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Mental health and expectations of therapeutic education in patients after laryngectomy. A pilot study

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Abstract:

Aim of the study: Mental health assessment in chronically ill patients is an important element of the treatment process. More and more often, attention is also paid to the significance of therapeutic education in this process, because it can have a great impact on coping with the disease and in the patient's involvement in treatment and rehabilitation. The purpose of the research was to assess mental health and expectations of therapeutic education in persons after laryngectomy.

Subject or material and methods: 61 laryngectomised patients participated in the study, 49% of whom belonged to support groups. The average age of the studied persons was 67 years, and the average duration of illness was 6 years and 7 months. The following methods were used to collect data: HADS-M scale, PERMA-Profiler Questionnaire (PL), the Scale of Expectations of Therapeutic Education, the sociodemographic survey.

Results: The results of the conducted analyses indicate a relationship between mental health and expectations of therapeutic education in the studied group. As the level of anxiety increases, the level of expectations also increases. In addition, variables such as gender, age and education correlate with these expectations.

Education concerning the disease, its treatment and rehabilitation is important for the mental health of people after laryngectomy.

mental health; therapeutic education; laryngectomy

INTRODUCTION

Mental health is very important in coping with chronic somatic disease and its consequences [1]. Unfortunately, despite the constantly increasing number of people suffering from cancer, little attention is still paid to their mental health. It is even less discussed in the context of patients suffering from laryngeal cancer, although in Poland the incidence of this type of cancer is higher than in other European Union countries [2]. At each stage of treatment and rehabilitation, and later, when struggling with the effects of the disease, it is important to provide reliable information that can help patients, and their families understand the emerging difficulties and cope with them.

The first very difficult moment for people with laryngeal cancer is the diagnosis of the disease. In addition to the fear of losing health and life, there is also the fear of losing one's voice [3]. The greatest severity of anxiety in patients is ob-

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served at the time of being qualified for the procedure of the removal of the larynx, i.e. laryngectomy [4]. In addition, it should be borne in mind that laryngeal cancer usually affects people between the ages of 60 and 70, that is, during the period of occurrence and intensification of depression and anxiety disorders [5]. Almost a quarter of them require psychological support or psychotherapy [6]. The help provided by specialists at this stage should focus on the emotional support of the patients and their family [3]. In addition, attention is paid to whether specialists can properly communicate with patients. It is crucial to properly inform the patient about the process of diagnosis, the diagnosis itself and about the available forms of treatment. The physician should present a patient-oriented approach, in which decisions concerning the health of the patients are made together with them [7]. In addition, doctor-patient communication should consider emotions that may accompany both sides. Providing all information in an accurate and empathic manner can have positive effects in the subsequent treatment process and affect the way image of the disease is shaped in the patient.

Another important period for patients with laryngeal cancer are the first weeks after laryngectomy. The removal of the larynx affects many basic functions, such as eating, speaking or even breathing, which can have a significant impact on the quality of life. The discrepancy between what the patient expected and what they imagined their functioning would be like, and what it looks like in reality, significantly reduces the patients' quality of life [8]. These patients have the highest level of depressive symptoms on the 7th day after laryngectomy [4]. At the same time, most of them also show significant improvement on the day they are released from hospital. In studies that were conducted among 183 people with laryngeal cancer, 23% of them suffer from mental health disorders [9]. These are most often alcoholism – 8%, major depressive episode – 7% and dysthymic disorders – 5%. Among these patients, the highest levels of anxiety and depression are observed in alcohol addicts [4].

The surgery is only one of the stages of treatment. After leaving the hospital, patients continue treatment and begin rehabilitation, including voice restoration. Social support is very important at this stage. Among the respondents in France, 42% felt depressed and 30% felt lonely [10]. In addition, 30% of people were shown to be ashamed of their voice and 32% of their appearance in general. All this, as well as other ailments that these patients suffer from, affect their psychosocial functioning. Three out of four patients after laryngectomy believe that their lives have changed significantly because of the surgery [11]. This is one of the reasons why the significance of support received by these people, among others in the form of information, is emphasised. It has a positive impact on the process of voice rehabilitation – including learning non-laryngeal speech [12]. Patients who experience more support begin to use substitute speech faster and better. It is associated, among others, with a decrease in the sense of tension and stress in these patients. Reducing tension causes muscle relaxation, facilitates their work and increases control over them, which is crucial when learning substitute speech.

