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Article

Comparative Self-Evaluation of Patient Education Practice: A Study of Novice and Experienced Physiotherapists

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Abstract: Background: Patient education is a key aspect of physical therapy practice, however, the differences in how experienced and novice physiotherapists perceive and apply patient education practice remain underexplored. Understanding these differences influences training approaches and improves physical therapy practice quality. The research aims to determine the difference in self-reported patient education practice between experienced and novice physiotherapists. **Methods:** A previously published online survey instrument was used to collect data from physiotherapists employed in public health institutions in Bosnia and Herzegovina. The survey questions included demographic characteristics and questions about approaches to patient education, perceived importance, and factors contributing to skills development. Participants were recruited in two groups: experienced physiotherapists with work experience ≥ 11 years ($n = 139$) and novice physiotherapists with work experience ≤ 5 years ($n = 45$). Descriptive statistics, such as numbers and percentages, were used to summarize participant responses. **Results:** Experienced physiotherapists more frequently provided advice on posture, movement correction, daily activity strategies, and pacing while addressing patient concerns and exploring perceptions ($p < 0.05$). In contrast, novice physiotherapists placed significantly greater value on continuing education courses, considering them an important factor in developing patient education skills ($p < 0.05$). **Conclusion:** Experienced physiotherapists prioritize patient education focusing on posture, movement, and self-care strategies compared to novice physiotherapists. However, novice physiotherapists place a higher importance role on continuous education. Identifying these differences may help tailor training and mentorship to improve physiotherapy practice, ensuring better patient outcomes.

Keywords: physiotherapy; training; teaching; experience

1. Introduction

Patient education is pivotal in influencing patient behavior and enhancing the knowledge, attitudes, and skills necessary for maintaining or improving health [1]. Patient education allows healthcare professionals to communicate salient information effectively, increasing patients' self-efficacy and enhancing their self-management [2,3]. Patient-centered approaches to patient education have been shown to improve clinical outcomes, including pain reduction, decreased disability, and functional gains, including within physiotherapy settings [4,5]. By empowering patients to actively participate in their care, physiotherapists can foster more effective and sustainable health behaviors and outcomes [6,7].

An early study by May and colleagues found that nearly all physical therapists (99%) considered patient education a key skill and 98% reported incorporating individual patient education into their practice [8]. Further research has shown that physiotherapists often use educational methods based

on adult learning principles to enhance patients' self-efficacy [9]. Despite the importance of patient education, physiotherapists reportedly struggle to integrate health promotion and stress reduction education into their routine practice, and explaining the cause of a patient's symptoms remains a challenge [10]. More recently, research in Australia has shown that experienced physiotherapists report greater use of self-management education, greater use of patient-centered content, greater use of seeking patient understanding, and fewer barriers to patient education than their novice colleagues, highlighting the need for further training and support [11].

Novice clinicians tend to rely on knowledge based on factual rules, whereas experts draw on their experience and practical [12]. Studies have found that novice therapists spend less time undertaking patient histories and more time undertaking a physical examination compared to experts [13] where expert clinicians consistently prioritize history-taking data as critical to the diagnostic reasoning process [14,15]. Experienced clinicians tend to approach patient care with a stronger patient-centered mindset, emphasizing shared decision-making and promoting patient empowerment [14,16,17]. Early research has also shown that in interactions with patients, expert physiotherapists tend to provide more explanations and information during history taking, build their questions on patients' responses, engage in more social interactions, and demonstrate higher communication skills than novice physiotherapists [18,19]. Novice clinicians may lack sufficient academic knowledge to educate patients effectively, and even when they possess the knowledge, they frequently struggle to communicate it in accessible language [20].

Experienced physiotherapists emphasize that to achieve positive results in therapy, it is necessary to establish contact and trust, be sensitive to the needs of patients, actively listen, and use intuition [21]. These concerns extend to physiotherapy students. Holmes's [22] findings suggest that physiotherapy students may not be fully aware of how their behaviors and beliefs may affect patients and that their preferences may be more aligned with a medical model than with a biopsychosocial approach. These findings highlight the need to support students in the development of patient education during training.

