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Perception of Touch in the Physiotherapist-Patient Relationship

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Abstract

The aim of the study was to find out how values and norms related to touch are perceived in the physiotherapist-patient relationship. 149 physiotherapists and 100 patients participated in the study. The questionnaire used in the survey was prepared in two versions, both containing the same 30 items describing the use of therapeutic touch from two perspectives. The respondents had to provide their answers on 6-point ordinal scales with the centre excluded. In our analyses we treated the applied research tool as a scale of fulfilment of touch-related norms in the case of therapists and, respectively, a scale of expectations of fulfilment of these norms in the case of patients. The reliability of the tool was checked with Cronbach's α method. Factor analysis, Student's t-test and one-way analysis of variance were used to develop the obtained results.

In a therapeutic situation, the surveyed patients expect most of all that touch will express care. Physiotherapists are driven mainly by their professional competence in applying touch. A comparison of the obtained results on a scale depicting the fulfilment of norms underlying therapeutic touch has shown that the level of patients' expectations concerning physiotherapists' use of touch in therapy situations is lower than the physiotherapists' declared level of fulfilling norms and values connected with this situation. The gender and age of physiotherapists were not found to differentiate axiological and normative declarations related to touch. Patients with higher education and women tend to express much higher expectations with respect to touch therapy.

Keywords: physiotherapy, therapeutic touch, patient-therapist relationship, ethics of touch.

Introduction

Touch is one of the most important human senses. It enables us to gain information about the world that surrounds us and about our inner sensations. Therapists use their hands to heal and to make full use of the ability to "feel", to "sense". Practically, the entire work of a physiotherapist involves intervention touch used in therapy. Their hands enable them to feel swelling, excessive muscle contraction, inflammation, or to recognise deformities under the skin. Touch is used in massage, manipulation, palpation and relaxation procedures. Mason and Pratt pay particular attention to caring touch, since it contributes to the feelings of support, protection, care, acceptance and respect. It can also evoke feelings of safety and security (Colton, 1983). Feelings or attitudes may only be perceived as they were intended if the therapist concentrates fully on the patient during the interaction. Maintaining eye contact most of the time is a good sign of concentration.

Being the giver of therapeutic touch can therefore prove to be quite demanding, both physically and emotionally, especially if the physiotherapist receives little feedback. Patients expect some information, whether in the form of a smile or brief eye contact, which in combination with a handshake or a touch on the shoulder may serve as a foundation of the relationship, influence the patient's well-being, and bring us closer to a more effective therapy.

There are various bodily responses to touch. Numerous studies show that pleasant, appropriate and safe touch reduces the occurrence of illness, sadness, depression and aggressive behaviour. It stimulates the release of endorphins and oxytocin, reducing cortisol levels (stress hormone) and providing a soothing effect, builds bonds and reassures us that it is absolutely necessary for our survival. In therapy, there are situations when touch is not experienced positively and the boundaries in touch contact are transgressed (Abdouni, Moreau, Vargiolu & Zahouani, 2018; Benjamin & Sohnen-Moe, 2014; Lopez-Sola, Geuter, Koban, Coan, & Wager, 2019; Raniszewska-Wyrwa, 2014). Drimalla-Schlieszus (2002) has distinguished several forms of boundary crossing. Apart from contradictory messages in the "touch response", she also mentions having excessive demands (needing too much attention or time), not respecting the pre-agreed contract (agreed actions of both parties), not respecting bodily distance (disturbances in the physiotherapist-client relationship), and giving priority to personal problems rather than to therapy. Differences between physical, verbal and emotional intimacy shed new light on the interpretation of therapeutic intimacy. In this relationship the main focus is on the patient's body. Physiotherapists touch their clients, allow them to reveal their thoughts and feelings, and show them verbal and non-verbal support. The function of such behaviour is not so much to replicate it in the patient to therapist relationship, but in many cases asking personal questions or wanting to know the therapist more closely fosters a sense of security and crossing the boundaries of the "touch taboo". According to the rules of professional ethics, the duty of the physiotherapist is to provide services with the utmost care, maintaining professional and ethical standards of conduct. The Principles of Professional Ethics for Physiotherapists, recently adopted by the Polish Chamber of Physiotherapists (KIF, 2022), distinguish eight basic moral values, namely professionalism, care, fairness, dignity, autonomy, responsibility, trust and professional integrity.