The rehabilitation process mentioned above has a huge impact on the patients' return to normal functioning. 15%-70% of people return to work after laryngectomy. Patients returning to professional activity are characterised by the highest level of disease acceptance and the lowest level of stress. This large discrepancy in the percentage of patients returning to work is associated with the type of speech they have developed and which they use after laryngectomy. In the case of people with a voice prosthesis, who speak fistula speech, 70% of people return to work, and among those who speak esophageal speech, only 31% continue their work [13].

Most studies conducted among laryngectomised patients concern their quality of life. In this group of patients, it is often associated with speech, activity, appearance, the sense of taste and smell [14]. A factor that directly causes the reduction of quality of life is the limited ability to communicate with other people or the complete absence of such an ability [15]. In turn, belonging to support groups is important for giving a higher rating to one's quality of life. Laryngectomy affects the perception of oneself and even the sense of one's identity, which is altered by changes in appearance and disability [16]. In addition, self-perception is affected

by the reactions of others to the sight of the respondents, as well as by a sense of support.

Mental health is a process of balancing resources and burdens [17]. It depends on one's needs and the requirements imposed by the society. More and more often, it is recognised not only in the context of disorders or diseases (negative approach), but also as subjective well-being (positive approach) [18]. These anxiety or depression disorders are diagnosed in accordance with current classification systems: ICD-11, DSM-V. An example of a positive approach to mental health is the concept of Martin Seligman (2011), in which he describes mental well-being as authentic happiness, consisting in achieving engagement, a sense of meaning, feeling positive emotions and creating positive relationships. To achieve full well-being, life satisfaction should be achieved in five areas, which are: positive emotions, engagement, relationships, achievements and a sense of meaning in life [19].

The symptoms and difficulties described above that persons after laryngectomy must face may affect their mental health. Therefore, it is important to monitor the mental health of the sick on the one hand, and factors that can shape and maintain it on the other.

METHOD

The aim of the pilot study is to assess mental health in the negative approach, i.e. the level of depression and anxiety, and in the positive approach – understood as well-being, and to examine the expectations of therapeutic education, which is a source of information for people after laryngectomy, as well as to study possible relationships between variables. In the light of earlier theories, the following research questions were asked:

1. What is the level of anxiety and depression in people after laryngectomy?
2. What is the well-being of people after laryngectomy?
3. What is the relationship between mental health and sociodemographic variables (including gender, age, education) and clinical variables (including, for example, duration of the disease) in the subjects?
4. What are the expectations of therapeutic education in people who have undergone laryngectomy?
5. What is the relationship between the expectations of therapeutic education in the studied persons and sociodemographic and clinical variables?
6. What is the relationship between mental health and the expectations of therapeutic education in people after laryngectomy?

61 adults who had undergone total laryngectomy – which was a prerequisite for participation in the research – were studied. The study was prepared in two versions – "paper-pencil" and online. The paper version was filled out by members of the Warsaw and Zabrze Branch of the Polish Association of Persons After Laryngectomy, as well as patients attending speech therapy classes held at the Central Teaching Hospital of the Medical University of Warsaw. Participation in the survey was anonymous and voluntary, and each person consented to participating in it before completing the questionnaire. The study was approved by the ethical committee.

Data concerning 61 subjects were used to describe the characteristics of the group, but only the results of 59 people were used for further statistical analysis due to missing responses. Most of the study group were men (78%); one of the respondents did not reveal their gender. The average age of respondents was 67 years (SD = 6.9). Detailed sociodemographic data are presented in Table 1.

