

INVESTIGATION OF PATIENT SATISFACTION LEVEL IN PHYSICAL THERAPY UNITS: PILOT STUDY

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ABSTRACT

Introduction: Physiotherapy and rehabilitation (PTR) approaches aim to support patients' earlier recovery as well as improvement of their independence and quality of life. The higher patient satisfaction level reflects the higher quality of the health care service. This study planned to determine the factors related to satisfaction levels of the patients treated in PTR units.

Material and Methods: The study included 100 individuals who were consulted in PTR units. Following the recording of demographics and pain characteristics, Physical Therapy Patient Satisfaction Questionnaire (PTPSQ) and Beck Depression Scale (BDI) evaluated the satisfaction and depression levels, respectively.

Results: Women had higher satisfaction levels. While groups differed significantly in terms of their occupational characteristics ($p < 0.05$), there was not a significant difference in terms of other demographics ($p > 0.05$). Increasing the positive effects of the treatment on pain had a significant effect on the increase in satisfaction level ($p < 0.001$). Those with low BDI scores significantly had higher levels of satisfaction. BDI scores had a statistically significant relationship with education level, disease type, presence of other diseases and effectiveness of treatment on pain ($p < 0.05$).

Conclusion: Evaluation of gender, occupational status, the effectiveness of treatment on pain and depression to determine patient satisfaction in PTR services is of great importance. The lower level of education, the type of illness and the presence of other disorders should be handled as secondary effectors. The treatment should be continued with multidisciplinary teamwork to ensure patient satisfaction and increase recovery.

Key Words: Health care, health services, patient satisfaction, depression

INTRODUCTION

Physiotherapy and rehabilitation (PTR) approaches aim to support patients' earlier recovery as well as their independence, autonomy and quality of life (1). Many studies are carried out to increase the quality of

health care in order to provide the best service to the patients in line with the demand that occurs with the increase of the need for PTR. Patient satisfaction is a multidimensional phenomenon that includes the degree of patient's positive feelings on quality of

service, interpersonal behavior, communication, financial aspects, time spent with health professionals, pharmacy service and accessibility to health care service (2,3). Having information about satisfaction status as well as evaluation of quality is very valuable in the management and shaping of health services. It is known that the higher quality of the healthcare service means the higher the patient's satisfaction level (4). That is why evaluating the patient satisfaction level with PTR services is of great importance. However, measuring various features of physiotherapy approaches is important in terms of effects on patient satisfaction. Evaluations are required to identify potential threats to the service providers (physiotherapists) and the recipients (patients), and to improve the effectiveness, productivity and quality of the service provided (5). The studies, that have researched many factors that are thought to affect patient satisfaction, had contradictory results. The most popular factors were determined as gender and depression level (2,6,7). However, while there is a consensus that the level of depression should be taken into account when evaluating the patient satisfaction level, it is very important to assess the patients' satisfaction level with PTR approaches in a wide perspective in order to provide more objective data (8,9). The number of PTR centers, which serve many purposes such as rehabilitation of many diseases that cause disability, minimizing loss of movement and function due to aging, increasing cardiovascular fitness and maintaining the current well-being, is increasing dramatically with each passing day (10). However, there are not enough studies evaluating the patient satisfaction level with PTR applications and centers. The current study aimed to investigate the factors related to the satisfaction levels of the patients treated in PTR units.

MATERIAL AND METHODS

Study design

This was a cross-sectional study that was conducted at PTR units in Hatay. The study was approved by the Ethics Committee of Clinical Research of Hatay Mustafa Kemal University (23/12/2014,233). All the patients gave their written informed consent.

Participants

This trial included 100 volunteers aged 18–75 years with orthopedic or neurological problems who consulted to PTR units. Assessments have been

made to patients who applied to the PTR unit and terminated or discontinued the treatment process.

Inclusion and exclusion criteria

The inclusion criteria required that subjects had a good cognitive status to complete the assessments. Patients with aphasia or apraxia and who were illiterate were excluded from the study.

Outcomes and measurements

After demographics of the patients (age, gender, height, body weight, and medical history) were recorded, all patients answered the questions about education level, income level for a month, whether he had any other illnesses, whether he had received physical therapy before, how many times he received physical therapy, and how he was informed about the PTR unit.

