme-

**Table 1.** Group characteristics

Parameter	Whole group ( <i>n</i> = 730)	Females ( <i>n</i> = 446)	Males ( <i>n</i> = 284)	<i>P</i> -value
Age [years] mean ± SD	17.1 ±1.2	17.1 ±1.1	17.1 ±1.2	NS

*SD* – standard deviation, *n* – number, *NS* – not significant.

**Table 2.** Prevalence of alexithymia in adolescents

Number of subject (%)	Whole group ( <i>n</i> = 730)	Females ( <i>n</i> = 446)	Males ( <i>n</i> = 284)	<i>P</i> -value
Alexithymia	226 (31.0)	165 (37.0)	59 (20.8)	< 0.001
Alexithymia and Intermediate alexithymia	409 (56.0)	292 (65.5)	115 (40.5)	< 0.001

*SD* – standard deviation, *n* – number, *NS* – not significant.

**Table 3.** TAS-20 scores in adolescents

TAS-20 [points] mean ± SD	Whole group (n = 730)	Females (n = 446)	Males (n = 284)	P-value
Total score	53.19 ±12.55	55.59 ±12.32	49.40 ±12.00	< 0.001
DIF	19.73 ±6.99	21.52 ±6.56	16.92 ±6.73	< 0.001
DDF	15.27 ±4.99	16.03 ±4.95	14.10 ±4.85	< 0.001
EOT	18.19 ±4.41	18.04 ±4.29	18.39 ±4.59	NS

SD – standard deviation, n – number, NS – not significant, TAS – Toronto Alexithymia Scale, DIF – difficulty in identifying feelings, DDF – difficulty in describing feelings, EOT – externally oriented thinking.

diate alexithymia (65.5% and 40.5% for girls and boys, respectively) (Table 2).

The total TAS-20 score in the whole study group was 53.19 ±12.55 points. It was significantly higher ( $p < 0.001$ ) in females than in males (55.59 ±12.32 points and 49.40 ±12.00 points, respectively) (Table 3). Analysing all alexithymia domains, it appeared that girls in comparison to boys scored significantly higher in both DDF and DIF ( $p < 0.001$  for both domains). However, there was no significant difference in EOT score between the gender groups (Table 3).

## Discussion

It is generally accepted that alexithymia is a cluster of symptoms including the decreased ability of labelling and communicating emotions, confusion of affective and somatic symptoms and externally oriented thinking. Alexithymic individuals were suggested to present a lower capacity to think constructively about their problems [1–3]. Alexithymia used to be divided into so-called “Primary Alexithymia”, i.e. a subject’s profile that changes a little over time and “Secondary Alexithymia” which is a response to psychological disturbances. In the “Secondary Alexithymia” the stressor may induce alexithymia, and the level of alexithymia may be markedly reduced with the elimination of the particular stimulus [28]. It is clear that the alexithymic traits may affect the individual response to psychological stress. On the other hand, several studies linked alexithymia with numerous psychological conditions, including stress [16, 17, 29, 30].

Gender differences in response to depressive mood and other psychiatric disturbances have been reported in the literature [31]. However, the evidence regarding gender differences in alexithymia is equivocal and only a limited number of studies has dealt with this issue [1, 8, 32, 33]. The paper by Levant *et al.* [34] documented that in the majority of studies conducted in the general population, males appeared to be more alexithymic or there was no significant difference between females and males. The authors were able only to locate one study where females were more alexithymic than males. The same group of investigators, in a population suffering from various health problems, found that the majority of stud-

ies did not demonstrate significant gender differences in alexithymia, however there were two studies suggesting male predominance and once again in one paper female patients appeared to be more alexithymic [8]. The above-mentioned observations were confirmed in a later analysis showing that usually men scored higher than women on alexithymia scales. The difference was especially visible among non-clinical samples [8]. The higher trend for common alexithymia in men was tried to be explained by the hypothesis of “Normative Male Alexithymia”. According to this traditional masculinity ideology, traditionally reared males might present the pattern of restrictive emotionality. 30 years ago Levant [35] in general suggested that men experienced more difficulties in finding the words to describe their emotional status. This was argued by the fact that in the past even young boys were discouraged from expressing their emotions. This was done not only by the parents building a traditional model of the family, but also by the peers and schoolteachers. This created a problem with the development of proper awareness of emotions. Additionally, the vocabulary to express the emotions was rather limited [35]. The Gender Role Stain Paradigm with ideology of less emotional and more logic males than females was in accordance with the above-discussed issues [36]. Additionally, the relationship between alexithymia and neurotransmitter activities in males, and not in females, was found [32]. Over the years, the stereotype of traditionally masculine gender role socialization and more common pattern of alexithymia in males was questioned by some authors. More studies pointed no difference in gender distribution in alexithymia, some reported that even women might be more predisposed to alexithymia [8]. In the current study we showed that in our cohort, female adolescents were more alexithymic than males. Women score also higher than males in two domains of alexithymia: DIF and DDF, however there was no difference in scores of EOT between both gender groups. Interestingly, Soni *et al.* [32] documented significantly higher scorings of EOT in women than in men.