Aim

Touch, as one of the senses, plays an important role in cognitive processes and, like the body and face, in the processes of interaction and communication. Contemporary research in social sciences and humanities dedicated to the body and corporeality indicates that in practically all cultures the sphere of human behaviour concerning the body, also including touching, appears to be strongly connected to the systems of values and is to a large extent standardised. The main aim of the study was to find out how values and norms related to touch are perceived and carried out in the physiotherapist-patient relationship. We were interested in examining the perception of touch by the parties involved in the therapeutic situation, namely physiotherapists and patients. In order to achieve these aims, we posed the following research questions:

1. What aspects of touch used in a therapeutic situation are emphasised by physiotherapists?
2. Which aspects of touch used in a therapeutic situation are highlighted by patients?
3. Are there any significant differences between the groups of patients and physiotherapists in terms of normative expectations concerning therapeutic touch expressed on a scale of norms applicable to its use?
4. Do the social and demographic characteristics of patients and physiotherapists such as gender and age, as well as the patients' level of education, give rise to differences in the axiological and normative statements related to touch used in therapeutic situations?

Research material and methods

The group of surveyed physiotherapists included 106 MA students with a BA degree and 43 professionally active physiotherapists working in one of the rehabilitation centres close to Warsaw. An auditory method was used with the physiotherapy students and physiotherapists. The differences in the averages obtained on the overall scale by the students and physiotherapists were not statistically significant. Therefore, we treated them as a homogeneous group in further analysis.

The patient group, who were surveyed in 2021 using a questionnaire, consisted of 100 patients. The questionnaire was preceded by a preamble in which the surveyed patient was asked to participate in the study, informed of the purpose of the study and its anonymity, and was instructed how to state their opinion about the test items. The questionnaire was handed to the study subjects by a trained student interviewer and completed independently by the patients. Patients were included in the study if they had had at least one previous experience of physiotherapy in which the therapist used touch.

Information about the tested groups is presented in Table 1.

Table 1. Characteristics of the study group

Variables	Physiotherapists		Patients	
	N	%	N	%
Gender				
Female	93	62.4	51	51.0
Males	56	37.6	49	49.0
Age				
<25 years old	106	71.1	33	33.0
25-50 years old	34	22.8	53	53.0
>50 years old	9	6.1	14	14.0
Place of work				
Private practice	93	62.4		
Outpatient clinic	56	37.6		
Place where rehabilitation services are provided				
Private rehabilitation office			67	67.0
Outpatient rehabilitation			22	22.0
Hospital ward			11	11.0
Frequency of contact with physiotherapy (times)				
1			37	37.0
2			17	17.0
≥3			46	46.0

In preparing the present study, some of the results on touch from the pilot study were used based on a more extensive questionnaire conducted from February to September 2020 with a group of physiotherapists and physiotherapy students. The research tool was prepared in stages. The research team created a questionnaire only after conceptualising the problem by constructing an axionormative model of values on which the ethical principles of the physiotherapist-patient relationship could be based. The model included values such as care, sensitivity, trust, intimacy, moral integrity, professionalism and principles related to the use of touch as a therapeutic tool (Przyłuska-Fiszer & Wójcik, 2000). The items created described behaviours or opinions from the area of the physiotherapist-patient therapeutic relationship. A total of 456 items were prepared by grouping them according to the values mentioned above. Such ordered items were subsequently subjected to evaluation using the method of experts, assessing to what extent a test item was related to the value assigned to it. The collected data were subjected to statistical analysis using Kendall's W concordance coefficient. The questionnaire included 156 test items for which Kendall's W value was 0.4 or higher.

A modified version of this tool was used to investigate patients' perception of touch. The questionnaire consisted of 30 items that described situations involving the use of touch and opinions as to its role in the process of therapy and building the physiotherapist-patient relation, as well as metric questions pertaining to social and demographic data of the respondents. The questionnaire in the version for physiotherapists was modified so that the questionnaire items described situations of therapeutic use of touch from the patient's perspective. As a result, two versions of the questionnaire were created, one for the physiotherapists and one for the patients, covering the same situations. The respondents could express their opinions about the content of the items on a 6-point Likert scale with the centre off, where 0 meant definitely not, 1 – no, 2 – rather not, 3 – rather yes, 4 – yes, 5 – definitely yes. The items listed in the questionnaire were normative and described physiotherapists' appropriate behaviour and patients' expectations concerning the therapeutic situation. The higher the values of the scale assigned to particular categories of answers, the more complete the physiotherapists' fulfilment of norms they are based on and the higher the patients' expectations. The maximum achievable score, if we treat all the 30 items as a scale of fulfilment of norms connected with therapeutic touch, is 150 for both groups tested.