Pain Characteristics: Visual analogue scale (VAS) inquired the severity of pain and a body diagram indicated the aching body part. The questions about the frequency and type of pain were asked to the participants (11).

Satisfaction Level: Physical Therapy Patient Satisfaction Questionnaire (PTPSQ) consisting of 20 questions specially developed for use in physical therapy units was used to measure the satisfaction level of patients who applied to the PTR clinic. Each question is scored between 1 and 5 in the questionnaire, which includes questions about the competence of the physiotherapists and other staffs, the effectiveness of the treatment, the cost of the treatment process from reaching the unit, and the patient's satisfaction with the general process (1: Not satisfied at all, 2: Not satisfied, 3: Undecided, 4: Satisfied, 5: Very satisfied). The total score is calculated by summing the scores from all items. The total high scores show a higher satisfaction level (12).

Depression Level: Beck Depression Inventory (BDI) developed by Beck et al. was used to assess the level of depression. The scale consists of 21 items questioning how the individual felt in the last week and allows to evaluate at 4 different levels between 0 and 3. Turkish validity and reliability studies of the scale were conducted by Hisli et al (13).

Statistical analysis

Statistical Package for the Social Sciences (SPSS 21.0, SPSS Inc., Chicago, IL) was used to carry out the statistical analyses. Kolmogorov-Smirnov test evaluated all continuous variables for normality. The

Table 1. Comparison of Age, VAS, BDI and PTPSQ Score by Gender

	Female X ± SD	Male X ± SD	All	z	p
Age	41.94 ± 13.58	40.11 ± 13.81	40.83±13.68	-0.711	0.477
VAS	6.20 ± 1.90	6.02 ± 2.02	6.11±1.96	-0.241	0.810
BDI	9.15 ± 7.08	12.32 ± 12.93	11.09±11.09	-0.333	0.739
PTPSQ	81.87 ± 13.20	70.96 ± 23.37	75.22±20.64	-1.945	0.052

VAS: Visual Analogue Scale, BDI: Beck Depression Inventory, PTPSQ: Physical Therapy Patient Satisfaction Questionnaire, X: Average, SD: Standard Deviation, z: Mann Whitney U Test, p: Level of significance.

identification of mean ± standard deviation was used for the descriptive data determined by the measurement, and the number and percentage value were specified in the descriptive data determined by count. Because of non-parametric conditions, the Mann-Whitney U test and Kruskal Wallis test were used for comparisons between groups, while Spearman Correlation Test analyzed variables related to satisfaction level. Chi-square test compared variables in a contingency table to see if they are related. The level of significance was set at $p < 0.05$.

RESULTS

A total of 100 patients, including 39 women and 51 men, were included in the study. While the mean age of women was 41.94 ± 13.58 , the mean age of men was 40.11 ± 13.81 . Not only the difference between the age but also the differences between pain intensity, depression level and satisfaction levels of groups were not statistically significant (Table 1).

Descriptive and clinical characteristics of the groups, created according to PTPSQ results, were shown in Tables 2 and 3. The female gender had a significantly higher satisfaction level ($p=0.026$). While groups differed significantly in terms of their occupational characteristics ($p=0.021$), there was not a significant difference between groups in terms of marital status and education level (Table 2).

When the clinical characteristics of the groups were compared, it was determined that a significantly higher majority of the patients started treatment in the PTR center with the doctors’ recommendations ($p=0.011$). Increasing the positive effects of the treatment on pain had a significant effect on the increase in satisfaction level ($p < 0.001$). It was found that clinical characteristics related to illness and pain did not have a significant effect on satisfaction level (Table 3).

Table 4 presents the effects of different depression levels on satisfaction levels. Those with low BDI

scores were significantly more likely to have a high level of satisfaction ($p < 0.001$, Table 4). When the age and BDI averages of the groups formed according to satisfaction level are compared, the mean ages of the groups were similar ($p = 0.340$), but there was a significant difference in terms of BDI scores ($p < 0.001$, Table 5).