Table 1. Sociodemographic characteristics of the study group

Variable		N	%
Gender (N = 58)	Women	13	22.4
	Men	45	77.6
Place of residence (N = 59)	The countryside	9	15.3
	Town with a population of under 50,000	7	11.9
	Town with a population of 50-100,000	11	18.6
	City with a population of 100-250,000	11	18.6
	City with a population of over 200,000	21	35.6
Education: (N = 59)	Primary	6	10.2
	Vocational	24	40.7
	Secondary	21	35.6
	Higher	8	13.6
Professional status (N = 59)	works full-time	3	5.1%
	works occasionally	2	3.4%
	operates own business	2	3.4%
	Pensioner	15	25.4%
	Retired	43	72.9%

N – number of respondents; % – percentage of respondents

The shortest duration of the disease from the time of laryngectomy in the respondents is 10 months, and the longest – 26 years. The average duration of the disease is 6.8 years. Detailed clinical variables considered in the study are presented in Table 2.

Table 2. Characteristics of the study group in terms of selected clinical variables

Variable		N	%
Type of substitute speech (N = 59)	Whisper	12	20.7
	esophageal speech	33	56.9
	fistula speech – PROVOX	11	19.0
	Laryngectophone	7	12.1
	Writing	5	8.6
The type of specialist help they benefit from (N = 61)	otolaryngologist / phoniatrist	34	61.8
	Speech and language therapist	43	78.2
	Psychologist	2	3.6
	Physiatrist	14	25.5
	Other	2	3.6
Affiliation with a support group (N = 56)	Yes	27	49.2
	No	29	50.8
Presently benefiting from psychological help	Yes	2	3.4
(N = 61)	No	59	96.4
Presently benefiting from psychiatric help (N = 61)	Yes	2	3.4
	No	59	96.4
Willingness to benefit from help if given the opportunity (N = 59)	Yes	8	13.6
	No	51	86.4

N – number of respondents; % – percentage of respondents

The respondents were also asked about specialists whose help they thought they needed. The obtained data are presented in Figure 1.

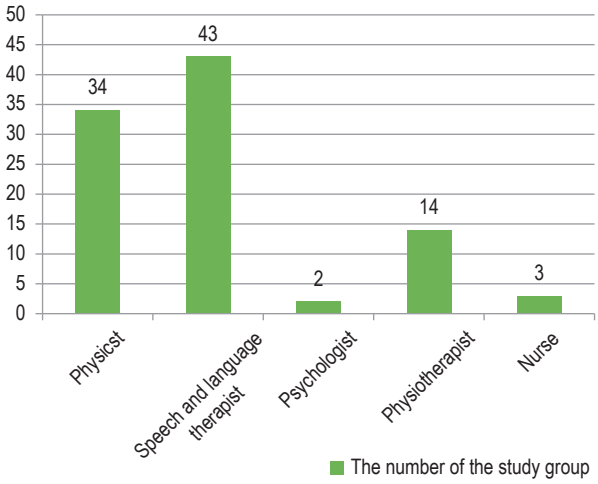

Figure 1. Division of respondents according to specialists whose help they claim they need (N = 56)

The most frequently mentioned difficulties that the studied patients struggle with include the limited sense of smell, problems with talking on the phone and communication in public places. All problems and the frequency of their occurrence are shown in Figure 2.

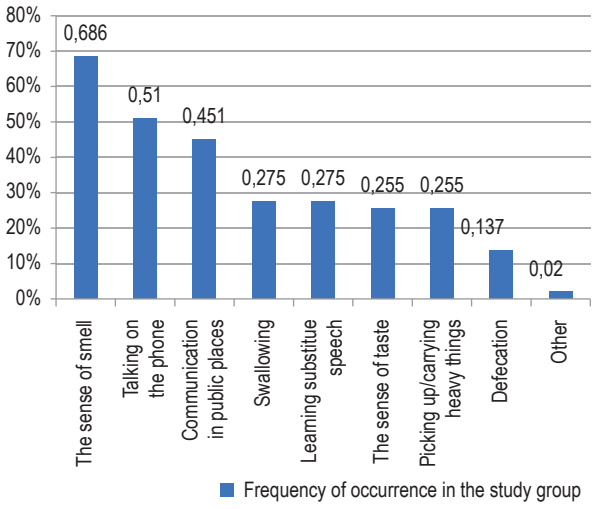

Figure 2. Frequency of the occurrence of difficulties in the study group (N = 59)

The areas of life in which the functioning of the respondents most often deteriorated because of the disease were work, social life, appearance and a sense of attractiveness (Figure 3).