The reliability of the adopted research tools was assessed using Cronbach's method by calculating the α coefficient for both questionnaires. In the case of physiotherapists, the value was 0.87, and in the case of patients 0.88, which proves that both scales are reliable.

In order to answer the first and second research questions, we used the principal components factor analysis with

analytical rotation to a simple structure – Varimax. This method is used to reduce variables, but also to discover latent ones. The second application was adopted for the needs of this study. The analysis revealed relatively independent factors, which were then subjected to further substantive interpretation. Only factor loadings whose value exceeded 0.6 were taken into consideration in the analysis, and the number of distinguished and analysed components was limited to three, prioritising them in a hierarchical way. To find answers to the remaining questions, mean comparisons were performed using Student's t-test, and in the case of grouping variables taking three values, mean comparisons were performed using one-way analysis of variance. The level of statistical significance adopted in the study was $\alpha \leq 0.05$.

Results

Application of a factor analysis revealed differences between the areas of perception of touch for patients and physiotherapists. Patients highlight three aspects of touch used in therapy. First, touch expressing care, bridging fears and the subjective, individual fear of manual therapy. Second, sensual sensitivity of the physiotherapist, the focus on working with the patient, the ability to perceive changes in the perception of touch depending on its quality, and taking into account the patient's previous touch experience and sensitivity. Third, boundaries of positive touch regarding the application of touch to parts of the body considered intimate.

Table 2. Areas of perception of touch in a therapeutic situation among patients

No.	Item of questionnaire	Distinguished components		
		1	2	3
1	Physiotherapists should be aware that their patients may find certain situations during the procedure quite difficult and that their touch should be special	0.69		
2	I am convinced that in physiotherapy, apart from being therapeutic, touch is also an important tool for communicating with patients	0.65		
3	When I need support, my physiotherapist should consciously use touch to comfort me	0.63		
4	Physiotherapists are able to use words and touch to dispel anxiety and soothe a patient's nerves before a procedure they might perceive as difficult	0.62		
5	I can sense when my physiotherapist loses concentration while working with touch and starts thinking about something else		-0.78	
6	I am particularly sensitive to touch		0.68	
7	During the first visit, the physiotherapist should ask me about my previous experience of being touched during therapy		0.64	
8	Before starting to work with touch on intimate areas of my body, the physiotherapist should warn me and ask my permission			0.82
9	If touch involves intimate areas, the physiotherapist should explain to the patient the purpose of actions in these areas			0.64

Note: * the table shows factor loadings for the distinguished components only if the value was found to exceed 0.6; the questionnaire items have been quoted in the wording used for patients. 1- Caring touch; 2 - Professional sensual sensitivity; 3 - Intimacy

Factor analysis of the physiotherapists' findings revealed three aspects of touch relevant to its perception by the physiotherapists surveyed. First, professional competence in the application of therapeutic touch and the sensory sensitivity of the hands, receiving signals from the patient's body being touched and the physiotherapist's response to them. Second, professional touch of care, going beyond the 'instrumental' function of therapeutic touch. The items categorised in this group indicated other important functions in the therapist-patient relationship, namely the ability to read with touch the emotions that the patient's body sends out and to respond with touch to these emotions. Third, the therapeutic quality of hands as a tool for the physiotherapist - they are supposed to be warm and should be cared for. The last question relates to the need to explain to the patient about the touching of their intimate body parts during therapy that seems to be unrelated to the 'therapeutic quality of hands'. However, in our opinion it communicates the fact that therapists pay special attention to this quality when they work in intimate areas of the patient's body.

Table 3. Areas of perception of touch in a therapeutic situation among physiotherapists

No.	Questionnaire items	Distinguished components		
		1	2	3
1	I adapt touch to the patient's clinical condition	0.78		
2	Some patients are particularly sensitive to touch	0.75		
3	During therapy, I modify the amount of touch when I see that it becomes very difficult for the patient	0.75		
4	I modify the quality of touch used according to individual needs of the patient	0.68		
5	When working with the patient, I pay attention to how the patient responds to my touch	0.65		
6	If my patient has emotional reactions during body work, I use touch to calm them down		0.83	
7	If the patient seems anxious and nervous, in addition to talking, I also try to calm them down with touch		0.78	
8	I believe that when I work with a vulnerable patient, my touch has a special meaning and is not merely therapeutic		0.75	
9	I consciously use touch to support the patient if I see that the patient needs it		0.69	
10	I also touch patients who require special care/attention to support or reassure them		0.67	
11	Physiotherapists should take care of their hands			0.75
12	If the touching will involve intimate areas, I explain the purpose of my actions to the patient			0.73
13	I warm my hands before touching the patient to ensure comfort			0.71