In order to make a more detailed interpretation, when the relationship of PTPSQ and BDI results with demographic and clinical characteristics is examined, both PTPSQ and BDI scores showed a statistically significant relationship with each other. In addition, BDI had a statistically significant relationship with education level, disease type, presence of other disease and effectiveness of treatment on pain (Table 6).

DISCUSSION

It was found that gender and depression levels which are among the main objectives of the study, have an significant effect on the patient’s satisfaction level. It was found that the satisfaction level of women was higher and as the level of depression increased, patient satisfaction level decreased. Occupational characteristics and effectiveness of the treatment on pain were found as main determinators for satisfaction level. Additionally, it was shown that education level, disease type and the presence of other diseases may have a secondary effect on the patient satisfaction level by affecting the level of depression.

There are comparative studies examining the satisfaction level of women and men after treatment. In parallel with our findings, the study of Issa et al. evaluating the possible factors contributing to patients’ satisfaction level after postoperative rehabilitation, found that women showed higher satisfaction levels with physical therapy compared to men (14). A systematic review examining satisfaction levels after PTR for musculoskeletal problems also presented that female patients reported higher

Table 2. Demographic Data of Individuals According to PTPSQ Results

		PTPSQ								χ ²	p
		Not Satisfied		Moderately Satisfied		Satisfied		Very Satisfied			
		N	%	n	%	N	%	n	%		
Gender	Female	0	0	3	7.7	14	35.9	22	56.4	9.269	0.026*
	Male	12	19.7	2	3.3	18	29.5	29	47.5		
	Total	12	12	5	5	32	32	51	51		
Marital Status	Single	4	19	1	4.8	9	38.1	9	38.1	2.815	0.832
	Married	8	10.4	4	5.2	23	29.9	42	54.5		
	Total	12	12	5	5	32	32	51	51		
Profession or Job	Housewife	0	0	1	4	11	44	13	52	32.194	0.021*
	Artisan	6	22.2	1	3.7	12	26.29	22	47.80		
	Officer	3	20	2	13.3	3	20	7	46.7		
	Student	0	0	1	10	5	50	4	40		
	Retired	3	33.3	0	0	1	11.1	5	55.6		
	Total	12	12	5	5	32	32	51	51		
Education Level	Illiterate	1	20	0	0	1	20	3	60	3.164	0.994
	Primary School	4	10.81	1	2.7	14	37.83	18	48.64		
	High School	3	12	2	8	8	32	12	48		
	University	4	12.1	2	6.1	9	27.3	18	54.5		
	Total	12	12	5	5	32	32	51	51		

PTPSQ: Physical Therapy Patient Satisfaction Questionnaire, X²: Chi Square Test, *p ≤ 0,05.

satisfaction than male patients (15). Similarly, Marker et al. pointed out that men, who received PTR after total hip arthroplasty, reported lower satisfaction than women (16). Contrary to these studies, only one study involving patients with a different diagnosis, women showed lower satisfaction levels than men (17). The lack of a homogeneous distribution in terms of diagnosis may be effective in these results. However, another study with a lower number of patients revealed that both genders exhibited similar satisfaction levels after total knee arthroplasty (18). In the light of studies conducted with a larger sample and homogeneous patient population in the literature, it is observed that the female gender increases the level of patient satisfaction in PTR services.

In our study comparing the groups in terms of age, gender, occupational characteristics, education level and the patient satisfaction level, it was observed that age and education level had no significant effect on the satisfaction level of patients, but gender and occupational characteristics were important factors for satisfaction level. Studies provided evidence that age was an important and consistent determining variable for the patient satisfaction. It was concluded that older patients were more satisfied with health services than younger (2,19). Unlike the literature, it

was observed that age did not have a significant effect on the satisfaction level of the patients in our study. There are inconsistent studies about the level of education in the literature. While some studies pointed out that increasing the level of education decreases the level of patient satisfaction, some studies pointed to the opposite (2,20,21,22). In our study, it was found that education level did not affect satisfaction level. It seems that estimating the satisfaction level of patients by considering age and education level may not yield clear results for now. Another factor that was observed to affect the level of satisfaction in our study is occupation status. In accordance with our results, one study reported that unemployed people, housewives, retirees, and students were more satisfied than a government official, private sector and tradesman (23). Algudairi et al. found a significant relationship between occupation and satisfaction level of patients who received PTR (24).