Experienced physical therapists take a more patient-centered approach to care, promoting patient empowerment [17] and tailoring treatments and education to individual patient needs [23]. Meanwhile, novices place less emphasis on discussing patient signs and symptoms during consultation [22] and more on professional practice guidelines.

Identifying perceived barriers to practice can influence how clinicians apply their knowledge and skills in their daily work, which can influence the quality of care they provide to patients [24]. Understanding and overcoming these barriers can help improve clinical practice and increase the effectiveness of healthcare. Although it is often assumed that patient education skills, behaviors, and practices develop with experience, a literature review reveals a lack of research that specifically examines differences based on experience. A better understanding of the limitations faced by novice clinicians may be useful to improve the education of novice physiotherapists and students.

In Bosnia and Herzegovina, physiotherapy research has been carried out focused on individual institutions, regions, or specific aspects of rehabilitation, therefore there is a need for extensive research that would cover all hospitals, to get a clearer picture of physiotherapy practice at the country level. With this research, we aimed to investigate the differences in the self-assessment of patient education by experienced and novice physiotherapists, that is, how they perceive the importance of educational content, the methods they use, and the factors contributing to developing patient education skills.

2. Materials and Methods

2.1. Study Design

A cross-sectional study was conducted to assess patient education practices and perceptions of physiotherapists. The researchers requested ethical approval from all hospitals with physical medicine and rehabilitation clinics, and physiotherapists employed in the physical medicine and rehabilitation clinics of KBC Mostar, KBC Tuzla, and the Institute for Physical Medicine and Rehabilitation "Dr. Miroslav Zotović" in Bosnia and Herzegovina agreed to participate.

After obtaining ethical approval, the researcher presented the study to physiotherapists working in the mentioned clinics and asked for their written consent to participate in this research. The goal was to test physiotherapists with experience in patient education. Written anonymous questionnaires were distributed to physiotherapists at workplaces, and consent to participate was confirmed by selecting the appropriate option on the first page of the survey. Participants were also given the option of completing the survey electronically but did not use it. Physiotherapists who were unqualified or not directly involved in patient care, such as teachers or administrative staff, were excluded from the study. The respondents returned the completed and enveloped surveys to the researcher. Data collection lasted one week in each institution.

2.2. Survey Method

A previously published [11] survey developed by Forbes and colleagues was requested for use in this study. The anonymous survey focused on six key elements relevant to physiotherapy and patient education practices: the physiotherapy context, time, educational content, structure, and factors influencing skill development. The survey included nine demographic questions, two multiple-choice questions on the time spent in patient education, and six sets of closed-ended questions using a five-point Likert scale in matrix form. Participants assessed the frequency and importance of educational activities, as well as their agreement with factors that influence the development of skills necessary for effective patient education.

The translation into Croatian followed forward and backward translation procedures in line with recommended guidelines [25]. Two bilingual physiotherapists familiar with the terminology independently performed the initial forward translation into Croatian and agreed on a single version. Two independent bilingual translators, not involved in the earlier stages, then completed the backward translation into English, and a consensus was reached on the accuracy of the final version.

2.3. Selection and Sample

Earlier research has employed different approaches to characterize 'experienced' health professionals, with criteria including at least ten years of work experience [16,18] completion of postgraduate education, or having practical expertise in several areas of the profession [23].

The criteria for defining a 'novice' healthcare practitioner vary, with some studies setting the threshold at two or four years of experience [11]. For this study, novices were defined as having ≤ 5 years of practice, while experienced practitioners were those with ≥ 11 years. These definitions ensured that the subgroups were large enough for meaningful comparisons.

