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Deaf sociocultural identity and experiencing symptoms of depression – a preliminary study of adult CI users with prelingual deafness

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Deaf sociocultural identity of the deaf is an important issue from the point of view of their psychological and social functioning. The present study was focused on people with prelingual deafness using cochlear implants (CI) demonstrating high skills in oral Polish language. The research question concerned the relation between the aforementioned identity and symptoms of depression, as well as the age, sex and age at cochlear implantation. The study included 28 prelingually deaf CI users aged between 18 and 40 and was conducted using N. Glickman's DIDS, PHQ-9 and an information questionnaire. Deaf sociocultural identity is similar in terms of proportion of types of identities of the deaf to the results obtained in other studies, i.e. hearing and bicultural identities turned out to be predominant in the study group. The marginal identity only coexists with the presence of depression symptoms.

KEY WORDS: deaf sociocultural identity, cochlear implant, prelingual deafness, depression

Introduction

In the era of cochlear implants, the deaf sociocultural identity is also considered from the following perspective, the impact they can have on the psychosocial functioning of the deaf, including the formation of their personal, social and cultural identity. On the one hand, researchers still discuss the question of how it is possible that such a small device, whose purpose is to enable or amplify hearing in its users, was able to "achieve" such a revolutionary breakthrough in the life and capabilities of deaf people[1], both those born in hearing families, and increasingly often also representatives of Deaf communities treated as a linguistic (sign language) and cultural (Deaf culture) minority[2].

On the other hand, the presently obvious facts include the importance of CI in the subjective perception of its users with prelingual deafness[3]. The statements[4] indicate benefits in the sphere of

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[1] I.W. Leigh, *A lens on deaf identities*, Oxford University Press, Oxford, New York 2009.

[2] The spelling with the use of the capital D letter means that deaf people are treated as a linguistic (sign language) and cultural (Deaf culture) minority, while the small d letter refers to deaf people with severe or profound hearing loss. It should be added here that there has been a tendency in the world to depart from this spelling distinction as outdated and not reflecting the complex social, family, educational, identity or cultural conditions in the population of deaf people - see M. Marschark, I. Zettler, J. Dammeyer, *Social dominance orientation, language orientation and deaf identity*, "Journal of Deaf Studies and Deaf Education" 2017, no. 3, p. 269–277.

[3] E.g. A. Wheeler, S. Archbold, S. Gregory, A. Skipp, *Cochlear implants: The young people's perspective*, "Journal of Deaf Studies and Deaf Education" 2007, no. 3, p. 303–316; J. Zębik, *Tożsamość osoby zaimplantowanej – czyli o sobie*, [in:] *Tożsamość społeczno-kulturowa głuchych*, ed. E. Woźnicka, Polish Association of the Deaf, Department in Łódź, University of Humanities and Economics in Łódź, Łódź 2007, p. 233–49.

[4] The quoted statements are original and their analysis was conducted elsewhere: J. Kobosko, A. Pankowska, A. Geremek-Samsonowicz, H. Skarżyński, *Implant ślimakowy z perspektywy osób dorosłych z głuchotą prelingwalną – badanie jakościowe*, „Nowa Audiofonologia" 2018, no. 3, p. 29–41.

auditory perception, speech and communication with the environment ("Thanks to the implant I can hear and communicate with my family and other people in my environment. Thanks to the fact that I can hear, I can also speak, a woman, 24 years old, CI at the age of 5), through the association of CI with personal development, positive emotions ("I am glad that I can wear an implant, hear individual sounds from the environment", a woman, 20 years old, CI at the age of 3 and a half), to generalizations having the character of assessing the role of CI as very significant, and CI itself of great importance ("Without an implant I am practically deaf. Therefore, the implant and processor constitute my only ear that allows me to function in the world of the hearing, a woman, 39 years old, CI at the age of 29). At the same time, there questions about the relationship between the identity of deaf people, including those using CI: a personal, social and cultural one, and psychological variables such as self-esteem[5], mental well-being[6] and depression[7] appear.

Deaf sociocultural identity

The deaf sociocultural identity as a research subject is usually treated with an emphasis on the cultural aspect, i.e. the culture of the Deaf, contrasted with the culture of the hearing, or on the social aspect in which the essence is a sense of community and belonging to a group of people: deaf for the deaf and hearing for the hearing.