Pain is an important determinant of patients' relief in treatment. We predicted that as patients' pain decreases, their satisfaction with the treatment will increase. The effectiveness of the treatment on pain is important in patient satisfaction. In many studies, patients who were experiencing pain after

Table 3. Clinical Features of Individuals According to PTPSQ Results

		PTPSQ								x ²	p
		Not Satisfied		Moderately Satisfied		Satisfied		Very Satisfied			
		N	%	n	%	n	%	n	%		
Disease Type	Orthopedic	3	5.5	2	3.6	20	36.4	30	54.5	5.847	0.119
	Neurological	9	20	3	6.7	12	26.7	21	46.7		
	Total	12	12	5	5	32	32	51	51		
Have you ever had physical therapy?	Yes	2	8.7	0	0	6	26.1	15	65.2	3.276	0.351
	No	10	13	5	6.5	26	33.8	36	46.8		
From whom did you hear our center?	A doctor	6	10.5	1	1.8	16	28.1	34	59.6	26.004	0.011*
	A friend	6	19.35	3	9.67	9	29.03	13	41.93		
	A patient	0	0	1	14.3	6	85.7	0	0		
	Others	0	0	0	0	1	20	4	80		
Physical therapy applied area	Neck	0	0	1	16.7	4	66.7	1	16.7	27.395	0.286
	Upper extremity	1	4.54	0	0	11	50	10	45.45		
	Lower back	3	13	3	13	7	30.4	10	43.5		
	Lower extremity	1	5	0	0	7	35	12	60		
	More	7	24.1	1	3.4	3	10.3	18	62.1		
Frequency of pain	Sometimes	1	4	2	8	7	28	15	60	4.547	0.603
	During activity	3	23.1	0	0	4	30.8	6	46.2		
	Continuous	8	12.9	3	4.8	21	33.9	30	48.4		
Effectiveness of treatment on pain	No	10	47.6	2	9.5	4	19	5	23.8	49.084	0.000*
	Positive	0	0	2	2.7	27	36	46	61.3		
	Negative	2	50	1	25	1	25	0	0		
Other disease	Yes	4	11.8	1	2.9	10	29.4	19	55.9	0.788	0.852
	No	8	12.1	4	6.1	22	33.3	32	48.5		
Are you coming to our center for the first time?	Yes	10	11.5	5	5.7	28	32.2	44	50.6	0.921	0.820
	No	2	15.4	0	0	4	30.8	7	53.8		
VAS	<3	0	0	0	0	0	0	5	100	42.636	0.063
	≥3	12	12.63	5	5.26	32	33.68	46	48.42		

PTPSQ: Physical Therapy Patient Satisfaction Questionnaire, X²: Chi Square Test, *p ≤ 0,05, **p ≤ 0,001.

rehabilitation reported lower satisfaction about the health care services (2,25,26,27). Our findings were consistent with these results offered the idea that providing pain control after treatment will increase the patient satisfaction level.

The presence of depression can affect the patient satisfaction level. According to the results of the

current study with the same line in the study of Köhler et al., satisfaction level was lower in patients with high depression symptoms (28). Similarly, another study demonstrated that patient satisfaction level was negatively correlated with depression level, regardless of surgery. In this regard, quality improvement initiatives that use patient satisfaction to

Table 4. BDI Results According to PTPSQ Results

		PTPSQ								X ²	p
		Not satisfied		Moderately satisfied		Satisfied		Very satisfied			
		N	%	n	%	n	%	n	%		
BDI	Normal	2	3.3	4	6.6	20	32.8	35	57.4	61.426	0.000*
	Light	0	0	0	0	7	36.8	12	63.2		
	Border	0	0	0	0	2	40	3	60		
	Medium	4	50	0	0	3	37.5	1	12.5		
	Serious	5	83.3	1	16.7	0	0	0	0		
	Very Serious	1	100	0	0	0	0	0	0		
	Total	12	12	5	5	32	32	51	51		

PTPSQ: Physical Therapy Patient Satisfaction Questionnaire, BDI: Beck Depression Inventory, X²: Chi Square Test, *p ≤ 0,001.

