Original paper

Opinions on futile therapy on the basis of a survey conducted among the Polish young generation

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Abstract

Introduction: Maintaining the functions of organs that do not bring any benefits to the patient and do not make it possible to achieve the assumed therapeutic goals is called futile therapy. The debate on limiting futile therapy in the aspect of end-of-life care has been ongoing in Poland over the last decade.
Aim of the research: This is the first study in Poland regarding Generation Z. It should be assumed that the opinion of the youngest adult expressed in the study may change with the passing of years and life experience. However, the views of these young people can also influence health policy in the coming decades.
Material and methods: The study involved an anonymous electronic survey conducted among young Polish university students. The questionnaire was validated in a group of 20 randomly selected students, who were surveyed twice a week with the same tool.
Results and conclusions: A total of 161 students participated in the study. The responses showed that the students felt that the decision to discontinue therapy in adult patients should first be made by patients themselves (83.2%), followed by patients' therapeutic teams (72.6%), patients' families (47.2%), and according to court decisions (14.9%). Students from medical universities and other faculties demonstrated good knowledge of issues related to the concept of futile therapy, which is a good predictor of the future in terms of the level of public awareness. A positive finding is that the students were aware of the existence of various solutions regarding the possibility of a patient expressing their autonomous decision at every stage of the therapeutic procedure.

Introduction

Maintaining the functions of organs that do not bring any benefits to the patient and do not make it possible to achieve the assumed therapeutic goals is called futile therapy (FT). FT prolongs the dying process and is related to the suffering of patients and their families, and the violation of human dignity [1]. Although futile therapy does not refer only to therapeutic procedures for older people, the term is associated mainly with this population, especially in Poland. The debate on the use/limitation of FT in Poland is taking place behind the scenes. Apart from the above-mentioned guidelines and recommendations of scientific societies, we still do not know the real independent opinions of medical doctors, nurses, and society on this subject. Although Polish law allows the discontinuation of therapy, the matter is still not regulated. The authors of the study have conducted studies among nurses [2] and doctors [3] on the use of futile therapy. In this article, we discuss the third part of the project: a survey conducted among students from selected public universities (as representatives of the society) to learn about the personal opinions of the respondents on the discussed topic.

Aim of the research

The aim of the research was to find out whether the respondents know the concept of futile therapy, whether they trust the medical community in this aspect, and who should make decisions about the end of therapy and the end of life in general. We believe that the obtained results of the three studies (conducted among doctors, nurses, and students) help explain the perception of the mentioned problem, recognise

Table 1. Characteristics of the study group

Parameter	*N* (%)
Female	101 (62.7%)
Male	60 (37.3%)
Medical sciences and health sciences	53 (33%)
Humanities	35 (21.7%)
Theological studies	26 (16.1%)
Social sciences	21 (13%)
Engineering and technical sciences	12 (7.5%)
Exact and natural sciences	9 (5.6%)
Artistic field	3 (1.9%)
Other	2 (1.2%)
Silesian voivodeship	119 (73.9%)
Lesser Poland	19 (11.8%)
Podkarpackie	14 (8.7%)
Other	9 (5.6%)

its determinants as well as indicate possible solutions, and determine further procedures to improve the clinical and social situation. To the best of our knowledge, this is the first study in Poland regarding Generation Z, i.e. those born after 1995. It should be assumed that the opinion of the youngest adult Poles expressed in the study may change with the passing of years and life experience. However, the views of these young people can also influence health policy in the coming decades.

Material and methods

During the period from March to June 2023, a cross-sectional study was conducted via an original survey questionnaire. The Polish-language questionnaire consisted of 2 parts with a total of 15 questions. The first part, consisting of 10 questions, concerned the main topic, i.e. learning about the respondents' opinions on various aspects of futile therapy (including knowledge of the issue, who should make decisions regarding the end of therapy, and the respondents' opinions on end-of-life procedures concerning themselves). Close-ended questions (single- and multiple-choice) were used. Approximately 500 students from public universities, mainly from the Silesian agglomeration, the majoring in leading fields of study, including medicine, humanities, natural sciences, and arts, were invited to participate in the study. These students constituted approximately 5% of the population of people studying in these areas at the selected universities. The questionnaire was validated in a group of 20 randomly selected students, who were surveyed twice a week with the same tool. The questionnaire was validated in a group of 20 randomly selected students, who completed the survey twice, 1 week apart. The percentage agreement of the answers between the test and retest was assessed, and Cohen's kappa was calculated for the key questions. The obtained results indicated good or very good repeatability of the questions. The survey was conducted electronically via a dedicated Computer-Assisted Web Interview (CAWI) survey technique prepared by the Department of Informatics at the Medical University of Silesia. Participation was fully voluntary and anonymous; study participants did not incur additional costs or receive any compensation. All methods were carried out in accordance with the relevant guidelines and regulations.