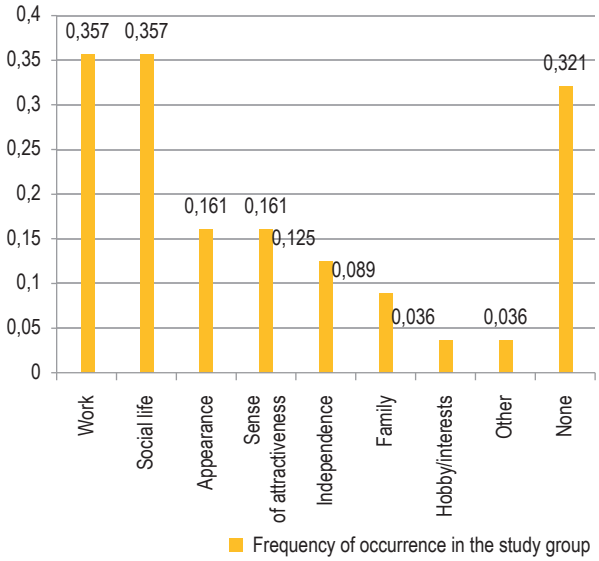

Figure 3. Division of respondents according to the areas of life in which the disease impaired their functioning (N = 59)

RESEARCH TOOLS

To assess mental health, the HADS-M skale (negative approach) and the PERMA-Profiler Questionnaire (PL) (positive approach) were used. To assess therapeutic expectations, the OE-15 Therapeutic Education Expectations Scale was used. Selected sociodemographic and clinical variables were collected using the authors' own survey developed for the purposes of this study.

The Hospital Anxiety and Depression Scale (HADS-M) is a tool addressed to both inpatients and outpatients [20,21]. It examines anxiety and depression recognised as a condition, as well as aggression [22]. The Polish version of this tool was developed by Majkowicz, Walden-Gałuszko and Chojnacka-Szawłowska. The scale contains 16 statements to which one should respond by choosing one of four answers. The results obtained are evaluated separately for each of the subscales and for all subscales in total. The cut-off point for the anxiety and depression scale is 7, above which the disorder is found.

PERMA-Profiler Questionnaire (PL) is a research tool that is used to examine well-being. It was created by Butler, Kern and Seligman based on the theory of five pillars of well-being:

P – positive emotions, E – engagement, R – relationships, M – meaning, A – accomplishment. The Polish adaptation of this tool was developed by Kossakowska together with the above-mentioned authors. Questions concerning the five pillars above were supplemented with questions about health, negative emotions, loneliness and general happiness. Based on previous research, it was found that these issues are significant for the level of well-being and can give a broader picture of the subject's functioning. Together, 23 questions were obtained which the respondent answers using an 11-point scale [23].

The OE-15 Therapeutic Education Expectations Scale examines expectations of therapeutic education among patients treated at hospital or at home [24]. The tool consists of 15 statements divided into three categories, such as expectations regarding information about the specificity of the disease and its treatment, links between the disease and spheres of life, as well as prevention related to this disease. One should respond to each statement by choosing one of the following four possible answers: no, rather not, rather yes, yes.

Before completing the tools referred to above, each patient was asked to answer the questions contained in the survey, regarding sociodemographic and clinical variables. All questions were developed by the authors and based on the literature on the subject.

RESULTS

Statistical analysis was performed using SPSS Statistics version 25. First, the normality of the distribution of the examined variables was determined. The normality analysis with Kolmogorov-Smirnov (K–S) test showed that the distributions of all discussed variables deviate from normal distributions. The Mann-Whitney U test was used to compare differences, and the rho-Spearman test was used to test the existence of relationships.

Mental health of respondents after laryngectomy and its selected sociodemographic and clinical correlates

Analysis of the data obtained in the HADS-M Scale indicates medium and low levels of anxiety and depression. No significant differences were observed between men and women in terms of perceived anxiety, depression and aggression, or in terms of well-being, both in the overall result of the test and on individual scales. In the PERMA-Profiler Questionnaire (PL), both genders received the highest scores in the meaning subscale, and the lowest – in the loneliness subscale. Detailed data are presented in Table 3.