Note: * the table shows factor loadings for the distinguished components only if the value was found to exceed 0.6; the questionnaire items quoted in the wording for physiotherapists . 1- Professionalism; 2 - Caring touch; 3 - Intimacy

The analysis identified the existence of a statistically significant difference between patients' expectations regarding the principles of using touch in therapy and physiotherapists' opinion on their therapy (T=-2.63; p=0.009). The mean score achieved by the physiotherapists was 110.58 and that of the patients was 104.93. The difference of mean values is not great but is, nevertheless, statistically significant. The mean score on the scale for patients was 69.95% of the maximum score, and for therapists 73.72%.

The next step in analysing the results obtained was to do calculations of the descriptive statistics and to compare the mean values in both study groups for all 30 test items. We were interested in how many and in which detailed items significant differences of opinion between the therapists and the patients had been determined. The results are presented in Table 4.

The highest mean response for the patients concerns items related to the condition of the physiotherapist's

Table 4. Descriptive statistics (mean and standard deviation) and Student's t-test results for the patient and physiotherapist groups relating to the items in the questionnaire. The items are quoted for patients

No	Item	Status	M	SD	t	P =
1	During the first appointment the physiotherapist should ask me about my previous experience of being touched during therapy	Patient	3.43	1.59	7.66	0.001
		Therapist	2.03	1.26		
2	When the patient has negative experiences with touch treatment, the physiotherapist should make sure their touch is gentle	Patient	3.94	1.35	5.23	0.001
		Therapist	3.03	1.29		
3	I expect some explanation from the physiotherapist when there is physical contact between large surfaces of our bodies during therapy	Patient	3.31	1.64	-3.44	0.001
		Therapist	3.91	1.20		

No	Item	Status	M	SD	t	P =
4	I expect a supportive and reassuring touch from the physiotherapist in difficult treatment situations	Patient	2.99	1.58	-1.72	0.085
		Therapist	3.26	1.04		
5	The physiotherapist should be aware that during the treatment there are situations that are difficult for the patient to handle and their touch should be special and not just therapeutic	Patient	3.12	1.49	-1.3	0.174
		Therapist	3.36	1.30		
6	There are some physiotherapists who can sense with their hands that the patient feels particularly vulnerable during therapy	Patient	3.44	1.25	-1.59	0.112
		Therapist	3.66	1.04		
7	During the procedure, the physiotherapist occasionally asks about the effect of touch on my well-being	Patient	3.81	1.26	0.46	0.646
		Therapist	3.73	1.21		
8	When the patient feels anxious or worried, the physiotherapist should sense this and, by touching the patient, reassure them	Patient	3.17	1.50	1.58	0.114
		Therapist	2.91	1.12		
9	Effective correction of postural faults, e.g. pelvic alignment, should be carried out using touch	Patient	3.37	1.14	-2.56	0.011
		Therapist	4.07	0.90		
10	Physiotherapists are able to use words and touch to dispel anxiety and soothe the patient's nerves before a procedure that they might consider to be difficult for them	Patient	3.74	1.31	5.04	0.001
		Therapist	2.81	1.13		
11	Talking with the physiotherapist during manual therapy improves the therapeutic process	Patient	3.59	1.22	0.27	0.785
		Therapist	3.77	1.05		
12	I believe that touch in physiotherapy, apart from being therapeutic, is also an important tool for communicating with patients	Patient	3.81	1.40	-2.61	0.090
		Therapist	3.99	0.97		
13	When I need support, my physiotherapist should consciously use touch to comfort me	Patient	3.6	1.54	-7.00	0.001
		Therapist	3.49	1.00		
14	Before starting manual therapy involving touch on intimate areas of my body, the physiotherapist should warn me and ask my permission	Patient	2.36	1.32	-3.19	0.002
		Therapist	4.54	0.67		
15	Before the treatment, the patient should be informed by the physiotherapist to what extent their body is going to be touched	Patient	4.15	1.15	0.71	0.478
		Therapist	3.99	1.05		
16	Physiotherapists should take good care of their hands	Patient	4.1	1.06	-1.42	0.157
		Therapist	4.49	0.76		
17	My physiotherapist's hands should be warm when I am being touched	Patient	4.34	1.28	-3.14	0.002
		Therapist	4.56	0.88		
18	If the manual therapy involves intimate areas, the physiotherapist should explain to the patient the purpose of the therapeutic actions to be performed in these areas	Patient	3.87	1.05	10.01	0.001
		Therapist	4.09	0.70		
19	The physiotherapist should modify the quality of touch applied depending on the patient's needs	Patient	4.15	1.21	0.41	0.681
		Therapist	4.05	0.88		
20	The physiotherapist should modify the quality and intensity of touch depending on how the patient feels	Patient	4.14	1.07	0.68	0.492
		Therapist	3.71	0.87		
21	Before starting a physical examination, the physiotherapist should ask my permission to touch me	Patient	3.33	1.65	-2.19	0.029
		Therapist	4.29	1.12		
22	Physiotherapeutic touch can evoke different and strong emotional reactions in patients	Patient	3.4	1.36	-6.64	0.001
		Therapist	4.01	0.75		
23	It is possible that touching certain parts of the body may trigger and recall strong emotions connected with past bodily experiences	Patient	3.33	1.65	-5.65	0.001
		Therapist	4.22	0.81		

