

Patient Satisfaction With Physiotherapy Services in Libya: A Cross-Sectional Study

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Abstract

Patient satisfaction (PS) is an essential indicator of the quality of physiotherapy services. However, regarding Libya, there has been a dearth of research on PS. This cross-sectional study aimed to measure PS with outpatient physiotherapy services and to examine the sociodemographic factors that influence the levels of satisfaction in Libya. Patient satisfaction with physiotherapy services was assessed using a reliable, valid, and structured questionnaire. Data were collected from 501 patients, and the participants' ages ranged from 18 to 79 (mean \pm standard deviation = 47.19 \pm 12.8), with more females (n = 312) than males (n = 189). Participants were satisfied or very satisfied with the physiotherapy they received in the domains that measure PS. The highest percentage of satisfaction was in the physiotherapists' attributes and ability to provide detailed explanations to their patients. Patient satisfaction was also associated with gender and occupation, with females and unemployed patients reporting higher satisfaction rates. This highlights the value of surveys administered to patients during treatments, as well as the value of strategies to address the influential factors for the improvement of PS in public physiotherapy clinics in Libya.

Keywords

patient satisfaction, physiotherapy, outpatient, cross-sectional study, Libya

Introduction

Patient-centered physiotherapy practices have been advocated for decades as a better transition from the dominant medical model to a more holistic approach that considers the biological, social, and psychological aspects of a patient's presentation (1,2). According to this approach, patients' opinions, views, needs, and preferences together play an important role in perceived overall health and well-being (3,4). As the numbers of people who benefit from physiotherapy services have significantly increased in the last few decades, including people aging with disabilities, there has been an acknowledged need for research on the effectiveness of physiotherapy practices, and particularly for studies that quantify the experiences of patients and their use of physiotherapy services (5). As a result of developments in the theoretical basis of physiotherapy practices, the concept of patient satisfaction has emerged as a parameter for the quality of physiotherapy services for different populations (6).

In Libya, physiotherapy services are provided in both public and private hospitals. Public hospitals are free for everyone, but they provide limited physiotherapy services due to the high patient-to-physiotherapist ratio. Private institutions are more sophisticated and equipped with modern and expensive modalities; however, due to the high cost of admission and a lack of health insurance plans that cover such services, only a limited number of patients can access the private options. Recently, a new model of physiotherapy services has been implemented that is based on the home-based physiotherapy model, in which physiotherapists deliver services at patients' homes; however, due to the many challenges that face this physiotherapy service model,

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its application is still limited. Therefore, outpatient physiotherapy clinics in public hospitals are a preferred option for many groups that do not need admission to inpatient units. As well, after discharge from hospitals, patients usually complete their recommended physiotherapy services in outpatient clinics. Given the developments that have taken place in the past 10 years in the Libyan health care system, it is essential to systematically appraise and evaluate these outpatient services in public hospitals by evaluating patient satisfaction.

Patient satisfaction has been determined by many studies as an important indicator of physiotherapy service quality and overall health care system efficiency (6,7). Moreover, high patient satisfaction levels are associated with adherence to treatment, better health outcomes, and higher health-related quality of life (8,9). Research on patients' satisfaction with physiotherapy services has been ongoing for over 20 years. For example, a systematic review based on 15 studies by Hush et al (10) provided some evidence regarding the levels and determinants of patient satisfaction, and overall, the level of satisfaction with physiotherapy services was high across all the reviewed studies. Also, patient satisfaction has been correlated with physiotherapists' abilities and attitudes, such as skills, knowledge, professionalism, and effective communication (11,12). Other determinants of patient satisfaction include convenience and access to physiotherapy facilities, such as location, parking, wait times, and administrative procedures (11–13). Furthermore, patient satisfaction may be mediated by sociodemographic variables such as gender, age, education, and psychosocial factors (14,15).

The concept of patient satisfaction has been well-studied in the past 20 years; however, most studies have been conducted in Europe and North America. Although some studies have been conducted in African countries such as Ghana (15) and Nigeria (14), their health care systems and sociodemographic backgrounds differ from those of Libya. Except for one qualitative study that described the physiotherapy experiences of patients in Egypt (13), our literature review did not find any other studies conducted in North African countries. The results of such research can provide evidence for physiotherapists, clinic managers, and policymakers in the health care system to improve service quality and consequently to optimize the efficiency of health care services. Therefore, we have conducted this study with the aim of examining the levels and sociodemographic determinants of satisfaction of patients attending outpatient clinics in public hospitals in Libya.