2.4. Data Analysis

Quantitative data were entered into a Microsoft Excel spreadsheet and checked for missing or incomplete responses. Only responses with more than 80% of the data completed were included in the analysis. Descriptive statistics were conducted using Microsoft Excel and SPSS version 20.0. The Mann-Whitney U test was employed to compare the time spent on patient education during initial and follow-up consultations. At the same time, Chi-square analysis was used to compare the demographic data with national data from the Health Insurance Institute of Bosnia and Herzegovina. Statistical significance was set at $p < 0.05$. Participant comments were also analyzed and coded into thematic units based on study objectives using NVivo version 10 software (QSR International).

2.5. Ethical Approval

Ethical approval for this research was obtained from the Ethics Committee of: University Clinical Hospital Mostar (No. 91/24), University Clinical Center Tuzla (02-09/2-49-1/24) and Institute for Physical Medicine and Rehabilitation "Dr. Miroslav Zotović" (116-31-5671-2/22).

3. Results

A total of 184 responses were gathered, yielding a response rate of 87%. Nearly half of the physiotherapists, or 47.1%, have between 11 and 20 years of work experience, whereas the smallest groups consisted of those with one to two years (6.3%) or less than one year of experience (6.3%). The remaining data sets (n = 24) with 6-10 years of work experience were excluded from the analysis.

3.1. Differences in Self-Assessment of Educational Content Use Between Experienced Physiotherapists and Novices

Before determining potential differences in self-assessment of educational content use between experienced and novice physiotherapists, the basic descriptive parameters of sociodemographic variables for the two groups were outlined (Table 1).

In both groups, there are slightly more female than male respondents (51.1% compared to 48.9% among novices and 66.2% compared to 33.8% among experienced). Most novices, as expected (68.9%), are aged between 20 and 29 years. The majority of novices (53.3%) and experienced physiotherapists (41%) cited musculoskeletal as their professional interest.

Table 1. Distribution of Novice and Experienced Physiotherapists Regarding Basic Sociodemographic Characteristics (N = 184).

Variable	Work Experience		
	Novices N (%)	Experienced N (%)	
Gender	Male	22 (48.9)	47 (33.8)
	Female	23 (51.1)	92 (66.2)
Age	20-29	31 (68.9)	2 (1.5)
	30-39	12 (26.7)	64 (46)
	40-49	2 (4.4)	48 (34.5)
	50-59	0	18 (13)
	60+	0	7 (5)
	Work Experience	< 1 year	13 (28.9)
	1-2 years	7 (15.5)	0
	3-5 years	25 (55.6)	0
	6-10 years	0	0
	11-20 years	0	98 (70.5)
	20+ years	0	41 (29.5)
Educational Level	High School Diploma	4 (8.9)	17 (12.2)
	Bachelor's Degree	33 (73.3)	107 (77)
	Master's Degree	8 (17.8)	11 (10.8)
Professional Interest	Musculoskeletal System	24 (53.3)	57 (41)
	Cardiorespiratory System	0	11 (7.9)
	Neurology	10 (22.2)	32 (23)
	Pediatrics	3 (6.7)	14 (10.1)
	Sports	4 (8.9)	10 (7.2)
	Women's Health	0	6 (4.3)
	Elderly Care	0	1 (0.7)
	Other	4 (8.9)	8 (5.8)

3.2. Differences in the Amount of Patient Education Concerning Work Experience

Table 2 presents the results of the Student t-test, which examined differences in the amount of time spent on patient education based on work experience (novice vs. experienced physiotherapists). The majority of physiotherapists (44.7%) reported spending more than 15 minutes educating patients during the initial consultation, while 37.5% spent a similar amount of time during follow-up consultations. A small percentage of physiotherapists (2.4%) spent only 1-3 minutes on patient education during the first consultation, with slightly more (4.3%) doing the same in regular appointments.

A one-way ANOVA was conducted to assess differences in the duration of patient education based on work experience. The analysis revealed no statistically significant differences in the duration of education during either initial or follow-up appointments between physiotherapists with varying levels of work experience.

Table 2. Distribution of physiotherapists about the duration of patient education and differences concerning work experience (N= 184).