Statistical analysis

The statistical analysis consisted of two main parts: descriptive and inferential analysis. Quantitative variables (those that were not normally distributed) are summarised as medians and interquartile ranges (IQRs), and qualitative variables are presented as numbers and percentages. Inferential statistics were used to test the hypotheses and compare the differences between groups. Since the variables were not normally distributed, nonparametric tests, such as the χ^2, Mann–Whitney *U*, and Kruskal–Wallis tests, were used. The level of significance was set at 0.05. The calculations were performed via R 4.1.0 software.

Results

Characteristics of the study population

Of the 500 students invited to participate, 161 took part in the study (the participation rate was 32%). The median age was 23 years (interquartile range of 21 to 25 years), and the majority of the respondents were women (101 respondents, 62.7%). Most of the surveys, i.e. 119 (less than 74%), were obtained from students from universities in the Silesian Voivodeship, followed by the Lesser Poland Voivodeship and the Podkarpackie Voivodeship, and single surveys from other voivodeships. The detailed data are presented in Table 1.

Division of the study group according to major and gender

The vast majority of the surveys were completed by medical (53), humanities (35), theology (26), and technical and engineering (12) students, and single surveys were completed by students with other majors (Table 1). For the analysis, the study group was divided into medical and health sciences students (53) and others (108). Additionally, the analysis was performed according to the gender of the respondents.

Knowledge of the concept of futile therapy

Compared with the answers given by the students of other majors (64.8% answered affirmatively to the question of whether they were familiar with the concept of futile therapy), as many as 92.4% of the medical and health science students were familiar with the concept of futile therapy ($p < 0.001$). The respondents differed in their answers to the question of whether the use of futile therapy was a mistake (43.4% vs. 34.2%, $p = 0.05$). 91.3% of all respondents indicated the correct definition of futile therapy (Table 2).

Decision-making

According to the respondents, the decision to discontinue therapy in adult patients should first be made by patients themselves (83.2%), followed by patients' therapeutic teams (72.6%), patients' families (47.2%), and according to court decisions (14.9%). In the case of children, as many as 80.1% of the respondents indicated that patients' families and doctors should make a joint decision. The answers to these questions did not depend on the respondent's major. As many as 115 (71.4%) respondents supported the idea of the testament of will (*pro-futuro* consent) and expressed opinions on clinical decisions made in the event of unconsciousness; at the same time, over 85% of the respondents wanted to be able to make their own decisions in such instances. The subject of major did not influence the presented opinion (Table 2).

Conflict situations

The most common reasons for patients' families not accepting the need to stop therapy were not accepting the fact of death (86.9%), belief in a miracle (55.6%), and a lack of trust in doctors (43.4%). When the respondents were asked what doctors should do in a conflict situation, the majority indicated that the therapy be discontinued and the patient placed under hospice care (47%), the therapy be continued despite being aware of its futility (27%), and the court be asked for an opinion (26%) (Table 2).

Differences in opinions depending on gender

Considering gender, women supported making their own decisions and the idea of a declaration of will ($p = 0.02$), and they believed that patients' families should influence the decision to discontinue therapy ($p = 0.01$), or in the case of a child, doctors should make the decision together with the child's parents ($p = 0.04$) (Table 3).