Methods

Study Design

This cross-sectional study was designed to measure the levels of satisfaction in outpatients who had received physiotherapy services at 12 physiotherapy clinics in Misrata, Libya.

Sample Size

The sample size was calculated using Epi Info software, version 3. The expected probability of high patient satisfaction was assumed to be 50%, and by applying a 95% power, precision of $\pm 5\%$, and a design effect of 1.0, the minimum required sample size was estimated to be 384 participants. However, we added 10% to this number to account for possible nonresponses, and so the minimum sample size was revised to 422 participants. A systematic random sampling technique was applied to select participants from patient reception areas. The research assistant obtained the files of all patients who were in a waiting room, and then they picked every third file and arranged an interview with the relevant patients after they finished their treatment sessions. This procedure was done after obtaining permission from the clinics' administrations and obtaining an ethical clearance certificate from the ethics committee at the College of Medical Technology (Misrata; Ethics certificate# EXT-327-2019).

Study Participants

A sample of 501 patients attending outpatient physiotherapy services at 12 public clinics in the Misrata area participated in this study. In order to be included, patients had to be at least 18 years of age, be able to read and understand the Arabic language, be cognitively and mentally sound (ie, oriented to times, places, and people), be able to sign the consent form (by themselves or by their legal decision-maker), and had completed at least 3 physiotherapy sessions (ie, 1 week of treatment). Patients were excluded if they were cognitively or intellectually challenged and/or if their medical conditions were fragile and needed close medical attention.

Data Collection Tool

The data were collected using a quasi-anonymous structured questionnaire. The questionnaire included 2 parts (Supplemental Appendix 2). The first part contained questions about sociodemographic information such as gender, age, marital status, occupation, and medical condition, while the second part was based on a scale that measures patient satisfaction with physiotherapy services. This scale was developed and validated by Monnin and Perneger (16) and adopted by the American Physiotherapy Association (15), and is a valid and reliable tool for assessing patient satisfaction with outpatient physiotherapy services. The original scale was developed in the English language; therefore, we adopted an Arabic version that was translated and validated by Devreux et al (17). The scale consisted of 14 survey items. Patients were asked to rate their satisfaction levels with the survey items by using a 5-point Likert scale (1 = poor, 2 = fair, 3 = good, 4 = very good, and 5 = excellent), except for question number 14, "Would you recommend this facility to people close to

you?”, where answers were scored using a different 5-point Likert scale: 1 = certainly not, 2 = probably not, 3 = not sure, 4 = yes, probably, and 5 = yes, certainly.

Pilot Testing

The preliminary questionnaire was tested on 19 patients with similar characteristics in order to assess the questions' clarity and the time required to complete the questionnaire. Research assistants were also involved in this phase in order for them to gain more experience and to minimize personal errors. Data from the pilot testing were not included in the study. Based on the pilot testing phase, all questions were determined to be straightforward and understandable by different age-groups, and therefore we moved confidently onto the data collection phase.

Procedures

During the period between January and March 2019, potential participants were approached by the researchers and were invited to participate after receiving adequate information about the study's objectives, procedures, benefits, and possible risks from participating in the study. These individuals were invited to participate in the study and were given a study package that consisted of a study questionnaire, an information sheet, and a consent form, with all documents being written in Arabic. After the patients' treatments, data were collected by trained research assistants via face-to-face interviews in a convenient office in the clinic where the patients had received treatment. These research assistants were physiotherapy students and part of the research team and were not part of the staff at any of the 12 data collection sites. They were trained for 5 days before the study's start date and participated in the preliminary questionnaire pilot testing in order to gain experience. To ensure the quality of the collected data, a supervisor was always present during the data collection sessions, and the completed questionnaires were cross-checked daily.