Variable	Work Experience	Novices N (%)	Experienced N (%)	T	df	P
Duration of education during the first visit	1-3 minutes	0	5 (3.6)	0.154	181	0.878
	4-6 minutes	7 (15.6)	8 (5.8)			
	6-10 minutes	4 (8.9)	33 (23.9)			
	11-15 minutes	15 (33.3)	29 (21)			
	>15 minutes	19 (42.2)	63 (45.7)			
Duration of education during regular sessions	1-3 minutes	4 (8.9)	5 (3.6)	-0.493	182	0.623
	4-6 minutes	8 (17.8)	20 (14.4)			
	6-10 minutes	9 (20)	43 (30.9)			
	11-15 minutes	7 (15.5)	20 (14.4)			
	>15 minutes	17 (37.8)	51 (36.7)			

3.3. Differences in Activities Used During Education Based on Physiotherapists' Work Experience

The Student t-test revealed that experienced physiotherapists, compared to novices, were significantly more likely to provide advice or instruction on posture and movement correction, inquire about the patient's concerns, offer strategies for performing activities of daily living, advise on the pace of daily activities, and explore the patient's ideas and perceptions ($p < .05$).

Table 3. Differences in the Activities Used During Patient Education Based on Work Experience (N = 184).

Activity	Frequency	Novices N (%)	Experienced N (%)	p-value
Providing information about the patient's condition or diagnosis	Never	0	7 (5)	.471
	Rarely	3 (6.7)	12 (8.6)	
	Occasionally	19 (42.2)	32 (23)	
	Quite often	15 (33.3)	45 (32.4)	

	Always	8 (17.8)	43 (31)	
Providing verbal or written exercise instructions	Never	0	2 (1.4)	
	Rarely	1 (2.2)	6 (4.3)	
	Occasionally	15 (33.3)	18 (13)	.362
	Quite often	11 (24.5)	54 (38.9)	
	Always	18 (40)	59 (42.4)	
Providing advice or instruction on posture or movement correction	Never	0	0	
	Rarely	0	1 (0.7)	
	Occasionally	9 (20)	14 (10.1)	.081
	Quite often	17 (37.8)	47 (33.8)	
	Always	19 (42.2)	77 (55.4)	
Advice or instruction on self-correction strategies	Never	0	2 (1.4)	
	Rarely	2 (4.4)	3 (2.2)	
	Occasionally	9 (20)	3 (10)	.025*
	Quite often	21 (46.7)	58 (41.7)	
	Always	13 (28.9)	66 (47.5)	
Asking about the patient's concerns	Never	0	4 (2.9)	
	Rarely	3 (6.7)	7 (5)	
	Occasionally	27 (60)	35 (25.2)	.005*
	Quite often	11 (24.4)	60 (43.2)	
	Always	4 (8.9)	33 (23.7)	
Providing information about the patient's prognosis	Never	5 (11.1)	9 (6.5)	
	Rarely	3 (6.8)	33 (23.7)	
	Occasionally	23 (51.1)	47 (33.8)	.708
	Quite often	8 (17.8)	37 (26.6)	
	Always	6 (13.3)	13 (9.4)	
Advice and strategies for performing activities of daily living	Never	0	6 (4.3)	
	Rarely	21 (2.2)	1 (0.7)	
	Occasionally	13 (28.9)	12 (8.6)	.021*
	Quite often	21 (46.7)	52 (37.4)	
	Always	10 (22.2)	68 (49)	
Exploring the patient's ideas and perceptions	Never	2 (4.4)	8 (5.7)	
	Rarely	12 (26.7)	12 (8.6)	
	Occasionally	20 (44.4)	55 (39.6)	.026*
	Quite often	7 (15.6)	51 (36.7)	
	Always	4 (8.9)	13 (9.4)	
Advice on the patient's activity pace	Never	1 (2.2)	3 (2.2)	
	Rarely	2 (4.5)	2 (1.4)	
	Occasionally	14 (31.1)	26 (18.7)	.011*
	Quite often	23 (51.1)	65 (46.8)	
	Always	5 (11.1)	42 (30.2)	
Advice on social support	Never	3 (6.7)	10 (7.2)	