Discussion

As far as we know, this research is the first one concerning students' opinions on futile therapy. The debate on limiting futile therapy in the aspect of end of life (EoL) care has been ongoing in Poland for the last decade. The growing demand for EoL care resulting from the aging of societies corresponds to the expectation of a satisfactory quality of life and self-determination. Globalisation, migration, and European integration have a significant impact on society's changing approach to healthcare. The cultural aspect, value system, and personal experiences have a large impact on the approach to EoL care [4]. Attempts are being made to increase public awareness of incurable diseases and the limitations of modern medicine, as well as to understand the opinions of Poles on the issue of futile therapy [5]. Discussions about medical futility and the ethical and legal assessment of clinical procedures involve mainly intensivists [6, 7] but also other specialists [8, 9]. It also seems appropriate to know the opinion of the public, i.e. potential future patients and their family members. In the case of students from medical universities, knowledge of the issue can be attributed to classes in professional ethics, conducted as a compulsory separate subject in the first years of study. Almost every second respondent considered futile therapy to be medical malpractice. This result is similar to the opinions of nurses and doctors [2, 3]. The vast majority of our study group supported the idea of *pro-futuro* consent and wanted to make their own decisions about their clinical and therapeutic situation, especially at the end of life. Young people not only do not support persistent treatment but also do not accept a quality of life that does not meet their expectations. For this reason, it seems that almost half of our respondents supported the idea of withdrawing therapy even against the will of the family. Opponents of *pro-futuro* solutions point to the role of time and life experience in assessing quality of life. Modern 20-year-olds cannot imagine life without the opportunity to spend their time actively, but it is difficult to say whether they will have the same opinion regarding quality of life when they are, for example, 60 years old. Therefore, a *pro-futuro* statement should be an option that can be changed at any time. Our findings are in agreement with research by Gruber *et al.* [10], who surveyed medical students from different stages of education, as well as nonmedical students. Their results show that older (clinical) students support the patient's autonomy in his/her right to refuse medical care and potential life-preserving treatment. However, they paid attention more to a committee that should make the end-of-life decision rather than the doctor and patient alone. Younger (pre-clinical) students stressed palliative care, including terminal pain management. On the other hand, non-medical students felt that cardiopulmonary resuscitation should always be provided oppositely to older medical students knowing advanced status of non-reversible patient's illness. This difference may

Table 2. The students' opinions by major

Parameter	Non-medical	Medical and health sciences	Overall	*P*-value
	(*N* = 108)	(*N* = 53)	(*N* = 161)	
Age	22	23	23	
Median [q25–q75]	[21–25]	[22–24]	[21–25]	0.48
Discontinuing persistent therapy involves:				
Ceasing to perform medical procedures that are ineffective and only exacerbate the patient's suffering.	96 (88.89%)	51 (96.23%)	147 (91.30%)	0.60
Discontinuing therapy due to financial and organisational reasons within the hospital's operation.	3 (2.78%)	1 (1.89%)	4 (2.48%)	
Shortening of life at the request of the patient or their family.	9 (8.33%)	1 (1.89%)	10 (6.21%)	
Are you familiar with the concept of futile/persistent therapy?				
Yes	70 (64.81%)	49 (92.45%)	119 (73.91%)	< 0.001
No	38 (35.19%)	4 (7.55%)	42 (26.09%)	
Do you think using futile therapy is a mistake?				
Yes	37 (34.26%)	23 (43.40%)	60 (37.27%)	0.05
No opinion	34 (31.48%)	5 (9.43%)	39 (24.22%)	
No	37 (34.26%)	25 (47.17%)	62 (38.51%)	
The decision regarding the nonapplication or discontinuation of futile therapy in an adult should be made by:				
The Therapeutic team (the entire medical staff involved in the treatment)				
Yes	72 (66.67%)	45 (84.91%)	117 (72.67%)	0.05
No	36 (33.33%)	8 (15.09%)	44 (27.33%)	
The Patient				
Yes	88 (81.48%)	46 (86.79%)	134 (83.23%)	0.69
No	20 (18.52%)	7 (13.21%)	27 (16.77%)	
The Patient's Family				
Yes	50 (46.30%)	26 (49.06%)	76 (47.20%)	0.94
No	58 (53.70%)	27 (50.94%)	85 (52.80%)	
The Court				
Yes	13 (12.04%)	11 (20.75%)	24 (14.91%)	0.34
No	95 (87.96%)	42 (79.25%)	137 (85.09%)	
The decision regarding the nonapplication or discontinuation of futile therapy in a child should be made by:				
The Therapeutic team (the entire medical staff involved in the treatment)				
Yes	47 (43.52%)	28 (52.83%)	75 (46.58%)	0.53
No	61 (56.48%)	25 (47.17%)	86 (53.42%)	
The Child's family				
Yes	49 (45.37%)	26 (49.06%)	75 (46.58%)	0.90
No	59 (54.63%)	27 (50.94%)	86 (53.42%)	

Table 2. Cont.