Table 5. The variance of age and BDI values with PTPSQ values

	PTPSQ								x ²	p
	Not satisfied		Moderately satisfied		Satisfied		Very satisfied			
	X±SD	Min-max	X±SD	Min-max	X±SD	Min-max	X±SD	Min-max		
Age	42.25±14.09	23-65	33.40±5.02	25-38	38.68±12.49	22-75	42.56±14.70	18-73	3.335	0.340
BDI	29.0±16.66	0-63	15±12.32	8-37	10.43±7.23	0-29	6.90±6.42	0-21	20.023	0.000*

PTPSQ: Physical Therapy Patient Satisfaction Questionnaire, BDI: Beck Depression Inventory, X²: Kruskal Wallis Test, X: Average, SD: Standard Deviation, *p ≤ 0,001.

improve service quality should not ignore the patient's initial depression (8). Unlike these studies, Koç et al. reported there was no significant relationship between depression levels and the satisfaction of the patients (29). The reason why the level of depression did not affect patient satisfaction is thought to be due to the differences in the socio-cultural levels and occupational status of the patients and the lack of a

larger sample group. In our study, the participants are more homogeneously distributed. Our findings supported most studies pointing out that depression has an effect on patient satisfaction (2,8,27). It was found that the effectiveness level of the treatments on pain had a positive relationship with the satisfaction level in our study. The effectiveness level of the treatments on pain had not only a relationship

Table 6. Correlation of individuals' PTPSQ and BDI data with demographic and clinical data

	PTPSQ		BDI	
	r	p	r	p
Gender	-0.195	0.051	0.033	0.741
Education level	-0.014	0.892	-0.246	0.014*
Disease type	-0.100	0.324	0.393	0.000***
Presence of other diseases	-0.152	0.132	-0.218	0.029*
Have you ever had physical therapy?	-0.185	0.065	0.025	0.807
Effectiveness of treatment on pain	0.279	0.005**	-0.319	0.001***
BDI	-0.392	0.000***	1	-
PTPSQ	1	-	-0.392	0.000***

PTPSQ: Physical Therapy Patient Satisfaction Questionnaire, BDI: Beck Depression Inventory, r: Spearman Correlation Test, *p≤0,05, **p≤0,01, ***p≤0,001

with satisfaction level but also depression level. Therefore, increasing the effectiveness of the treatment on pain can increase the level of satisfaction both directly and indirectly. Thus it provides us with an idea that pain management should be considered as a primary criterion after treatment sessions (30).

The fact that the presence of depression is a major factor affecting the patient satisfaction level and the tragic decrease in the patient satisfaction level with the increase in the depression level made us think that the factors related to depression may have a secondary effect on the satisfaction level. In further analysis to investigate this hypothesis, we observed that depression level has a significant correlation with education level, disease type, presence of other disease effects of treatment on pain and satisfaction level. Education level especially plays a significant role in processes that affect mental health. A majority of longitudinal studies established that the patients with higher education degrees experience fewer depressive symptoms (31,32,33). Similarly, our results emphasized that education level had a negative relationship with depression. Although there is no relationship between the education level and the satisfaction level, the results of the correlation analyses suggest that education level may have a secondary effect on the patient satisfaction level. The presence of chronic diseases and comorbidities affecting different systems also cause depressive instability to varying degrees. Therefore, together with the management of depression, the treatment of their current diseases will indirectly contribute to the increase in the satisfaction level of the patients (34,35).

Limitations

There are some limitations that require attention. The first limitation of this study is that the results obtained in this study may not be generalizable to cities with larger populations. In addition, not considering the effect of environmental conditions on satisfaction is one of the other limitations of the study. Because patient satisfaction is affected by many environmental factors such as lighting, heat, cleaning, ventilation and noise. A more comprehensive survey could be used in this regard.

CONCLUSION

In conclusion, the current study demonstrated that gender, occupational status, the effectiveness of treatment on pain and depression are the primary determinants of satisfaction for patients receiving PTR. The low education level, the type of illness and the presence of other disorders can cause depressive changes and change the satisfaction level. Therefore, primary and secondary factors related to patient satisfaction should be taken into consideration in PTR services. The treatment process should be continued with multidisciplinary teamwork to ensure patient satisfaction and increase recovery.

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