No	Item	Status	M	SD	t	P =
24	The physiotherapist should modify pressure when they become aware that it becomes very difficult for the patient to handle	Patient	3.85	1.17	-3.17	0.002
		Therapist	4.16	0.68		
25	The patient's clinical condition requires the physiotherapist to adjust their touch as needed	Patient	4.08	1.08	-0.88	0.377
		Therapist	4.18	0.78		
26	Physiotherapists observe patients' reactions to their touch	Patient	3.9	1.18	-3.07	0.002
		Therapist	4.26	0.69		
27	I am particularly sensitive to touch	Patient	2.76	1.72	-10.1	0.001
		Therapist	4.37	0.77		
28	I feel it when the physiotherapist loses concentration on what they are doing during manual therapy and thinks about something else	Patient	2.58	1.55	0.70	0.483
		Therapist	2.71	1.33		
29	During treatment in intimate areas, physiotherapists need to behave in the same way as when working on other areas of the body	Patient	3.23	1.50	-2.53	0.012
		Therapist	2.76	1.37		
30	The patient's physical attractiveness determines physiotherapists' increased use of touch during therapy and instruction	Patient	2.33	1.58	-5.38	0.001
		Therapist	1.28	1.24		

hands. Short nails, moist skin, and absence of cuts, scabs or corns are of high importance to them. There was also a high mean value for responses to questions related to the modification and right choice of touch, appropriate to the patient's clinical condition and their individual feelings and needs. The questions regarding intimate areas also received an average of over 4.00. It seems therefore to be a priority for patients that they can give informed consent to being touched, and that the need and methods of working in intimate areas are explained to them. Next, clients of physiotherapy treatment rooms find it important to be aware of constant attention, observation and, if necessary, reaction to over-intensive stimuli and their modification.

The magnitude of the mean scores was found to be different for responses given by physiotherapists. The issue that is most obvious and important for them is appropriate behaviour while working on the patient's intimate areas. Obtaining informed consent and explaining the purpose and necessity of working on the area seem to be obvious and necessary actions. Physiotherapists also pay close attention to the main tool they use in their work, i.e. their hands. Caring for the hands and their temperature is a very important aspect of working with the patient. When doing manual therapy, physiotherapists declare that it is very important to observe the patient's reaction to their touch and, if necessary, to change the action quickly so that the patient feels comfortable and safe. While working, different reactions from the patient may be expected to exactly the same action. This often depends on the individual characteristics of the patient, previous touch experience and other life experiences.

A comparison of mean values between the patients and physiotherapists using Student's t-test for all scale items revealed the existence of statistically significant differences in 16 items. In five of them, higher means were obtained in the patients' group. In the remaining eleven, significantly higher means were obtained in the physiotherapists' group. The patients scored higher averages on items 1, 2, 10, 13 and 30, which have been specified in Table 4. These relate to the role of touch in building therapeutic interpersonal relationships, expressing patients' expectations for building therapeutic rapport, using appropriate verbal and nonverbal behaviours related to touch, and engaging the patient in the relationship.