Parameter	Non-medical	Medical and health sciences	Overall	*P*-value
	(*N* = 108)	(*N* = 53)	(*N* = 161)	
The Doctors in consultation with the family				
Yes	85 (78.70%)	44 (83.02%)	129 (80.12%)	0.81
No	23 (21.30%)	9 (16.98%)	32 (19.88%)	
The Court				
Yes	14 (12.96%)	14 (26.42%)	28 (17.39%)	0.10
No	94 (87.04%)	39 (73.58%)	133 (82.61%)	
If a patient is unconscious and is in an intensive care unit, they cannot express their opinion. In such a situation, do you agree with the concept that each of us could express our will regarding the discontinuation of futile/persistent therapy or prolonged resuscitation in a document known as a 'Living Will'?				
Yes, I strongly support such a solution and would like to avail myself of that option.	75 (69.44%)	40 (75.47%)	115 (71.43%)	0.92
I have no opinion on this matter.	18 (16.67%)	6 (11.32%)	24 (14.91%)	
I don't think it's a good idea.	15 (13.89%)	7 (13.21%)	22 (13.66%)	
If a family doesn't accept the futility of treatment, what do you think drives them?				
Lack of acceptance of the inevitability of death				
Yes	89 (82.41%)	51 (96.23%)	140 (86.96%)	0.05
No	19 (17.59%)	2 (3.77%)	21 (13.04%)	
Belief in a miracle				
Yes	62 (57.41%)	28 (52.83%)	90 (55.90%)	0.86
No	46 (42.59%)	25 (47.17%)	71 (44.10%)	
Lack of trust in doctors and medical staff				
Yes	41 (37.96%)	29 (54.72%)	70 (43.48%)	0.13
No	67 (62.04%)	24 (45.28%)	91 (56.52%)	
In a conflict situation where the family doesn't accept the decision to discontinue treatment, what do you think medical staff should do?				
Cease futile/persistent therapy according to medical criteria and provide hospice care for the patient.	44 (44.00%)	26 (54.17%)	70 (47.30%)	0.42
Refer the matter to court.	24 (24.00%)	14 (29.17%)	38 (25.68%)	
Continue the therapy despite being aware of its futility/ persistence.	32 (32.00%)	8 (16.67%)	40 (27.03%)	
Missing	8 (7.41%)	5 (9.43%)	13 (8.07%)	
The patient themselves, after providing a prior declaration				
Yes	91 (84.26%)	47 (88.68%)	138 (85.71%)	0.75
No	17 (15.74%)	6 (11.32%)	23 (14.29%)	
The patient's closest family members				
Yes	30 (27.78%)	16 (30.19%)	46 (28.57%)	0.95
No	78 (72.22%)	37 (69.81%)	115 (71.43%)	

Table 2. Cont.

Parameter	Non-medical	Medical and health sciences	Overall	*P*-value
	(*N* = 108)	(*N* = 53)	(*N* = 161)	
Medical council along with the patient's family				
Yes	57 (52.78%)	32 (60.38%)	89 (55.28%)	0.66
No	51 (47.22%)	21 (39.62%)	72 (44.72%)	
The Court				
Yes	10 (9.26%)	1 (1.89%)	11 (6.83%)	0.22
No	98 (90.74%)	52 (98.11%)	150 (93.17%)	

reflect exposure to a unique set of professional experiences during medical training.