Data Analysis

All the collected questionnaires were checked for completeness and consistency and then entered into an Excel spreadsheet. The researchers used a double-check entry method to ensure the quality of the data, and then the precoded data were imported and analyzed using the Statistical Package for Social Sciences (SPSS) software, version 26. The data were presented in tables and expressed as frequencies and percentages. Mann-Whitney *U* and Kruskal-Wallis nonparametric tests were used to test the associations between sociodemographic variables. The Mann-Whitney *U* test was used only for the gender variable, whereas the Kruskal-Wallis test was used for the participants' ages, marital statuses, occupations, and medical conditions. The mean scores and standard

deviations were calculated, and a *P* value of $\leq .05$ was considered to be statistically significant.

Ethics, Consent, and Permissions

Ethical approval was obtained from the Research Ethics Board of the College of Medical Technology, Misrata. Also, written permission was obtained from all of the 12 public hospitals that participated in this study. Individuals who agreed to participate in this study provided a written consent before proceeding to the study questionnaire. To the best of our knowledge, all the study procedures were conducted under the ethical codes of the Declaration of Helsinki.

Results

Demographic Characteristics of Participants

A total of 530 patients were invited to participate in this study, with 501 questionnaires being completed (response rate = 94.5%). Of the included participants, 312 were females (62.28%), and the ages of the participants ranged between 18 and 79 years, with a mean age of 47.19 and a standard deviation of 12.8. Two-thirds (66.47%) of the participants were married, 39.73% were unemployed, and a little over half (55.09%) had musculoskeletal problems (see Table 1).

Participants' Responses Regarding Physiotherapy Services Received

Table 2 presents the frequencies and percentages of the participants' responses to the items in the questionnaire. Overall, most participants responded to each question with “very good” or “excellent.” For instance, the ease of admission procedure received an overall rating of 74.25%, courtesy and helpfulness of the secretary received an overall rating of 79.44%, and simplicity of scheduling and time to get a first appointment received an overall rating of 66.68%. The highest-rated attributes were reported for question number 14, “Would you recommend this facility to people close to you?”, with 62.5% responding “yes, certainly,” and only 1.4% answering, “certainly not.”

Sociodemographic Variables and Satisfaction With Physiotherapy Services Received

Table 1 shows the associations between sociodemographic variables such as gender, age, marital status, occupation, and medical condition and the levels of satisfaction with the physiotherapy services. Gender had a significant influence on patient satisfaction, with females being more satisfied than males (*P* value = .001). Meanwhile, occupation also had a significant influence on patient satisfaction, with students and unemployed participants reporting high satisfaction (*P* value = .029). We found no statistically significant effects of age, marital status, or medical condition on

Table 1. Participants' Sociodemographic Characteristics.^a

Factor (N = 501)		Frequency	Percentage	Mean rank	Mann-Whitney U value/Kruskal-Wallis H value (df)	P value
Gender ^b	Male	189	37.72	224.10	24399.500	.001
	Female	312	62.28	267.30		
Age ^c	18-29	45	8.98	268.73	4.617 (4)	.329
	30-39	106	21.16	254.60		
	40-49	117	23.35	255.61		
	50-59	174	34.73	253.41		
	60+	59	11.78	214.75		
	Range (18-79) Mean \pm standard deviation = (47.19 \pm 12.8)					
Marital status ^c	Single	129	25.75	248.90	0.151 (3)	.985
	Married	333	66.47	252.59		
	Widowed	5	1	241.40		
	Divorced/separated	34	6.79	244.85		
Occupation ^c	Student	73	14.57	268.64	10.801 (4)	.029
	Public sector	125	24.95	238.97		
	Private sector	74	14.77	235.81		
	Unemployed	199	39.72	267.12		
	Retired	30	5.99	188.73		
Medical condition ^c	Musculoskeletal problem	276	55.09	249.74	0.103 (3)	.991
	Neurological problem	189	37.72	251.78		
	Respiratory problem	14	2.79	261.11		
	Other (eg, cancer)	22	4.39	253.77		

^aP value \leq .05.^bMann-Whitney U test was used.^cKruskal-Wallis test was used.**Table 2.** The Participants Responses to the Questionnaire.