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[5] M. Hintermair, *Self-esteem and satisfaction with life of deaf and hard-of-hearing people – A resource-oriented approach to identity work*, "Journal of Deaf Studies and Deaf Education" 2008, no. 2, p. 278–300; S.L. Cornell, K.P. Lyness, *Therapeutic implications for adolescent deaf identity and self-concept*, "Journal of Family Therapy" 2005, no. 3, p. 31–49.

[6] M. Chapman, J. Dammeyer, *The significance of deaf identity for psychological well-being,* "Journal of Deaf Studies and Deaf Education" 2017, no. 2, p. 187–194.

[7] M.J. Carter, D.C. Mireles, *Deaf identity and depression*, [in:] *New directions in identity theory and research*, ed. J.E. Stets, R.T. Serpe, Oxford University Press, Oxford 2016, p. 509–538.

The definitions of social and cultural identities are interrelated. In the cognitive psychology approach, social identity is "a set of self-definitions, consisting of relevant grades [i.e. having such properties, the loss of which causes that a given thing or phenomenon stops being itself], by which the individual describes their own person without differentiating between I and We, and at the same time differentiating between We and Other people, in terms of We versus non-We (They)"[8]. In turn, cultural identity is a variation of social identity in which one identifies with "a specific cultural system, and especially a set of ideas, views and beliefs shared by members of a given group"[9]. Consequently, researchers analysing the cultural identity of deaf people also describe their social identity, indicating groups of people with whom they identify as deaf people, and thus created because of the dimension important from the point of view of their identity: deafness v. hearing. This is for them a dimension of perception of their own distinctiveness in comparison to other people, as well as similarity to those perceived as belonging to the same group. For the purposes of the undertaken research, the term of sociocultural identity was recognised to be the term best suited to the specificity of the studied population of deaf people with CI[10], because the main area of the study will concern social relationships created due to deafness v. hearing, accompanied by elements of the Deaf culture or hearing culture (e.g. attitude to deafness, as well sign and spoken language).

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[8] A. Bikont, *Tożsamość społeczna – teorie, hipotezy, znaki zapytania*, [in:] *Studia nad spostrzeganiem relacji Ja-Inni: Tożsamość, indywiduacja, przynależność*, ed. M. Jarymowicz, The Ossolineum, Wrocław, Warsaw 1988, p. 15–36.

[9] L. Monaghan, R.J. Senghas, *Signs of their times: Deaf communities and the culture of language*, "Annual Review of Anthropology" 2002, no. 31, p. 69–97; after: P. Tomaszewski, K. Kotowska, P. Krzysztofiak, *Paradygmaty tożsamości u g/Głuchych: przegląd wybranych koncepcji*, [in:] *Edukacja niesłyszących – wczoraj, dziś i jutro*, ed. E. Woźnicka, Wydawnictwo Akademii Humanistyczno-Ekonomicznej w Łodzi, Łódź 2017, p. 111–156.

[10] P. Wojda, *Język migowy a tożsamość społeczno-kulturowa młodzieży głuchej w Polsce*, "Audiofonologia" 2010, no. 26, p. 29–33.

Neil Glickman as one of the first researchers of the Deaf cultural identity[11] proposed a model in which, based on the stages of racial identity development, he distinguished 4 stages of its development and the corresponding types of the Deaf cultural identity: (1) culturally hearing stage, deaf people being at this stage consider deafness as a dysfunction or disability in accordance with their adopted medical perspective, and consequently recognize the world of the hearing and hearing as the standard of normality and health they aim at; they value oral methods of communication (spoken language), they recognize the use of residual hearing as a value; (2) culturally marginal stage, deaf people at this stage experience themselves as placed between the worlds of the hearing and of the Deaf, but they do not feel well in any of them; (3) immersion stage, deaf people having this identity present a positive attitude towards the Deaf, as well as identify with them; (4) bicultural stage (of a deaf person), deaf people at this stage of the development of cultural identity identify with both Deaf and hearing people. A few years later, Deborah Maxwell-McCaw (2001)[12] used the concept of acculturation to the culture of the Deaf, the hearing, the Deaf and the hearing to describe the formation of the cultural identity of the Deaf, enriching its description with a behavioural dimension in five separate spheres: psychological identification with a selected group, involvement, preferences, language competences, knowledge about the culture of the Deaf and the hearing.

Deaf sociocultural identity with an emphasis on its social aspect, expressed by a sense of community and belonging to one of the groups distinguished based on deafness v. hearing dimension, was studied by Madeleine Chapman and Jasper Dammeyer (2017)[13].