The epidemiological studies of alexithymia in the Polish population are scarce. Janiec *et al.* [1] studied more than 1100 students from 27 universities (age range: 18–40 years) and found no gender differences in alexi-

thymia. This study was performed in 2019 before the COVID-19 pandemic and included a bit older group than we analysed in the current study [1]. This could explain at least partly the observed differences in reported results. Several investigators documented that COVID-19 pandemic increased the stress and anxiety in many people [22–24]. Moreover, it was found that COVID-19 pandemic also influenced alexithymia [29, 30, 37, 38]. One could hypothesize that this unique stressful situation related to the pandemic might also change the observed pattern of gender distribution in alexithymia. However, more studies are required to clarify this situation.

The COVID-19 pandemic with its subsequent consequences might increase the prevalence of alexithymia [29]. In our study, alexithymia was demonstrated in 31% of adolescents. Previous studies, conducted in the whole general population, indicated a much lower percentage of alexithymic people ranging from 10% to 13% [5–7]. However, the study among Polish students found moderate to severe alexithymia in 56% [1].

Several studies demonstrated an increased prevalence of alexithymia in common dermatological disorders, including psoriasis, acne, hidradenitis suppurativa, pruritus and others [6, 13–15, 39]. Some of them, as acne for example, affect mainly adolescents [40]. Therefore, taking into consideration that alexithymia may have a negative impact on the final result of the therapeutic process of many conditions [18], the knowledge of prevalence and gender differences of alexithymia in selected populations might be of value.

We are aware of study limitations. Firstly, the study was run in three randomly selected high schools located only in two geographical regions of Poland. Secondly, we performed the analysis during COVID-19 pandemic, which may create the bias in the obtained results. We also hypothesize that the stressful situation of pandemic might influence the prevalence of alexithymia, however no data from the period before pandemic are available for the same population.

## Conclusions

We showed that during COVID-19 pandemic, 31% of adolescents were alexithymic. Intermediate (borderline) alexithymia was found in additional 25% of subjects. Surprisingly, females appeared to be more alexithymic than males. This was also observed for the DIF and DDF domains, but not for EOT. The observed phenomenon seems to be of importance in the holistic approach to patients' care, including subjects suffering from dermatological diseases.

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## Conflict of interest

The authors declare no conflict of interest.

## References

1. Rzepka M, Toś M, Bratek A, et al. Family and demographic factors related to alexithymia in Polish students. *Arch Psych Psychother* 2019; 21: 22-7.
2. Taylor GJ. The alexithymia construct: conceptualization, validation, and relationship with basic dimensions of personality. *New Trends Exp Clin Psychiatry* 1994; 10: 61-74.
3. Taylor GJ, Taylor HL. Alexithymia. In: *Psychological Mindedness: a Contemporary Understanding*. Piper MMWE (ed.). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers 1997; 77-104.
4. Sifneos PE. The prevalence of 'alexithymic' characteristics in psychosomatic patients. *Psychother Psychosom* 1973; 22: 255-62.
5. Mattila AK, Salminen JK, Nummi T, Joukamaa M. Age is strongly associated with alexithymia in the general population. *J Psychosom Res* 2006; 61: 629-35.
6. Dehghani F, Dehghani F, Kafaie P, Taghizadeh MR. Alexithymia in different dermatologic patients. *Asian J Psychiatry* 2017; 25: 42-5.
7. Willemsen R, Roseeuw D, Vanderlinden J. Alexithymia and dermatology: the state of the art. *Int J Dermatol* 2008; 47: 903-10.
8. Levant R, Hall R, Williams C, Hasan N. Gender differences in alexithymia. *Psychol Men Masculinity* 2009; 10: 190-203.
9. Assogna F, Cravello L, Orfei MD, et al. Alexithymia in Parkinson's disease: a systematic review of the literature. *Parkinsonism Relat Disord* 2016; 28: 1-11.
10. Ossola P, Gerra ML, Beltrani M, Marchesi C. Alexithymia and cardiac outcome in patients at first acute coronary syndrome. *Int J Behav Med* 2019; 26: 673-9.
11. Calia R, Lai C, Aceto P, et al. Emotional self-efficacy and alexithymia may affect compliance, renal function and quality of life in kidney transplant recipients: results from a preliminary cross-sectional study. *Physiol Behav* 2015; 142: 152-4.
12. Talamonti M, Galluzzo M, Silvaggio D, et al. Quality of life and psychological impact in patients with atopic dermatitis. *J Clin Med* 2021; 10: 1298.
13. Heisig M, Reich A, Szepietowski JC. Alexithymia in uraemic pruritus. *Acta Derm Venereol* 2016; 96: 699-700.
14. Glowaczewska A, Szepietowski JC, Matusiak L. Prevalence and associated factors of alexithymia in patients with hidradenitis suppurativa: a cross-sectional study. *Acta Derm Venereol* 2021; 101: adv00598.
15. Misery L. Alexithymia and psoriasis: what is the link? *Br J Dermatol* 2019; 180: 261.
16. Kim HW, Rim HD, Kim JH, Lee SJ. Alexithymia and stress response patterns among patients with depressive disorders in Korea. *Psychiatry Investig* 2009; 6: 13-8.