In the group of physiotherapists, statistically significantly higher mean values were obtained for items 3, 9, 14, 17, 18, 21, 22, 23, 24, 26 and 27. These items concern issues related to the professionalism of therapeutic touch, which confirms the results of the factor analysis presented above. The biggest differences between the means in favour of physiotherapists was determined for two items. The first one is question 14, which in the therapist version reads "I ask the patient for permission when I intend to touch their intimate body areas during therapy". The mean response score for the therapists was 4.54 points and for the patients 2.36 (difference of 2.18). The second item is question 27, which in the physiotherapists' version reads "Some patients are particularly sensitive to touch". The mean value for the therapists was 4.37 points and for the patients 2.58 (difference 1.61), which also confirms the previous analysis that patients' expectations are lower than the level of standards declared by physiotherapists.

The further aim of the analysis was to investigate the influence of independent variables such as age, gender or education on axiological and normative declarations related to touch in therapeutic situations of both physiotherapists and patients.

The data analysis indicates that the gender of the patients studied was found to significantly differentiate normative expectations regarding the use of therapeutic touch (T=3.64; p=0.001). Women (M=111.78; SD=17.34) obtained statistically higher scores than men (M=97.79; SD=20.92). Before we proceed to present further results, it should be pointed out that this is the highest difference between means among all variables considered in the study, grouping both the patients and therapists.

The variable of patients' education, similar to gender, differentiates patients' expectations regarding the use of therapeutic touch. Those with higher education (M=109.56; SD=17.94) are significantly more likely (T=-2.89; p=0.005) to have higher expectations of therapists than those with secondary education (M=97.97; SD=21,90).

The patients surveyed were divided into three age groups: under 25 (33% of the group), 26 - 50 (53%), and over 50 (11%). A comparison of mean values in these groups based on a one-way analysis of variance showed that the differences in mean patient expectations regarding the use of therapeutic touch were not statistically significant (F=2.3; p=0.106).

In the case of physiotherapists, we made a comparison of mean scores obtained on the scale describing the fulfilment of norms applicable to the use of therapeutic touch for two grouping variables, namely gender of the examined persons (T=0.932; p=0.353) and their age (F=1.255; p=0.288). These variables do not statistically significantly differentiate the respondents.

Discussion

Physical contact and manual therapy in intimate areas of the patient's body are an integral part of the physiotherapist's job. A physiotherapist's touch is not only therapeutic but also psychosocial. Touch is also a form of non-verbal communication with the patient. Literature sources emphasise that the most important values in the physiotherapist-patient relationship include care, which is expressed in professional actions for the patient's good and with respect for their autonomy, sensitivity to patient's needs and experiences, building trust based on respecting standards and competence, and moral integrity understood as faithfulness to the ethical ideals of the profession (American Physical Therapy Association, 2021; Benjamin & Sohnen-Moe, 2014; Przyłuska-Fiszer & Wójcik, 2000). Professionalism of the physiotherapist, like professionalism in medicine, means acting in line with professional and ethical standards (World Confederation for Physical Therapy, 2022). Our research focused on the perception of touch in the therapeutic relationship because we believe that the use of touch is a morally relevant quality in the formation of the patient-physiotherapist relationship. The study reveals the existence of significant differences between the perception of therapeutic touch by physiotherapists and their patients. The differences in their perceptions of certain aspects of therapeutic touch may be considered to arise from the asymmetrical nature of the therapist-patient relationship, where the therapist's role is "dominant", and yet it should also be borne in mind that physiotherapists perceive the patient's role in this situation with great empathy and understanding and try to respond to the concerns of their patients. The limited experience with physiotherapists of the surveyed patients may also have played a role, with as many as 54% of the respondents having participated in manual therapy only once or twice before. Their responses can therefore be seen as an expression of their opinion about how they wish to be treated, rather than an evaluation of their own experiences. Nevertheless, the literature emphasises the importance of the first "touch encounter" for the quality of further therapy. Even after the first therapy session, patients are able to judge how "good" the physiotherapist is (Bjorbækmo & Mengshoel, 2016).