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[11] N. Glickman, *The development of culturally Deaf identities*, [in:] *Culturally affirmative psychotherapy with Deaf persons*, ed. N. S. Glickman, A. Harvey, Erlbaum, Mahwah, NJ 1996, p. 115–153. The spelling with the capital D letter was retained according to the original notation used by N. Glickman in his works.

[12] D. Maxwell-McCaw, M.C. Zea, *The Deaf Acculturation Scale (DAS) Development and validation of a 58-item measure*, "Journal of Deaf Studies and Deaf Education" 2011, no. 3, p. 325–342.

[13] M. Chapman, J. Dammeyer, op. cit.

It appeared that among the study deaf people with moderate to profound hearing loss (including those using CI who constituted 32.5%), dual social identity was indicated by 34.5% of respondents, deaf identity by 33.5%, while 25.5% indicated hearing identity, and 7% of the study participants was characterised by deaf marginal social identity.

Deaf sociocultural identity and cochlear implant

The results of research on the cultural or/and social identity of people with prelingual deafness who are CI users, considering the dimension of deafness v. hearing, indicate the predominance of identities of the hearing in this group[14], also compared to deaf people without CI[15]. Some researchers have demonstrated that the mere fact that prelingual deaf people have CI allows for a more likely belief that people in this group will be characterised by the identity of the hearing[16]. However, from a psychological point of view, it still remains an open question whether a deaf person can have the identity of the hearing, being "essentially" a deaf person, without triggering defence mechanisms, such as denial[17]. Irene W. Leigh,

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[14] M. Hintermair, op. cit.; J.S. Moog, A.E. Geers, C. Gustus, C. Brenner, *Psychosocial adjustment in adolescents who have used cochlear implants since preschool*, "Ear and Hearing" 2011, 1 suppl, p. 75S–83S; S. Rich, M. Levinger, S. Werner, C. Adelman, *Being an adolescent with a cochlear implant in the world of hearing people: Coping in school, in society and with self identity*, "International Journal of Pediatric Otorhinolaryngology" 2013, no. 8, p. 1337–44; A. Wheeler, S. Archbold, S. Gregory, A. Skipp, op. cit.

[15] R.L. Wald, J.F. Knutson, *Deaf cultural identity of adolescents with and without cochlear implants*, "Annals of Otology, Rhinology and Laryngology" 2000, no. 185 (Suppl), p. 87–89.

[16] M. Chapman, J. Dammeyer, op. cit.

[17] N. Glickman, op. cit.; M. Zalewska *Dziecko w autoportrecie z zamalowaną twarzą. Psychiczne mechanizmy zaburzeń rozwoju tożsamości dziecka głuchego i dziecka z opóźnionym rozwojem mowy*. J. Santorski i CO Wydawnictwo, Warszawa 1998; M. Zalewska, *Mechanizmy zaburzeń tożsamości u młodzieży głuchej mającej słyszących rodziców – kliniczne studium głuchego chłopca*, [in:] *Młodzież głucha i słabosłysząca*

a research expert on the identity of deaf people, considers the identity of the hearing to be their "artificial" identity ("artificial" hearing identity)[18].

Depression and prelingual deafness

In people with prelingual deafness a greater intensity of depression than in the general hearing population is observed[19]. The causes of depression may be similar to those in the general population, but deafness from birth or early childhood is considered an additional risk factor. Furthermore, sources of presence in the perception of oneself and the world of the so-called "cognitive triad": negative views about yourself, the world and the future[20], usually reach back to experiences in family relationships, when as the only deaf child they could experience "being outside" what was happening in the family, isolation, misunderstanding among loved ones, frustration of the need for the sense of community and belonging[21]. It has been shown that depression of deaf people in adulthood is associated with difficulties in understanding what parents, especially of the same sex, communicated to them at the basic level[22]. Still

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w rodzinie i otaczającym świecie – dla terapeutów, nauczycieli, wychowawców i rodziców, ed. J. Kobosko, "Hear the World" Foundation, Warsaw 2009, p. 78-83.

[18] I.W. Leigh, Reflections on identity, [in:] The Oxford handbook of deaf studies, language, and education, ed. M. Marschark, P.E Spencer, vol. 2, Oxford University Press, Oxford 2010, p. 195–209.

[19] Among others: J. Fellinger, D. Holzinger, R. Pollard, Mental health of deaf people, "The Lancet" 2012, no. 379(9820), p. 1037–1044; M. du Feu, C. Chovaz, Mental health and deafness, Oxford University Press, Oxford 2014.

[20] A.T. Beck, Depression. Causes and treatment. University of Pennsylvania Press, Filadelfia, PA 1970.