Table 3. Comparison between men's and women's results of HADS-M and PERMA-Profiler scales

		Women (N = 13)		*Men (N = 44)*			
	Variable	***M***	***SD***	***M***	***SD***	***U***	***p***
HADS-M	Anxiety	6.38	3.01	4.83	3.10	191.0	0.152
	Depression	4.92	3.09	3.63	3.47	190.0	0.144
	Aggression	2.77	1.54	2.78	1.64	254.5	0.908
	General well-being	7.26	1.89	7.44	1.43	274.0	0.819
The PERMA-Profiler questionnaire	Positive emotions	6.92	2.14	7.38	1.71	251.5	0.510
	Engagement	6.82	2.07	6.78	1.70	264.0	0.763
	Relationships	7.87	1.73	7.78	1.91	277.0	0.961
	Meaning	7.54	2.53	7.65	1.74	272.5	0.797
	Achievements	7.10	2.24	7.50	1.40	272.5	0.797
	Negative emotions	4.54	2.39	3.73	1.86	220.5	0.212
	Health	6.69	2.27	7.11	1.68	258.5	0.600
	Loneliness	3.38	2.90	2.70	2.69	241.0	0.384

Note: M – mean; SD – standard deviation; Min – the lowest result; Max – the highest result; U – Mann-Whitney U test; p – statistical significance.

Spearman's rho correlation analysis showed no relationship between age and level of anxiety, depression and aggression. However, there is a negative correlation between age and the results of the PERMA-Profiler engagement scale. This means that the older a person is, the lower their level of engagement. This relationship is negative, low, significant at the level of statistical tendency (rho = – 0.240; p = 0.072). In addition, a negative relationship between age and the results of the PERMA-Profiler achievement scale was noted. This correlation is negative, low, significant at the level of statistical tendency (rho = – 0.254; p = 0.054). The detailed results of the above analysis are presented in Table 4.

Table 4. Correlations between age and anxiety, depression, aggression and well-being

			Age
HADS-M	Anxiety	*Rho*	-0.131
		P	0.346
	Depression	*Rho*	-0.002
		P	0.991
	Aggression	*Rho*	-0.182
		P	0.188
The PERMA-Profiler questionnaire	General well-being	*rho* *p*	-0.147 0.272
	Positive emotions	*rho* *p*	-0.008 0.950
	Engagement	*rho* *p*	**-0.240** **0.072**
	Relationships	*rho* *p*	-0.073 0.592
	Meaning	*rho* *p*	-0.205 0.122
	Achievements	*rho* *p*	**-0.254** **0.054**
	Negative emotions	*rho* *p*	-0.027 0.842
	Health	*rho* *p*	-0.081 0.546
	Loneliness	*rho* *p*	0.125 0.348

Note: rho – Spearman's correlation coefficient; p – statistical significance.

Correlation analysis did not show any relationship between the duration of the disease and the level of well-being or the level of anxiety, depression and aggression (Tab. 5).

Table 5. Results of the Spearman's rho analysis of the correlation between the duration of the disease and well-being / mental health (N = 57)

			Length of time since laryngectomy (in months)
HADS-M	Anxiety	*rho*	0.206
		p	0.136
	Depression	*rho*	-0.176
		p	0.203
	Aggression	*rho*	0.138
		p	0.321
The PERMA-Profiler questionnaire	General well-being	*rho*	-0.147
		p	0.272
	Positive emotions	*rho*	0.050
		p	0.710
	Engagement	*rho*	0.077
		p	0.574
	Relationships	*rho*	-0.047
		p	0.732
	Meaning	*rho*	0.100
		p	0.459
	Achievements	*rho*	-0.023
		p	0.868
	Negative emotions	*rho*	0.160
		p	0.234
	Health	*rho*	-0.054
		p	0.688
	Loneliness	*rho*	0.069
		p	0.610

Note: Rho – Spearman's correlation coefficient; p – statistical significance.

Analysis of the results of expectations of therapeutic education and of the relationship between sociodemographic and clinical variables and expectations of therapeutic education

Women have significantly higher expectations of therapeutic education than men (M = 28.46 and M = 20.76, respectively). Women received significantly higher scores than men on the information about the disease and treatment scale. Table 6 presents a comparison of the results of all three subscales.