The first difference in the perception of touch concerns the importance attached by patients to the value of care in the therapeutic relationship. Touch is an important diagnostic and therapeutic tool and it becomes routine for the physiotherapist who uses it in their therapy every day. Routine can mean a developed ability of the hand to feel and differentiate tactile sensations. However, there is a risk that it will cause indifference, technicality and lack of reflection in the approach to the patient undergoing touch therapy (Dadura, Wójcik, & Gajewski, 2013). The physiotherapist's competence can be manifested by changing the pressure of touch, adjusting the type of touch, the state of the physiotherapist's hands, their warmth, and sometimes stopping further touching in time. In the opinion of the patients, the most important thing is the care and support they receive in their relationship with the physiotherapist and the tactile sensations during therapy. Through touch, the physiotherapist can often sense the patient's emotional state and is able to awaken deeply hidden emotions and memories. Most patients have found this to be crucial in receiving their actions. Sometimes spiritual needs, support and a demonstration of care are much more important than the actual manual therapy that focuses primarily on the physical problem. Sometimes achieving the desired therapeutic effect depends on other very important aspects of work with the patient. The chosen treatment method should be accepted and tolerated by the patient and make them feel safe and comfortable during the procedure. Such a choice is likely to help the patient feel better and more motivated, which will evidently have a greater impact on the positive outcome of the treatment.

The second difference between patients' and physiotherapists' perceptions of touch relates to the perception of the sensual sensitivity of the hand and, following on from this, the importance of non-verbal communication. From the professional point of view of physiotherapists, being familiar with the patient's previous touch experience is a self-evident issue. However, this declaration does not reflect the experience of the patients we examined. Fewer patients were asked about previous touch experiences, even though they expect this to be asked to a much greater extent than physiotherapists tend to admit. If a patient's touch experience has been negative, they expect their physiotherapist to show better understanding and greater sensitivity when applying touch.

The results of our study indicate that few physiotherapists ask their patients about previous negative touch experiences. If this is so, it is necessary to closely observe the patient's behaviour and reaction to being touched. At the cognitive level, it is never clear how the patient will behave when a given resistance level is applied or when different areas of their body are touched. Quite often non- verbal information from the patient can be expected. Excessive reddening of the skin, grimacing, different movements of the limbs, are just a few examples of reactions that physiotherapists observe in their surgeries (Hunter & Struve,1997). Although most of the physiotherapists we surveyed rated the duty to observe the patient very highly, far fewer patients felt such a commitment on their part. It seems that although patients realize that touch in physiotherapy, in addition to its therapeutic nature, is also an important tool for communicating with patients, they attach more importance to verbal communication. In contrast, they underestimate the importance of non-verbal communication, which is particularly important for manual work. This thesis is supported by the results of the factor analysis. Physiotherapists attach the greatest importance to professional competence in the use of therapeutic touch as well as to the sensory sensitivity of the hands receiving signals from the patient's touched body and the physiotherapist's response to them.

Care is treated as one of the supreme values in bioethics (Dobrowolska, 2010; Ramsey, 1977; Szewczyk, 2009) and particular importance is attached to it in the professional ethics of physiotherapists (APTA, 2021; KIF 2022). Without entering into the ongoing philosophical discussions on the understanding of the concept of care (attitude, value, emotion, virtue, practice), it is worth noting that in the context of working with the body in the therapeutic relationship in physiotherapy, the essence of care is to act professionally for the benefit of the patient with respect for their sensitivity and autonomy. From the physiotherapist's perspective, two aspects of care can be distinguished. The first aspect concerns professional standards of care, related to the performance of therapeutic activities, the second is related to the relational standards of care, i.e. the physiotherapist's behaviours and beliefs occurring in the process of building a relationship with the patient in a therapy situation.

The physiotherapists surveyed also valued highly touch that expresses concern beyond the instrumental realm of therapeutic touch and its medical significance, confirming other authors' views on the importance of being able to communicate non-verbally with patients (Silverman, Kurtz & Draper, 2021). For physiotherapists, it is important to understand the patient's emotions and to respond tactfully to those emotions. They appreciate the importance of support and empathy in the relationship with the patient. The patients, in turn, place this aspect of care above the technical skills of the physiotherapist. However, it seems reasonable to hypothesise that physiotherapists, unlike patients, attribute more importance to the professional aspects of care than to its relational aspects, and place a priority on acting in accordance with professional standards of practice.

The basis of physiotherapists' professional ethics is respect for patient autonomy. Patients expect to be asked about available options for examination, to be given the opportunity to participate in the creation of the treatment plan, and to accept it before it begins. However, they cannot always count on their right to choose to be respected. Dadura et al. (2013) have proven that only 5% of all physiotherapists request permission to commence their examination. The majority, i.e. as many as 82%, inform the patient that they will touch them or do not ask for permission to touch the patient at all. The physiotherapists surveyed by us declare that maintaining professional and ethical standards of conduct is very important to them and is fundamental to their work with patients. However, the research showed statistically significant differences between patients' and physiotherapists' perceptions of the therapeutic relationship. It turns out that physiotherapists evaluate the therapeutic relationship as much better than patients experience it.