[21] E.g. M. du Feu, C. Chovaz, Mental health and deafness, Oxford University Press, Oxford 2014.

[22] P. Kushalnagar, S. Bruce, T. Sutton, I.W. Leigh, Retrospective basic parent-child communication difficulties and risk of depression in deaf adults, "Journal of Developmental and Physical Disabilities" 2017, no. 1, p. 25-34.

little can be said about the depression in prelingual deaf people who have been provided with CI. It is known that they experience a greater psychosocial distress, but a lower severity of depression symptoms than those who have lost their hearing postlingually. progressively or suddenly[23], and that they tend to experience more severe depression symptoms compared to the hearing[24].

Deaf sociocultural identity of the deaf with a cochlear implant and depression – aim of the study

So far, only the relationship between the deaf personal identity and depression has been studied[25], but it is not known whether the study participants included deaf people with CI. It was found, among others, that difficulties in being oneself as a deaf person in various social situations correlate significantly with a higher level of depression. In the undertaken study, a question was asked concerning the definition of the deaf sociocultural identity of deaf adults with CI, and a relationship between this identity and depression symptoms, as well as gender, age and age at the time of CI implantation.

Methods of the study

The research was conducted by a correspondence method. Questionnaire packages were sent to people who met the adopted criteria, including high competence in the Polish spoken language according

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[23] M.S. Shin, J.J. Song, K.H. Han, H. J. Lee, R.M. Do, B.J. Kim, S.H. Oh, *The effect of psychosocial factors on outcomes of cochlear implantation*, "Acta Oto-Laryngologica" 2015, no. 135, p. 572–577.

[24] J. Kobosko, *Doświadczanie objawów depresji u osób dorosłych z głuchotą prelingwalną korzystających z implantu ślimakowego a strategie radzenia sobie ze stresem i samoocena*, "Nowa Audiofonologia" 2014, no. 1, p. 34–45.

[25] M.J. Carter, D.C. Mireles, op. cit.

to the assessment of deaf speech and language therapist and deaf educators knowing those people from all over Poland. The response rate was 40%.

Participants of the study

The study involved adults (n = 28) aged from 18 to 40 (M = 26.5; SD = 7.02) with profound or severe prelingual deafness, including 71.4% of women. The subjects have used CI since their childhood, adolescence or adulthood, i.e. they received the first CI in the range from 2 to 33 years of age, on average at 14.57 years of age (SD = 9.13). The duration of CI use in the years was on average M = 12.42 (SD = 4.75) and ranged from 2 to 22 years. At the time of the study, 15 people used one CI, one person was implanted on both sides, 11 used both a CI and a conventional hearing aid in the unimplanted ear.

7 people declared good and very good knowledge of sign language, and the others according to their own assessment knew sign language "a little" (n = 6), "poorly" (n = 5) or not at all (n = 9). 32.1% were married or had a partner, including 7.1% in a relationship with a deaf/hard of hearing person. 57.1% had higher education, 3.6% semi-higher education, while 39.3% had secondary education. Employed persons constituted 35.7%, and those working and receiving a benefit, 10.7%, 39.3% learnt or studied, while 14.3% were unemployed. In the case of 8 people (28.6%), someone from the immediate family could not hear or was hard of hearing, including only one person who had deaf parents, others having hearing ones.

Research tools

The *Deaf Identity Development Scale* (DIDS) by N. Glickman[26] is used to describe the cultural identity of the Deaf. Its original version consists of 60 statements. Linguistic adaptation: translation into

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[26] N. Glickman, op. cit.

Polish and linguistic adaptation (simplification) were made for the needs of previous studies of deaf youth[27] The DIDS has 4 scales, describing 4 types of cultural identity: bicultural identity (Bicultural scale) in which identification both with Deaf people as a linguistic and cultural minority, as well as with hearing people and their culture occurs; hearing identity (Hearing scale), in which identification with the hearing occurs; Immersion identity (Immersion scale), in which identification with the Deaf occurs, and marginal identity (Marginal scale), which characterises those deaf people who do not identify with neither the Deaf nor the hearing. Answers in the DIDS are scored from 5 to 1, and the result of each scale expresses the mean of all responses assigned to it. In the present study, the DIDS was used to describe the deaf sociocultural identity of deaf people, the vast majority of whom had profound or severe hearing loss, and similar deafness experiences (e.g. hearing and speech rehabilitation).

Therefore, in the Polish version of DIDS applied for the study the spelling "deaf" with the small d letter was used. For individual DIDS scales, Cronbach's alpha internal consistency coefficients were obtained: Hearing (0.65), Marginal (0.8), Immersion (0,6), Bicultural (0.78).