	Rarely	8 (17.8)	23 (16.5)	
	Occasionally	22 (48.9)	58 (41.7)	.461
	Quite often	11 (24.4)	39 (28.1)	
	Always	1 (2.2)	9 (6.5)	
Consultation about stress, emotional, or psychological problems	Never	5 (11.1)	13 (9.4)	
	Rarely	6 (13.3)	21 (15.1)	
	Occasionally	21 (46.7)	55 (39.6)	.311
	Quite often	12 (26.7)	33 (23.7)	
	Always	1 (2.2)	17 (12.2)	
Promoting health	Never	1 (2.2)	3 (2.2)	
	Rarely	2 (4.5)	5 (3.6)	
	Occasionally	15 (33.3)	37 (26.6)	.082
	Quite often	23 (51.1)	56 (40.3)	
	Always	4 (8.9)	38 (27.3)	
Advice or instruction on addressing health-related problems	Never	1 (2.2)	2 (1.4)	
	Rarely	2 (4.4)	6 (4.3)	
	Occasionally	21 (46.7)	41 (29.5)	.051
	Quite often	17 (37.8)	66 (47.5)	
	Always	4 (8.9)	24 (17.3)	
Explaining pain neurophysiological mind-body	Never	3 (6.7)	6 (4.3)	
	Rarely	1 (2.2)	11 (7.9)	
	Occasionally	25 (55.6)	44 (31.7)	.065
	Quite often	15 (33.3)	61 (43.9)	
	Always	1 (2.2)	17 (12.2)	
Advice on using assistive equipment or devices	Never	1 (2.2)	4 (2.9)	
	Rarely	1 (2.2)	11 (7.9)	
	Occasionally	13 (28.9)	26 (18.7)	.848
	Quite often	17 (37.8)	58 (41.7)	
	Always	13 (28.9)	40 (28.8)	

3.4. Differences in the Ratings of the Importance of Patient Education Content Based on Work Experience

Most questions assessing the perceived importance of educational content did not show significant differences in the ratings between novice and experienced physiotherapists. However, experienced physiotherapists rated advising or teaching correct posture and movement, as well as teaching self-care strategies, as significantly more important than novices ($p < .05$), as shown in Table 4.

Table 4. Differences in the Ratings of the Importance of Patient Education Content Based on Physiotherapists' Work Experience (N = 184).