The discussion on the limitations of therapy was initiated in Poland with the participation of experts in the fields of ethics, medicine, and law at "The limits of medical therapies" conference in 2008. The tangible result of this scientific meeting was the establishment of the Polish Working Group on End-of-Life Ethical Problems and the development of a definition of persistent therapy as "the use of medical procedures to maintain the vital functions of terminally ill patients, which prolongs the process of death, involving excessive suffering or violating patient dignity" [1]. Therefore, in the Polish definition, the use of futile therapy refers to the end-of-life period. While this definition fits the care and decision-making needs of older people, it may be insufficient for paediatric and young patients. In the Polish guidelines for limiting therapy in children, we consider the advisability of therapy in patients with a minimally preserved state of consciousness or severe developmental defects if they can be protected from excessive suffering that does not promise improvement in their clinical condition [7]. There is little talk about futile therapy in Polish society. This issue still arouses great emotions and is often misunderstood as euthanasia [11]. The definitions of the problems discussed are always expressed on the basis of patient-centred care, but the benefit for patients may be perceived differently. Futility, defined by some as "the use of considerable resources without a reasonable hope that the patient will recover to a state of relative independence or interact with their environment" [12], emphasises quality of life, which involves an individual assessment – depending on the worldview and value system of each person. Expectations and requirements for a satisfying life may also vary. It is difficult to assess whether a given quality of life, at a specific stage of an incurable disease, is satisfactory for a specific person. What does it mean to live in contact with the environment? Does it mean full mental and physical strength or, above all, maintaining intellectual fitness?

When is it appropriate to limit or withdraw potentially nonbeneficial treatment? How should decisions be made? Who should make these decisions? [12]. These are questions that medical staff ask, realising the limitations of medicine and the existence of incurable diseases, despite enormous medical advances. At times, patients and their relatives are convinced that not everything has been done properly ("If X had been done, the patient would not have died"). They accuse medical professionals of malpractice, with many of the claims being a result of failure to meet expectations and disruption of faith in the power of medicine [13]. It seems that our respondents quite clearly assessed futile therapy as undesirable; however, this is a theoretical opinion that may change if a real problem concerns their family or someone close to them. In particular, the cessation of intensive procedures for palliative therapy in children arouses great emotions and family discord. In our study, mainly women were highly sensitive to the death of a child. The death of a child is always shocking and devastating [14]. In many cases, parents are unable to come to terms with the death of their child, and some of them unknowingly cause suffering for the dying child by exerting various pressures on the medical team, with the parents being convinced that they are doing it for the child's sake [15, 16].

One limitation of our study is the fact that the opinions were probably expressed without emotional involvement – young people most likely have no experience with death, and, to them, death seems to be a distant phenomenon.

Second, the size of the study group was small, which also shows that young people are reluctant to become involved in a topic that does not seem to concern them at that moment.

Conclusions

The students studying medicine and other majors who took part in the study demonstrated good knowledge of issues related to the concept of futile therapy, which is a good predictor of the future in terms of the level of public awareness. A positive find-

Table 3. The students' opinions by gender

Variable	Female (*N* = 101)	Male (*N* = 60)	Overall (*N* = 161)	*P*-value
Discontinuing persistent therapy involves				0.91
Ceasing to perform medical procedures that are ineffective and only exacerbate the patient's suffering.	93 (92.08%)	54 (90.00%)	147 (91.30%)	
Discontinuation of therapy due to financial and organisational reasons within the hospital's operation.	3 (2.97%)	1 (1.67%)	4 (2.48%)	
Shortening of life at the request of the patient or their family	5 (4.95%)	5 (8.33%)	10 (6.21%)	
Are you familiar with the concept of futile/persistent therapy?				0.11
Yes	69 (68.32%)	50 (83.33%)	119 (73.91%)	
No	32 (31.68%)	10 (16.67%)	42 (26.09%)	
Do you think using futile therapy is a mistake?				0.99
Yes	38 (37.62%)	22 (36.67%)	60 (37.27%)	
No opinion	25 (24.75%)	14 (23.33%)	39 (24.22%)	
No	38 (37.62%)	24 (40.00%)	62 (38.51%)	
The decision regarding the nonapplication or discontinuation of futile therapy in an adult should be made by:				0.42
The Therapeutic team (the entire medical staff involved in the treatment)				
Yes	77 (76.24%)	40 (66.67%)	117 (72.67%)	
No	24 (23.76%)	20 (33.33%)	44 (27.33%)	
The Patient				0.03
Yes	90 (89.11%)	44 (73.33%)	134 (83.23%)	
No	11 (10.89%)	16 (26.67%)	27 (16.77%)	
The patient's family				0.01
Yes	57 (56.44%)	19 (31.67%)	76 (47.20%)	
No	44 (43.56%)	41 (68.33%)	85 (52.80%)	
Court				0.91
Yes	16 (15.84%)	8 (13.33%)	24 (14.91%)	
No	85 (84.16%)	52 (86.67%)	137 (85.09%)	
The decision regarding the nonapplication or discontinuation of futile therapy in a child should be made by:				0.99
The Therapeutic team (the entire medical staff involved in the treatment)				
Yes	47 (46.53%)	28 (46.67%)	75 (46.58%)	
No	54 (53.47%)	32 (53.33%)	86 (53.42%)	
The Child's family				0.91
Yes	47 (46.53%)	28 (46.67%)	75 (46.58%)	
No	54 (53.47%)	32 (53.33%)	86 (53.42%)	
The Doctors in consultation with the family				0.04
Yes	87 (86.14%)	42 (70.00%)	129 (80.12%)	
No	14 (13.86%)	18 (30.00%)	32 (19.88%)	
The Court				0.57
Yes	20 (19.80%)	8 (13.33%)	28 (17.39%)	
No	81 (80.20%)	52 (86.67%)	133 (82.61%)	