A sense of belonging to a social group selected because of deafness: the one of the hearing, the hearing and the deaf, the deaf, neither hearing nor deaf, responding to the statement: "I have most in common with..." serves to assess the social identity as a deaf person. The study person chooses one out of 4 possibilities indicating a sense of their group belongingness. This method of measurement was adopted from Danish researchers[28] of the issues of deaf identity.

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[27] J. Kobosko, *Tożsamość macierzyńska słyszących matek młodzieży głuchej i jej znaczenie dla rozwoju osobowej tożsamości tej młodzieży*, unpublished doctoral dissertation, University of Warsaw, Warsaw 2007; J. Kobosko, *Osoba głucha (słabosłysząca), to znaczy kto? – tożsamość osobowa młodzieży głuchej i słabosłyszącej rodziców słyszących*, [in:] *Młodzież głucha i słabosłysząca w rodzinie i otaczającym świecie – dla terapeutów, nauczycieli, wychowawców i rodziców*, ed. J. Kobosko, "Hear the World" Foundation, Warsaw 2009, p. 19–35; J. Kobosko, *How do deaf adolescents experience themselves? Deaf identity and oral or sign language communication*, "Cochlear Implants International" 2010, 11 (suppl. 1), p. 319–322.

[28] M. Chapman, J. Dammeyer, *op. cit.*

Patient Health Questionnaire (PHQ-9), serves to assess the presence and severity of depression symptoms. It consists of 9 statements about various problems that may occur in the study person (e.g. feeling of fatigue and lack of energy), whose task is to answer whether and how often in the last two weeks they suffered from one of them on a scale from 0, *I did not suffer at all*, until 3, I *suffered nearly every day*. The maximum number of points is 27[29].

The information survey included questions about socio-demographic variables, as well as those related to deafness and cochlear implant.

Results of the study

Deaf sociocultural identity of the deaf with a cochlear implant (CI)

In the study, two measures to describe the deaf sociocultural identity was used. The first one was to indicate the identity category (*Survey*), defined by a sense of community and belonging to a group of people: (a) deaf, (b) hearing, (c) hearing and deaf, (d) neither deaf nor hearing, which allowed for the assessment of this identity primarily in the social aspect. The second way to measure deaf sociocultural identity was the N. Glickman's DIDS scale.

It appeared that belonging to the hearing group was indicated by 53.6% of the study participants, and to the deaf and hearing one, by 42.9%. One person indicated that does not belong either to the deaf or to the hearing (3.6%). Nobody has chosen to have the sense of belonging to the deaf group only (Figure 1).

Results related to deaf sociocultural identity (DIDS), evaluated on a scale of: Hearing, Marginal, Immersion and Bicultural, corresponding to the hearing identity, marginal identity, deaf identity and dual (hearing and deaf) identity, respectively, are presented in Figure 2 as well as in Table 1. The results of the N. Glickman's DIDS

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[29] K. Kroenke, R.L. Spitzer, J.B. Williams, *The PHQ-9 validity of a brief depression severity measures*, "Journal of General Internal Medicine" 2001, no. 9, p. 606–613.
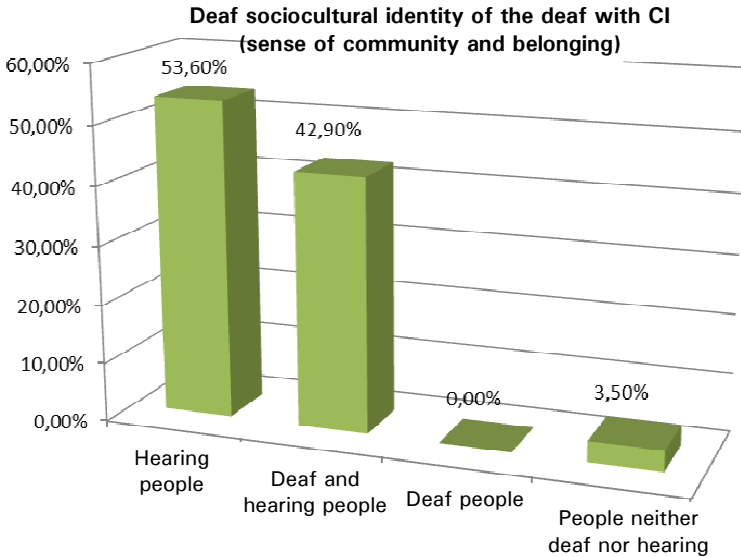
Figure 1. Deaf sociocultural identity of the deaf with a cochlear implant (CI), percentage distribution in individual categories of sense of community and belonging to: hearing people, hearing and deaf people, deaf people, and neither deaf people nor hearing people