Variable	Experience Level	Not Important N (%)	Slightly Important N (%)	Moderately Important N (%)	Important N (%)	Very Important N (%)	p-Value
Providing information about the patient's condition or diagnosis	Novice	1 (2.2)	1 (2.2)	10 (22.2)	22 (50)	11 (24.4)	.191
	Experienced	4 (2.9)	7 (5)	16 (11.5)	52 (37.4)	60 (43.2)	
Providing verbal or written instructions for performing basic exercises	Novice	0	0	3 (6.7)	20 (44.4)	22 (48.9)	.770
	Experienced	2 (1.4)	2 (1.4)	9 (6.5)	43 (31)	83 (59.7)	
Advising or teaching correct posture and movement	Novice	0	0	5 (11.1)	19 (42.2)	21 (46.7)	.002*
	Experienced	0	0	6 (4.3)	33 (23.7)	100 (72)	
Advising or teaching self-care strategies	Novice	0	1 (2.2)	4 (8.9)	26 (57.8)	14 (31.1)	.043*
	Experienced	0	2 (1.4)	12 (8.6)	50 (36)	75 (54)	
Asking the patient about health concerns and discussing them	Novice	0	3 (6.7)	19 (42.2)	18 (40)	5 (11.1)	.251
	Experienced	2 (1.4)	9 (6.5)	40 (28.8)	62 (44.6)	26 (18.7)	
Providing information about the patient's prognosis	Novice	0	7 (15.6)	21 (46.7)	15 (33.3)	2 (4.4)	.084
	Experienced	10 (7.2)	8 (5.8)	39 (28)	57 (41)	25 (18)	
Advice or strategies for performing daily life activities	Novice	0	0	8 (18.6)	20 (46.5)	15 (34.9)	.085
	Experienced	2 (1.4)	4 (2.9)	5 (3.6)	53 (38.1)	75 (54)	
Exploring patients' ideas and perceptions	Novice	0	7 (16.3)	17 (39.5)	13 (30.2)	6 (14)	.090
	Experienced	2 (1.4)	13 (9.4)	34 (24.5)	67 (48.2)	23 (16.5)	
Advising or teaching about the patient's activity pace	Novice	0	2 (4.7)	12 (27.9)	14 (32.5)	15 (34.9)	.873
	Experienced	0	6 (4.3)	27 (19.4)	67 (48.2)	39 (28.1)	
Advice on social support	Novice	0	5 (11.6)	19 (44.2)	13 (30.2)	6 (14)	.540
	Experienced	4 (2.9)	12 (8.6)	40 (28.8)	68 (48.9)	15 (10.8)	
Advice on stress, emotional, or psychosocial problems	Novice	0	4 (9.3)	14 (32.5)	22 (51.2)	3 (7)	.524
	Experienced	3 (2.2)	15 (10.8)	34 (24.5)	61 (43.9)	26 (43.9)	
General health promotion	Novice	0	0	12 (27.9)	22 (51.2)	9 (20.9)	.867
	Experienced	1 (0.7)	4 (2.9)	38 (27.3)	60 (43.2)	36 (25.9)	
Advising or teaching strategies for solving problems related to diagnosis	Novice	0	1 (2.2)	10 (22.2)	25 (55.6)	7 (15.6)	.469
	Experienced	0	2 (9)	22 (15.8)	70 (50.4)	38 (27.3)	
Explaining the neurophysiology of pain/mind-body, description of pain	Novice	0	3 (7)	15 (34.9)	18 (41.8)	7 (16.3)	.991
	Experienced	3 (2.2)	15 (10.8)	34 (24.5)	59 (42.4)	28 (20.1)	
Advice on using assistive devices or equipment	Novice	0	1 (2.3)	12 (27.9)	14 (32.5)	16 (37.2)	.910
	Experienced	2 (1.4)	8 (5.8)	18 (12.9)	67 (48.2)	44 (31.7)	

3.5. Differences in the Evaluation of Patient Education Effectiveness Between Novice and Experienced Physiotherapists

Using the Student t-test, no significant differences were found in the evaluation of patient education effectiveness based on work experience (Table 5).

Table 5. Differences in the Evaluation of Patient Education Effectiveness Based on Work Experience (N = 184).

Activity	Group	Never N (%)	Rarely N (%)	Sometimes N (%)	Very often N (%)	Always N (%)	p-value
Ask the patient to repeat the content in their own words	Novice	4 (8.9)	6 (13.3)	17 (37.8)	8 (17.8)	10 (22.2)	.551
	Experienced	18 (12.9)	22 (15.8)	29 (20.9)	56 (40.3)	14 (10.1)	
Ask the patient to demonstrate	Novice	0	1 (2.2)	4 (8.9)	19 (42.2)	21 (46.7)	.690
	Experienced	2 (1.4)	1 (0.7)	13 (9.4)	63 (45.3)	60 (43.2)	
Interpret patient's signals of understanding	Novice	0	1 (2.2)	13 (28.9)	16 (35.6)	15 (33.3)	.870
	Experienced	1 (0.7)	2 (1.4)	27 (19.4)	78 (56.1)	31 (22.3)	
Objective measures or standards	Novice	1 (2.2)	4 (8.9)	14 (31.1)	15 (33.3)	11 (24.4)	.650
	Experienced	4 (2.9)	6 (4.3)	37 (26.6)	64 (46)	28 (20.1)	