Table 3. Cont.

Variable	Female (*N* = 101)	Male (*N* = 60)	Overall (*N* = 161)	*P*-value
If a patient is unconscious and is in an intensive care unit, they cannot express their opinion. In such a situation, do you agree with the concept that each of us could express our will regarding the discontinuation of futile/persistent therapy or prolonged resuscitation in a document known as a 'Living Will'?				0.02
Yes, I strongly support such a solution and would like to avail myself of that option.	80 (79.21%)	35 (58.33%)	115 (71.43%)	
I have no opinion on this matter.	14 (13.86%)	10 (16.67%)	24 (14.91%)	
I don't think it's a good idea.	7 (6.93%)	15 (25.00%)	22 (13.66%)	
If a family doesn't accept the futility of treatment, what do you think drives them?				0.85
Lack of acceptance of the inevitability of death				
Yes	89 (88.12%)	51 (85.00%)	140 (86.96%)	
No	12 (11.88%)	9 (15.00%)	21 (13.04%)	
Belief in a miracle				0.88
Yes	58 (57.43%)	32 (53.33%)	90 (55.90%)	
No	43 (42.57%)	28 (46.67%)	71 (44.10%)	
Lack of trust in doctors and medical staff				0.63
Yes	41 (40.59%)	29 (48.33%)	70 (43.48%)	
No	60 (59.41%)	31 (51.67%)	91 (56.52%)	
In a conflict situation where the family doesn't accept the decision to discontinue treatment, what do you think the medical staff should do?				0.875
Cease futile/persistent therapy according to medical criteria and provide hospice care for the patient.	45 (48.91%)	25 (44.64%)	70 (47.30%)	
Refer the matter to court.	25 (27.17%)	13 (23.21%)	38 (25.68%)	
Continue the therapy despite being aware of its futility/ persistence.	22 (23.91%)	18 (32.14%)	40 (27.03%)	
Missing.	9 (8.91%)	4 (6.67%)	13 (8.07%)	
If you were dealing with an incurable illness, who should decide on limiting futile therapy?				0.04
The patient themselves, after providing a prior declaration.				
Yes	92 (91.09%)	46 (76.67%)	138 (85.71%)	
No	9 (8.91%)	14 (23.33%)	23 (14.29%)	
The patient's closest family members.				0.91
Yes	30 (29.70%)	16 (26.67%)	46 (28.57%)	
No	71 (70.30%)	44 (73.33%)	115 (71.43%)	
Medical council along with the patient's family				0.99
Yes	56 (55.45%)	33 (55.00%)	89 (55.28%)	
No	45 (44.55%)	27 (45.00%)	72 (44.72%)	
The Court				0.84
Yes	6 (5.94%)	5 (8.33%)	11 (6.83%)	
No	95 (94.06%)	55 (91.67%)	150 (93.17%)	

ing is that the students were aware of the existence of various solutions regarding the possibility of a patient expressing their autonomous decision at every stage of the therapeutic procedure.

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Ethical approval

Ethics Committee of the Medical University of Silesia (KNW/0022/KB/284/18).

Conflict of interest

The authors declare no conflict of interest.

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