Table 6. Comparison of the results on the scales of expectations of therapeutic education broken down by gender (N = 57)

	Women (N = 13)		Men (N = 44)		*U*	*p*
	M	***SD***	***M***	***SD***		
expectations of therapeutic education	**28.46**	**14.56**	**20.76**	**14.63**	**183.5**	**0.093**
information about the disease and treatment	**9.92**	**5.62**	**6.83**	**4.87**	**176.5**	**0.067**
explanation of the impact of the disease on spheres of life	8.08	4.63	5.95	5.23	202.0	0.157
information on disease-related prevention	10.46	4.79	7.93	5.38	198.0	0.135

Note: M – mean; SD – standard deviation; Min – the lowest result; Max – the highest result; p – statistical significance. U – the Mann-Whitney U test

There was a negative correlation between age and expectations of therapeutic education. This means that the younger the respondents, the higher their expectations of therapeutic education (rho = – 0.389; $p < 0.05$). Detailed data concerning sociodemographic variables are presented in Table 7.

Table 7. Results of analyses of the relationship between age and expectations of therapeutic education (N = 59).

		Age
expectations of therapeutic education	*rho*	**-0.389***
information about the disease and treatment	*rho*	**-0.370***
explanation of the impact of the disease on spheres of life	*rho*	**-0.348***
information on disease-related prevention	*rho*	**-0.280***

*Note: Rho – Spearman's correlation coefficient; * p < 0.05.*

No differences were observed in the level of expectations of therapeutic education in people from different educational backgrounds. Detailed results are presented in Table 8.

Table 8. Comparison of the results on the scales of expectations of therapeutic education broken down by education level (N = 57)

	Education:	N	M	SD	t	df	p
expectations of therapeutic education	vocational or lower	27	20.67	15.86	-0.961	52	0.341
	secondary or higher	27	24.56	13.80			
information about the disease and treatment	vocational or lower	27	6.85	5.52	-1.134	53	0.262
	secondary or higher	28	8.43	4.77			
explanation of the impact of the disease on spheres of life	vocational or lower	27	5.89	5.52	-0.910	54	0.367
	secondary or higher	29	7.14	4.74			
information on disease-related prevention	vocational or lower	27	7.93	5.50	-0.821	53	0.415
	secondary or higher	28	9.11	5.16			

Note: N – group size; M – mean; SD – standard deviation; t – student's t-test; df – degree of freedom; p – statistical significance.

Analysis of the relationship between mental health and expectations of therapeutic education

The analysis showed that the higher the level of anxiety the respondents present, the higher their expectations regarding prevention related to the disease are. In addition, a higher level of negative emotions is associated with higher expectations of therapeutic education in general, as well as in terms of individual components of therapeutic education. The results are presented in Table 9.

Table 9. Results of analyses of the relationship between expectations of therapeutic education and mental health (N = 57).

			Expectations of therapeutic education	Information about the disease and treatment	Explanation of the impact of the disease on spheres of life	Information on disease-related prevention
HADS-M	Anxiety	*rho*	0.264	0.213	0.259	**0.292****
	Depression	*rho*	0.060	0.105	0.033	0.062
	Aggression	*rho*	0.189	0.228	0.125	0.204
The PERMA-Profiler questionnaire	General well-being	*rho*	0.058	0.039	0.049	0.024
	Positive emotions	*rho*	-0.024	-0.026	-0.055	-0.049
	Engagement	*rho*	0.168	0.161	0.194	0.113
	Relationships	*rho*	-0.009	0.024	-0.003	-0.062
	Meaning	*rho*	0.093	0.068	0.092	0.068
	Achievements	*rho*	0.018	-0.021	-0.004	0.053
	Negative emotions	*rho*	**0.245***	**0.226***	**0.255***	**0.264***
	Health	*rho*	-0.041	-0.119	-0.030	0.007
	Loneliness	*rho*	0.034	-0.004	-0.003	0.097

*Note: Rho – Spearman's correlation coefficient; * – significance at the level of statistical tendency; ** – $p < 0.05$.*

CONCLUSIONS

The aim of the study was to assess mental health and expectations of therapeutic education, and to verify the existence of possible relationships between them in people after laryngectomy.