Ask family members or caregivers.	Novice	3 (6.7)	8 (17.8)	17 (37.8)	12 (26.7)	5 (11.1)	.509
	Experienced	14 (10.1)	29 (20.9)	47 (33.8)	34 (24.5)	15 (10.8)	
Analyze patient tasks via video Activity	Novice	18 (40)	9 (20)	11 (24.4)	5 (11.1)	2 (4.4)	.454
	Experienced	61 (43.9)	32 (23)	28 (20.1)	14 (10.1)	4 (2.9)	

3.6. Differences in the Perception of Necessary Factors for the Development of Patient Education Skills Between Novice and Experienced Physiotherapists

An analysis of the attitudes of novice and experienced physiotherapists revealed significant differences regarding the value of continuing education courses. Novice physiotherapists rated continuing education as a significantly more important factor for developing patient education skills compared to their counterparts with more than 11 years of experience ($p < 0.05$).

Table 6. Differences in the perception of necessary factors for the development of patient education skills between novice and experienced physiotherapists (N = 184).

Activity	Group	Strongly disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly agree N (%)	p-Value
Training and/or experience before school or study	Novice	1 (2.2)	2 (4.4)	19 (42.2)	18 (40)	5 (11.1)	.891
	Experienced	6 (4.3)	16 (11.5)	35 (25.2)	65 (46.8)	17 (12.2)	
Academic/university study of physiotherapy	Novice	0	0	8 (17.8)	25 (55.6)	12 (26.7)	.080
	Experienced	7 (5)	3 (2.2)	26 (18.7)	75 (54)	28 (20.1)	
Continuing education courses	Novice	0	0	21 (46.7)	14 (31.1)	10 (22.2)	.009*
	Experienced	10 (7.2)	6 (4.3)	65 (46.8)	44 (31.7)	14 (10.1)	
Postgraduate studies	Novice	0	0	6 (13.3)	24 (53.3)	15 (33.3)	.451
	Experienced	5 (3.6)	1 (0.7)	13 (9.4)	77 (55.4)	43 (30.9)	
Professional services in the service	Novice	0	1 (2.2)	6 (13.3)	24 (53.3)	14 (31.1)	.663
	Experienced	1 (0.7)	2 (1.4)	19 (13.7)	80 (57.6)	37 (26.6)	
Interaction with colleagues	Novice	0	1 (2.2)	3 (6.7)	22 (48.9)	19 (42.2)	.123
	Experienced	3 (2.2)	1 (0.7)	19 (13.7)	72 (51.8)	44 (31.7)	
Personal experience with patients	Novice	0	0	4 (8.9)	21 (46.7)	20 (44.4)	.713
	Experienced	0	0	11 (7.9)	62 (44.6)	66 (47.5)	

4. Discussion

This study compared novice and experienced physiotherapists regarding patient education practices and perceptions of patient education. The results show that experienced physical therapists emphasize the importance of addressing patient concerns and perceptions, teaching proper posture or movement, teaching self-management strategies, and emphasizing practical experience. Physiotherapists reported that patient education is an integral part of their work, most of them (44.7%) stated that they spend more than 15 minutes educating patients during initial consultations, while slightly fewer of them (37.5%) did so during follow-up consultations. Notably, more time was devoted to patient education during the first meeting compared to subsequent consultations in both groups, consistent with similar studies' findings [13,17–19]. Overloading with the number of patients limits the time available for physiotherapists in Bosnia and Herzegovina for quality patient education.

The results of the survey point out that experienced physiotherapists prioritize counseling, teaching, and empowering patients to manage their health and explore the patient's ideas and perceptions ($p < .05$). Findings from other research indicate that experienced physical therapists are more likely to investigate and address patients' ideas and concerns, which are recognized in the literature as key components of patient-centered education [26,27]. Similarly, qualitative research involving novice and experienced healthcare professionals in cardiovascular settings suggests that experienced professionals are better at tailoring education to patients' specific needs and circumstances [28]. This patient-centered approach considers the patient's desire for information and shapes education from the patient's perspective [29,30], which can be the basis for improving educational practice.