17. Li CS, Sinha R. Alexithymia and stress-induced brain activation in cocaine-dependent men and women. *J Psychiatry Neurosci* 2006; 31: 115-21.
18. Panasiti MS, Ponsi G, Violani C. Emotions, alexithymia, and emotion regulation in patients with psoriasis. *Front Psychol* 2020; 11: 836.
19. Cucinotta D, Vanelli M. WHO declares COVID-19 a pandemic. *Acta Biomed* 2020; 91: 157-60.
20. Palacios Cruz M, Santos E, Velázquez Cervantes MA, León Juárez M. COVID-19, a worldwide public health emergency. *Rev Clin Esp* 2020; 221: 55-61.
21. Matusiak Ł, Szepietowska M, Krajewski PK, et al. The use of face masks during the COVID-19 pandemic in Poland: a survey study of 2315 young adults. *Dermatol Ther* 2020; 33: e13909.
22. Benjamin A, Kuperman Y, Eren N, et al. Stress-related emotional and behavioural impact following the first COVID-19 outbreak peak. *Mol Psychiatry* 2021; 26: 6149-58.
23. Veronese G, Mahamid F, Bdier D, Pancake R. Stress of COVID-19 and mental health outcomes in Palestine: the mediating role of well-being and resilience. *Health Psychology Rep* 2021; 9: 398-410.
24. Szepietowski JC, Krajewski P, Biłynicki-Birula R, et al. Mental health status of health care workers during the COVID-19 outbreak in Poland: one region, two different settings. *Dermatol Ther* 2020; 33: e13855.
25. Thakur V, Jain A. COVID 2019-suicides: a global psychological pandemic. *Brain Behav Immun* 2020; 88: 952-3.
26. Bagby RM, Parker JDA, Taylor GJ. The twenty-item Toronto Alexithymia scale – I. Item selection and cross-validation of the factor structure. *J Psychosom Res* 1994; 38: 23-32.
27. Ścigała D, Zdankiewicz-Ścigała E, Bedyńska S, Kokoszka A. Psychometric properties and configural invariance of the Polish – Language Version of the 20-Item Toronto Alexithymia Scale in Non-clinical and Alcohol Addict Persons. *Front Psychol* 2020; 11: 1241.
28. Lumley MA, Neely LC, Burger AJ. The assessment of alexithymia in medical settings: implications for understanding and treating health problems. *J Pers Assess* 2007; 89: 230-46.
29. Wang X, Li X, Guo C, et al. Prevalence and correlates of alexithymia and its relationship with life events in Chinese adolescents with depression during the COVID-19 pandemic. *Front Psychiatry* 2021; 12: 774952.
30. Warchoł-Biedermann K, Bugajski P, Budzicz Ł, et al. Relationship between stress and alexithymia, emotional processing and negative/positive affect in medical staff working amid the COVID-19 pandemic. *J Investig Med* 2022; 70: 428-35.
31. Carpenter KM, Addis ME. Alexithymia, gender, and responses to depressive symptoms. *Sex Roles* 2000; 43: 629-44.
32. Soni P, Bhargava T, Rajput U. Gender differences in alexithymia. *Int J Indian Psychol* 2018; 6: 131-8.
33. Carosa C, Button A. Alexithymia and help-seeking attitudes in college-aged students. *Psychol Commun Health* 2020; 8: 204-18.
34. Levant RF, Good GE, Cook SW, et al. The normative male alexithymia scale: measurement of a gender-linked syndrome. *Psychol Men Masculinity* 2006; 7: 212-24.
35. Levant RF. Toward the reconstruction of masculinity. *J Fam Psychol* 1992; 5: 379-402.
36. Levant RF. Family psychology and the psychology of men and masculinities. *J Fam Psychol* 2017; 31: 2-4.
37. Merlo E, Sicari F, Frisone F, et al. Uncertainty, alexithymia, suppression and vulnerability during the COVID-19 pandemic in Italy. *Health Psychol Rep* 2021; 9: 169-79.
38. Tang W, Hu T, Yang L, Xu J. The role of alexithymia in the mental health problems of home-quarantined university students during the COVID-19 pandemic in China. *Personal Individual Differ* 2020; 165: 110131.
39. Sunay D, Baykir M, Ateş G, Ekşioğlu M. Alexithymia and acne vulgaris: a case control study. *Psychiatry Investig* 2011; 8: 327-33.
40. Szepietowska M, Dąbrowska A, Nowak B, et al. Alexithymia in adolescents with acne: association with quality of life impairment and stigmatization. *J Clin Med* 2022; 11: 732.