The studied patients obtained low results in all HADS-M subscales, which may indicate a probable absence of anxiety and depression disorders. Qualitative analysis of the results also indicates that the score which attests to the presence of disorders (higher than 7 points) on the anxiety scale was obtained by 15 respondents, which is 26% of the study group, and on the depression scale, 12% persons obtained over 7 points [25]. These data are not consistent with reports from the literature. In studies to date, moderate depressive disorders are diagnosed among 20% – 54% of patients with oncological diseases [26, 27]. Anxiety disorders are observed in 10% of respondents [27]. In the healthy population, the diagnosis of depression concerns 17% of respondents [28]. Surprisingly positive results regarding mental health among the examined patients may be related to the duration of their illness. A large proportion of patients are already in remission or have completely recovered, which may be the reason for the low level of anxiety. Furthermore, over half of the respondents belong to a support group or groups. Therefore, they are under constant care of many specialists, such as a physician, speech therapist or psychologist. Furthermore, they are in an environment of people who, like them, have had a laryngectomy and who have similar problems. People who have been ill for a longer time support people who have just had the surgery. Therefore, the available support may have an

educational and emotional character, and according to the literature, it is one of the factors that reduce anxiety and stress and raise the level of the experienced well-being [29].

Most studies prove that with age, the percentage of people suffering from depression increases; for example, in the 55-59 age range it is 20%, and in the 80-100 age range – 33% [30, 31]. It can additionally be presumed that this inconsistency may be related to the fact that the age of the persons in the study group only represents the stages of early and middle adulthood from the point of view of developmental psychology. Lack of reference to other developmental stages does not allow to state unequivocally that this is a specific feature of this group. In addition, it is specific for these respondents that most of them are beneficiaries of support groups. It is known that one of the factors that prevent depression is the support and accessibility of social networks. Moreover, the existence of social support plays an important role in the process of treatment and prevention of the disease and may condition the results obtained in this case.

The results of the above study showed no statistically significant differences between women and men, which is not consistent with the conclusions found in the literature. According to scientific reports, depression occurs twice more often in women than in men [32]. Also, in the case of people in late adulthood, women have higher rates of depression than men [33]. It is possible that the results obtained are affected by disproportionate selection of the group, which will be described below as one of the limitations of the study.

Statistics show that men have a higher level of well-being than women [34]. When considering the correlates of the results achieved, arguments regarding unequal numbers of female and male respondents should be considered.

In the reported study, some dimensions of mental health in the positive approach, namely engagement and achievement, negatively correlate with age. This means that the level of engagement and achievement in the studied patients decreases with age. This is in line with literature reports according to which the level of activity and fitness, among others, may decrease with age. In addition, the sense of agency and control may decrease [35, 36]. Therefore, it is very important to promote active living among the elderly, as it gives them a sense of development, success and integrates them with the environment. It is worth remembering that accepting the ageing process and a positive life balance can lead to personal growth and better well-being. An important observation was also made in the qualitative analysis of the results obtained. Younger people, first, more often mention activities in which their functioning has worsened because of the disease and which they miss, and secondly, these activities can be described as more time – and energy-consuming, among others. Examples of such activities include swimming, gardening and travelling. On the other hand, it should be remembered that although the patients in the study group do not work professionally, many of them are involved in the activities of the association of persons after laryngectomy to which they belong. The organisation of meetings and rehabilitation stays, as well as participation in many other projects takes up a significant part of their time and can be treated as one of the ways to promote active living among them.

In the studies to date, many authors have emphasised the relationship between the duration of the disease and the perceived level of negative and positive emotions [37]. The quality of life decreases with the duration of the disease [15]. Interestingly, some chronically ill people experience a greater sense of meaning in life and more intense experience of positive emotions the longer they have been affected by the disease [38]. The highest quality of life and the best acceptance of the disease are characteristic for men aged 60-69 who belong to the club for persons after laryngectomy [39]. Perhaps, in the case of the study group, the lack of differences results from the fact that the respondents are characterised by a high level of well-being in comparison to other studied groups, and an exceptionally low – for this age group – level of anxiety and depression. In addition, it is worth remembering that in the case of laryngectomised patients, the highest level of depression is recorded while they are still in hospital. With the passage of time, as well as with the progress in learning a new method of speech, the quality of life and acceptance of the disease can increase. As it can be seen, research on this topic is not consistent and probably requires further analysis.