Table 1. Deaf sociocultural identity (DIDS) and depression symptoms (PHQ-9), results obtained (minimum and maximum score, mean: M, standard deviation: SD) in deaf people with a cochlear implant (CI) (n = 28)

Tool name	Minimum	Maximum	Mean (M)	Standard deviation (SD)
Deaf sociocultural identity N. Glickman's DIDS				
Hearing (range from 1 to 5 points)	1.80	4.00	3.14	0.48
Marginal (range from 1 to 5 points)	1.50	4.31	2.44	0.57
Immersion (range from 1 to 5 points)	1.47	2.73	2.01	0.34
Bicultural (range from 1 to 5 points)	2.20	4.73	3.4	0.54
Depression symptoms PHQ-9				
PHQ-9 (range from 1 to 27 points)	0	19	5.36	5.11

demonstrate that among the study deaf with CI, dual bicultural identity as well as the hearing identity dominate. Identification with deaf people only, and thus the deaf identity, as well as the marginal identity, i.e. a sense of lack of community and belonging to both groups, may appear relatively rarely.
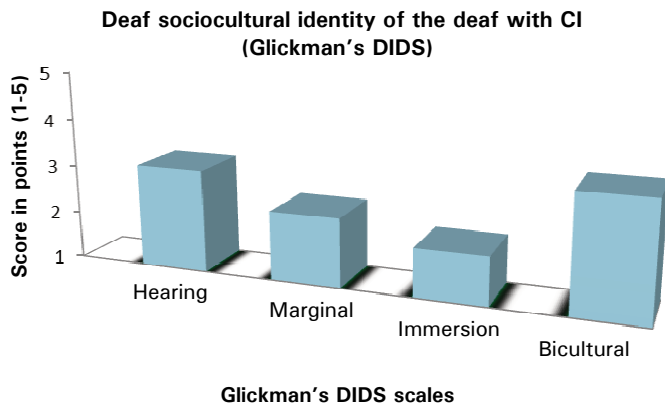

Figure 2. Deaf sociocultural identity of the deaf with a cochlear implant (CI), results obtained on N. Glickman's DIDS scales (means) (n = 28)

People indicating the sense of community and belonging to the hearing at the same time received significantly lower scores on the Bicultural (DIDS) scale; M = 3.18; SD = 0.5 compared to people having the sense of belonging to both groups; M = 3.65; SD = 0.48 (Student's t test: t (25) = 2.49; p <0.05). At the same time, these people tend to have higher scores on the Hearing (DIDS) scale: M = 3.3; SD = 0.47 compared to those who chose to belong to the group of the hearing and the deaf: M = 2.94; SD = 0.46 (Student's t test: t (25) = –1.97; p <0.1).

There were no differences between the results in the DIDS scales in younger (up to 26 years) and older (over 26 years) people. However, it was demonstrated that the younger a deaf person with CI is, the higher the results (r = –0.425; p <0.01) on the Hearing (DIDS)

scale they obtain. The results in the N. Glickman's DIDS scales also show no differences related to the sex of the respondents, or to the age of CI implantation, i.e. in childhood or adolescence (here: up to 12 years of age) or adolescence or adulthood (here: above 12 years).

Deaf sociocultural identity of the deaf with a cochlear implant (CI) and depression symptoms

The severity of depression symptoms (PHQ-9) in the study group corresponds on average to its mild level (Table 1) according to American standards, published by the authors of the applied tool. Normal[30] results were obtained by 53.6% of respondents, however they should be treated with some caution, as these are not standards for the Polish population or for the deaf population. People aged 18-26 and above, as well as women and men do not demonstrated statistically significant differences in the severity of depression symptoms. The sense of community and belonging to the hearing v. the hearing and the deaf is not related to the severity of depression symptoms in the study deaf people with CI. On the contrary, people provided with CI up to 12 years of age obtained a significantly higher severity of depression symptoms (PHQ-9): M = 7.75; SD = 6.48 than those that have been implanted at the age of over 12: M = 3.4; SD = 2.89 (Student's t test: t (25) = 2.33, p <0.05). Searching for the relationship between deaf sociocultural identity (DIDS) and the severity of depression symptoms, a correlation analysis was performed, in which only a significant relationship between the result on the Marginal (DIDS) scale and depression symptoms (PHQ-9) (r = 0.541; p <0.01) was found. It suggests that in subjects greater levels of marginality coexist with symptoms of depression. Regression analysis was performed, introducing deaf sociocultural identity types (DIDS) to the model when the severity of depression symptoms is a dependent variable. A regression model on the bor-