No significant differences were found between novice and experienced physiotherapists in their perception of the importance of most educational content. However, experienced physiotherapists placed more emphasis on counseling teaching proper posture and movement, and educating patients

on self-care strategies compared to less experienced colleagues ($p < 0.05$). These findings are consistent with previous qualitative research, which shows that experienced physical therapists actively promote patient self-management and work to improve patient self-efficacy [31]. Research with physicians [32] and patients [33] indicates that more experienced practitioners have a deeper understanding of the impact of self-management skills on patient care and health outcomes related to novice practitioners. These results contribute to the stated need for education and training of physical therapists, especially inpatient self-control. Research by Svavarsdottir et al. indicates similar levels of patient education ability between novice and experienced therapists [28]. The main reason is that physical therapists receive minimal training in patient education skills [34], and continuing professional development activities are rarely conducted in this area [35]. Most courses intended for physiotherapists are mainly didactic and aimed at clinicians and often do not meet the educational needs of patients [35,36].

Evaluation is considered the final phase of patient-centered education, monitoring the progress of the learning process and patients' understanding [10]. Despite its importance, evaluation often receives limited focus in training health professionals [37]. The feedback teaching method was identified as a key competency with high expert agreement [11]. The obtained results of physiotherapists show that no significant differences were found in the evaluation of patient education effectiveness based on work experience, the majority of respondents determined that they very often or always seek feedback from the patient. This dialogue allows providers to identify and correct misunderstandings, increasing patient understanding and engagement [10].

Similar findings were reported in Australian research [11], though our results also highlight a notable absence of written instructions and advice for patients, which may be attributed to differing regulations and approaches in the health system.

The highest-rated factors contributing to the development of patient education skills were 'personal experience with patients,' 'interaction with colleagues,' and 'continuing education courses.' Novice physiotherapists considered prior training and experience before studying physiotherapy to be the least important, whereas experienced physiotherapists placed greater value on practical experience, viewing courses as the least impactful for skill development. The literature highlights that early-career clinicians are often still in the process of independent learning and require significant support in the workplace [38]. Taking on the role of a patient educator adds extra responsibilities, such as providing guidance, feedback, and assessments [39]. These duties, combined with the well-documented challenges of patient education, may contribute to feelings of apprehension, or even anxiety, among novice clinicians [40–42]. While this study did not directly examine anxiety levels, previous research has shown that less experienced clinicians tend to feel more anxious in managing their professional roles compared to their more experienced counterparts [43], which may be relevant to the context of our findings. The research showed that novice physiotherapists viewed continuing education as significantly more important for developing patient education skills compared to their more experienced counterparts ($p < 0.05$). Practical experience with patients and interaction with colleagues are key factors in the development of patient education skills, the working environment in Bosnia and Herzegovina should encourage cooperation and mentoring between experienced and novice physiotherapists. By investing in the training of physiotherapists and creating an environment that supports the exchange of knowledge, Bosnia and Herzegovina can improve healthcare quality, empower patients, and ensure the sustainable development of physiotherapy in the country.

Limitations: A major impact of this study stems from the extensive experience most participants had in patient education in physiotherapy, particularly as most had experience in various educational settings. However, participants with less experience were in the minority, and there were no participants with a professional interest in patient education. Including more participants with limited experience may provide additional information about the educational needs of novice educators. The study's main limitation was basing the results on the personal and professional opinions of the physiotherapists, rather than on their actual work. This approach was deliberately chosen due to the lack of robust descriptions of novice and expert educators in physiotherapy.

5. Conclusions

This study provides valuable insight into physiotherapist practice and perceptions regarding patient education. Experienced physiotherapists in this study prioritized teaching proper posture, movement, and self-care strategies, while novice physiotherapists emphasized the importance of continuing education. Given the critical role of self-management education in increasing patient satisfaction and health outcomes in physiotherapy, as well as the established relationship between patient-centered care and patient outcomes, the lower utilization of key educational content reported by novice therapists could impact patient care. Consequently, future research should focus on the factors that make differences between novice and experienced therapists and the importance of gaining experience, self-efficacy, and practice skills. This study could serve as the first step in a research program aimed at improving physiotherapist training curricula.

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