It has been observed that women's expectations are higher mainly in terms of information on medical examinations and treatment. These data are consistent with the research to date. Moreover, it is concluded that women's expectations are not only stronger but generally differ from men's expectations [40]. Almost half of oncological patients have expectations regarding the possibility of talking to a doctor freely and trusting them [41]. However, comparing the results of the study group (M = 22.61) with the results of patients examined by the authors of the Therapeutic Education Expectations Scale (M = 40.55), it can be stated that these results are much lower. Similarly low therapeutic expectations were observed in another group of patients suffering from head and neck cancers [40]. It is often emphasised in the literature that this is a specific type of cancer that significantly impedes communication, which may be associated with withdrawal and frequent resignation in these patients. In addition, it should also be remembered that laryngeal cancer is still mainly discussed in the context of men. Most information campaigns on this topic are targeted at them. Therefore, women may have less access to information, which in turn may be the reason for the higher level of expectations of therapeutic education among them than in men. The examined patients do not differ in the level of expectations of therapeutic education depending on their educational background, which is not consistent with previous reports. In Poland, patients suffering from laryngeal cancer with higher education showed significantly higher expectations of therapeutic education than patients with a different type of education [39]. This tendency is generally observed in cancer patients, especially in the late stages of the disease [41]. In addition, people with higher education are characterised by better acceptance of the disease [39].

As the level of anxiety increases, the need for knowledge about the disease also increases. In the questionnaire concerning well-being, data analysis indicates a positive correlation, namely the relationship between expectations of therapeutic education and negative emotions. Knowledge increases a sense of control and influence, which can reduce anxiety. It is therefore one of the arguments for educating patients. In addition to the fact that knowledge can prevent the occurrence or recurrence of the disease, it also appears to have a positive effect on well-being. Perhaps this is one of the directions of research that is worth following in the future.

CONCLUSIONS

People who have undergone laryngectomy may show good mental health. Therefore, when working with these patients, it is worth focusing on their resources, as well as on the perceived level of well-being. In addition, their expectations should be considered and support should be provided. Educating patients about their disease, its treatment and prevention can reduce anxiety levels and have a positive influence on the image of the disease. All this is aimed at improving the quality of life and achieving full well-being. It should be remembered that the process of education should involve not only the patient, but also their family. In addition, the patient's gender, age and education should also be considered in the treatment process. This can help to prepare patients for the treatment process and to meet their expectations. Most of all, however, it should be remembered that education reduces their level of anxiety, and thus protects mental health.

LIMITATIONS OF THE STUDY

One of the main factors limiting the study is the difficulty in selecting study participants. Despite preparing two versions of this study ("paper-pencil" and online), this group ultimately has 61 people, which is not a large number. It was a pilot study. In addition, due to the specificity of laryngeal cancer, the equinumerous of groups broken down by gender is an additional challenge. Moreover, there are relatively few persons who have undergone this surgery, therefore some of them are quite often asked to take part in various types of studies. This sometimes causes reluctance towards and resignation in completing surveys. What would increase analytical capabilities, and, as a result, the value of the study, would be enlarging the study group, as well as including an equal number of women and men. To further increase the diversity of

the group, people with shorter duration of the disease should be included – for example, those who are still in hospital. For comparative purposes, a control group could also be selected that would include people with a different type of cancer or healthy people.

As it has already been mentioned, the fact that the respondents belong to support groups could have significantly affected the results obtained. Respondents are patients who are very knowledgeable about their disease. Some of them are people who educate other laryngectomised patients that are still in hospital because of laryngeal cancer. What is more, some patients take an active part in classes for speech-language pathology students who are learning to conduct replacement speech therapy. Therefore, it can be presumed that these people have extensive knowledge about their disease and the process of its treatment, which may affect the result. What should be done in the future is to compare the results of these respondents with the results of people who do not belong to any support groups. These results would be an added value. Hypothetically if patients who belong to support groups are characterised by a more positive state of mental health, this may be one of the arguments for creating more such groups.

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