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[30] K. Kroenke, R.L. Spitzer, J.B. Williams, op.cit.

der of statistical significance was obtained: $R^2=0,21$; $F(4,23)=2,79$; $p=0,05$. It resulted that marginality is the only predictor of the severity of depression ($\beta=0.61$; $t = 3.29$; $p < 0.01$) in the study group, while other types of deaf sociocultural identity (DIDS) of deaf people with CI demonstrated no relationship with the experience of depression symptoms.

Discussion

The research concerned the problem of deaf sociocultural identity in deaf adult people with a cochlear implant (CI), as well as its relationship with experienced symptoms of depression. They also considered the relationship between deaf sociocultural identity and gender and age, as well as age at the time of CI implantation. So far, there has been no research concerning this subject in Poland, especially with regard to CI users with prelingual deafness, who have used CI since childhood, adolescence or adulthood.

The obtained results regarding the sociocultural identity of deaf people with CI using N. Glickman's DIDS are similar to previous results of studies obtained by deaf youth with high competence in the Polish spoken language without CI[31], as well as young adults with hearing loss, students and university graduates[32]. It can be said that CI as a device enabling hearing does not play an important role in the formation of the deaf sociocultural identity of the study deaf people, brought up orally in the hearing environment. Other researchers also received no correlation of CI and the deaf sociocultural identity of deaf people[33].

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[31] J. Kobosko, op. cit.. In the studies cited here, only 1 person used CI (author's note).

[32] A. Dłużniewska, *Jakość relacji komunikacyjnych a tożsamość społeczna i kulturowa młodzieży z uszkodzeniami słuchu*, "Niepełnosprawność. Półrocznik Naukowy" 2015, no. 17, p. 39–51. There is no information as to whether any of the respondents used CI (author's note).

[33] M. Chapman, J. Dammeyer, op. cit.

Among deaf people with CI, the bicultural and dual identity (DIDS), in which identification with the hearing and the deaf occurs, as well as the identity of the hearing, are dominating. However, in relation to the participants of the study, one should rather talk about identification with hearing and audiologically deaf people, i.e. people with similar experiences related to being a deaf person (e.g. hearing and speech rehabilitation, experience in relationships with hearing peers, etc.),[34], brought up in the hearing environment and in the context of medical thinking about deafness as a disability and dysfunction[35] than about identification with Deaf people and Deaf culture. It can be said that it is a bicultural identity with the predominance of identification with hearing people and their language and values, and therefore dominated by the hearing identity, as evidenced by the prevailing sense of community and belonging to this group, declared by 53.6%. According to the results of studies conducted in other countries, implanted deaf people tend to identify primarily with the hearing, the spoken language of a given country, as well as the values of the hearing culture[36].

Deaf sociocultural identity (DIDS) demonstrates no relationship with sex, as well as with the age at which CI was implanted, which

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[34] J.L.A. Wolsel, M.D. Clark, L. van der Mark, C. Suggs, *Life scripts and life stories of oral deaf individuals.* "Journal of Developmental and Physical Disabilities" 2017, no. 1, p. 77–103; J. Kobosko, *Doświadczanie siebie jako osoby głuchej – badania nad młodzieżą głuchą i jej słyszącymi matkami z perspektywy interpersonalnej*, "Człowiek – Niepełnosprawność – Społeczeństwo" 2010, no. 11, p. 101–122; D. Podgórska-Jachnik, *Głusi. Emancypacje*, Wydawnictwo Naukowe Wyższej Szkoły Pedagogicznej w Łodzi, Łódź 2013.

[35] P. Tomaszewski, K. Kotowska, P. Krzysztofiak, op. cit.; M. Wrześniewska-Pietrzak, *Aksjologiczne wyznaczniki tożsamości w wypowiedziach głuchych i czasopiśmie środowiskowym "Świat Ciszy"*, Wydawnictwo Rys, Poznań 2017.