The third issue that raises the most misunderstandings and difficulties is the boundaries of positive touch. This includes the concept of intimacy and the closeness of the relationship that is achievable during therapy. What would constitute overstepping the boundaries of the role of the physiotherapist and what of the patient? The study has shown how much attention patients pay to clear boundaries. It is important in these situations to obtain informed consent for touching, to be warned if touching will take place close to intimate zones, and to consider the nature of touch in the most private areas of the body. Professional ethics is one of the auxiliary elements in contacts with patients and is the key to a healthy relationship. It is alarming that, according to some research, fewer than 40% of physiotherapists declare that these standards must be met,

and 30% state that they violate ethical standards in some circumstances. However, it is not always the service provider who is responsible for crossing boundaries. Many researches confirm the fact that in close work with patients, misunderstandings are sometimes initiated by the persons being treated. The most common cases include touching with erotic overtones, attempts to kiss, sudden outbursts of aggression (Dadura & Wójcik, 2014). It is important to establish clear boundaries in the patient-physiotherapist relationship, especially those concerning the possibility of transferring the relationship to another, more private level. Work in this area has to be very sensitive, as there are certain boundaries that cannot be crossed in such relationships. Bjorbækmo and Mengshoel (2016) mention a somatic style and its double meaning. Some people may have a "tactile roughness" that they deal with every day and which is not a problem for them, while at the same time their tactile manner may be much more delicate, subtle and refined (Gabard & Martin, 2011).

A surprising finding of the research is that the level of patients' expectations of the norms governing physiotherapists' use of touch in therapy situations is lower than the physiotherapists' declared level of realisation of the norms and values related to touch therapy. The reasons for this can be sought from several sources. Firstly, the restricted access to physiotherapy services in the state health service and the rather expensive therapy in private places. Patients wait from six months to a year for rehabilitation in the state health service in Poland. Therefore, it may not be surprising that they place more importance on the health effects of the long-awaited therapy than on the ethical assessment of the relationship with the physiotherapist. Secondly, people with disabilities often have negative experiences of a non-personal approach and, tired of struggling to survive, have no expectations beyond meeting their basic rehabilitation needs. Thirdly, the research tool only allowed for examining declarations about certain behaviours and not their implementation in practice.

The results of our research confirm that the gender of the patient differentiates the axiological and normative statements related to touch in therapeutic situations. Women have much higher expectations regarding the ethical principles in therapy than men. Abdouni et al. (2018) studied the effects of gender and age on the perceptions of touch. Their research shows that women are extremely sensitive to the caring touch. They need it much more often than men, who are not inclined to have closer relationships or show affection in front of an unknown person. The study found that women under 40 were more sensitive to touch than other groups. Other studies of women have shown a strong link between touch and the reduction of pain and stress levels (Lopez-Sola et al., 2019).

Limitations

Limitations of the study results arise from the treatment of MSc students and physiotherapists as one group. It would be advisable to conduct a study on a larger group of physiotherapists. When examining patients, stricter selection criteria of at least one week's previous participation in therapy should be introduced.

Conclusions

The ethics of touch can best be described in terms of the ethics of care. The ethics of care is the ethics of fidelity to another human being, especially one who is sick and abandoned. It is not uncommon for these people to be left at the mercy of others. Therefore, physiotherapists should create an attitude of care, kindness and goodness, and serve other people by providing their services. Their job has a special character because being with a patient at a difficult moment is the essence of their work. Polish physiotherapists have a very good reputation as a professional group that cares about the implementation of the principles of good rehabilitation practice. The long-lasting battle for recognition of the independence of the physiotherapist's profession in Poland was conducive to the formation of a strong self-government movement and establishment of the National Council of Physiotherapy. Taking care of the ethical principles of practising the profession resulted in the environment adopting the Physiotherapist Ethics Principles (KIF, 2022), which meet the highest bioethical standards.

Ethics approval and informed consent

The research proposal was submitted for review by the Senate Commission of Research Studies Ethics Józef Piłsudski University of Physical Education. The Commission stated (SKE 01-23/18) that the project is compatible with ethical research standards and can be carried out.

Competing interests

The authors declare no conflicts of interest.

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