[36] R.L. Wald, J.F. Knutson, op. cit.; M. Hintermair, op. cit.; J. Zębik, *Tożsamość osób g/Głuchych z implantem ślimakowym w Polsce*, [in:] *Młodzież głucha i słabosłysząca w rodzinie i otaczającym świecie – dla terapeutów, nauczycieli, wychowawców i rodziców*, ed. J. Kobosko, "Hear the World" Foundation, Warsaw 2009, p. 45–51; J.S. Moog, A.E Geers, C. Gustus, C. Brenner, op. cit.; S. Rich, M.. Levinger, S. Werner, C. Adelman, op. cit.; M. Chapman, J. Dammeyer, *The relationship between cochlear implants and deaf identity*, "American Annals of the Deaf" 2017, no. 4, p. 319–332.

was also shown by Danish researchers[37] However, a significant negative relationship between age and hearing identity (DIDS), which is more common in younger deaf people with CI, was found. As it might be expected, younger people usually depend on hearing family and educational environments, and often did not have contact with deaf adults in their adult life. Acquiring social experiences, undertaking sexual and professional roles, including experiences with other deaf people as well as sign language, and hence with various forms of "being deaf"[38] favour a decrease in identification with hearing people for the benefit of, as indirectly demonstrated by the obtained results, bicultural identity with the domination of the hearing identity.

Symptoms of depression, from mild to severe, occur in almost 50% of the respondents. Untreated, they can result in isolation, experiencing anger, and maladaptive behaviour[39]. In deaf people with CI, they remain in a significant moderate positive relationship with deaf marginal sociocultural identity (DIDS). In the study group, as well as in the Danish study (2017), the level of depression is higher than in the general population, and this is indicated both by its increased severity[40], and large variation in results. A significantly greater severity of depression symptoms is also characteristic for people who were implanted with CI up to 12 years of age in comparison with those implanted later, and thus younger people. Such a result may express the difficulty in becoming deaf and entering

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[37] M. Chapman, J. Dammeyer, ibidem.

[38] E.S. Ohna, *Deaf in my own way: Identity, learning and narratives*, "Deafness and Education International" 2004, no. 1, p. 20–37; A. Kołodziejczak, *Pomiędzy dwoma światami – problem tożsamości społecznej wybranej grupy niesłyszących*, [in:] *Tożsamość społeczno-kulturowa głuchych*, ed. E. Woźnicka, University of Humanities and Economics in Lódź, Polish Association of the Deaf, Department in Łódź, Łódź 2007, p. 22–32.

[39] K. Gryglewicz, M. Bozzay, B. Arthur-Jordon, G.D. Romero, M. Witmeier, R. Chapple, M.S.A. Karver, *Silenced population uncovering correlates of suicidal-related behavior among deaf and hard-of-hearing*, "Youth Crisis" 2017, no. 6, p. 433–442.

[40] According to American standards for the PHQ-9 questionnaire used in the study, as mentioned earlier in part: Results

adulthood[41] than be associated with the fact of relatively early implantation, which requires further research.

Deaf marginal sociocultural identity (DIDS) proved to be an important predictor of the severity of depression symptoms in deaf people with CI. Experienced symptoms of depression may exacerbate problems existing "around the identity of a deaf person", as demonstrated by the previously cited studies[42]. It is known that marginal identity, but not other types of deaf sociocultural identity, remains associated with a lower level psychological well-being[43], which is consistent with the results obtained in the reported studies in relation to the severity of depression symptoms.

The limitation of the study is a relatively small size of the study group, as well as the selection of people with high competence in the Polish spoken language. The inclusion of deaf people, for whom sign language is the basic tool of communication with the environment to the study, can be considered a challenge in the near future.

To summarise, deaf people with CI with a deaf marginal sociocultural identity need different forms of psychological intervention, including psychoeducation and psychotherapy. This is first of all, because it is associated with negative adaptation, as well as symptoms of depression. Social experiences that will also allow for a positive experience of oneself as a deaf person, which will favour a formation of a selected deaf sociocultural identity, but without denying deafness, are necessary[44]. The same postulate applies to deaf people having CI with increased severity of depression symptoms, because not everyone suffering from depression must experience a deaf marginal sociocultural identity, i.e. the sense of lack of belonging to the deaf and/or the hearing.

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[41] H.S. Schlesinger, *A developmental model applied to problems of deafness*, "Journal of Deaf Studies and Deaf Education" 2000, no. 4, p. 349–361; M. Zalewska, op. cit.; D. Podgórska-Jachnik, op. cit.; J.L.A. Wolsel, M.D. Clark, L. van der Mark, C. Suggs, op. cit.

[42] M.J. Carter, D.C. Mireles, op. cit.

[43] M. Chapman, J. Dammeyer,op. cit.

[44] M. Zalewska, op. cit.

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