Factor (N = 501)	Poor freq (%)	Fair freq (%)	Good freq (%)	Very good freq (%)	Excellent freq (%)
Question 1: Ease of administrative admission procedures	11 (2.20)	26 (5.19)	92 (18.36)	205 (40.92)	167 (33.33)
Question 2: Courtesy and helpfulness of secretary	4 (0.80)	17 (3.39)	82 (16.37)	218 (43.51)	180 (35.93)
Question 3: Simplicity of scheduling and time to get first appointment	16 (3.19)	42 (8.38)	108 (21.56)	173 (34.53)	162 (32.34)
Question 4: Ability of physical therapist to put you at ease and reassure you	2 (0.40)	4 (0.80)	75 (14.97)	223 (44.51)	197 (39.32)
Question 5: Explanations about what will be done to you during treatment	8 (1.60)	7 (1.40)	70 (13.97)	220 (43.91)	196 (39.12)
Question 6: Quality of information you received at the end of treatment regarding future	6 (1.20)	16 (3.19)	90 (17.96)	228 (45.51)	161 (32.14)
Question 7: Feeling of security at all times during the treatment	1 (0.20)	9 (1.80)	56 (11.18)	208 (41.52)	227 (45.31)
Question 8: Extent to which treatment was adapted to your problem	6 (1.20)	8 (1.60)	79 (15.77)	256 (51.10)	152 (30.34)
Question 9: Ease of access of physical therapy facilities	4 (0.80)	20 (3.99)	83 (16.57)	202 (40.32)	192 (38.32)
Question 10: Indications to help you find your way around and in hospital buildings	25 (4.99)	44 (8.78)	125 (24.95)	183 (36.53)	124 (24.75)
Question 11: Comfort of the room where physical therapy was provided	9 (1.80)	31 (6.19)	97 (19.36)	216 (43.11)	148 (29.54)
Question 12: Calm and relaxing atmosphere in physical therapy rooms	15 (2.99)	38 (7.58)	111 (22.16)	182 (36.33)	155 (30.94)
Question 13: Your physical therapy overall	4 (0.80)	11 (2.20)	96 (19.16)	237 (47.31)	153 (30.54)
	Certainly not freq (%)	Probably not freq (%)	Not sure freq (%)	Yes, probably freq (%)	Yes, certainly freq (%)
Question 14: Would you recommend this facility to people close to you?	7 (1.40)	4 (0.80)	62 (12.38)	115 (22.95)	313 (62.48)

Abbreviation: freq, frequency.

patient satisfaction, with *P* values of .329, .985, and .991 respectively.

Discussion

This cross-sectional study examined patient satisfaction with outpatient physiotherapy services at 12 public hospitals in Libya. To the best of our knowledge, this was the first attempt to quantify patients' satisfaction with physiotherapy services in Libya. Patient satisfaction has been used worldwide to measure the quality of services provided to the public, and therefore we sought to use a valid questionnaire to identify patients' opinions about important measures of physiotherapy services that might be helpful to improve those services, as the health care system in Libya has been in development over the last 10 years. Patients showed high average percentages of satisfaction when the therapists considered their needs and preferences, and research has shown better health-related outcomes among satisfied patients compared to their nonsatisfied counterparts (18). High satisfaction has also been correlated with motivation and adherence to physiotherapy sessions (19,20). Thus, patient satisfaction is an important factor in providing quality services and ensuring patients' adherence to physiotherapists' recommendations.

Overall, the levels of satisfaction among the outpatients showed high average percentages for all measures of patient satisfaction, whether admission-related (questionnaire items 1, 2, and 3), physiotherapist-related (questionnaire items 4-8), facility-related, or accessibility domain-related (questionnaire items 9-12). Our study findings are consistent with previous studies that reported high levels of satisfaction percentages among outpatients in physiotherapy settings in Australia (21), the United States (22), Ireland (12), Nigeria (14), and Saudi Arabia (17). Despite the differences in geographic location and the nature of physiotherapy services provided, the similar findings in these studies indicate that the factors influencing patient satisfaction are also similar.

In terms of admission-related factors, participants in this study reflected high average satisfaction percentages. For instance, 79.4% of participants rated their reception desk experiences as "very good" or "excellent," and 66.9% of participants rated the simplicity of scheduling their first appointment as "very good" or "excellent." This finding was surprising, given the busy schedule of administrative staff in the public hospitals compared to private institutions. Our study findings, however, seem partially consistent with previous studies. For example, more participants in the study in Nigeria (14) were indifferent or dissatisfied with the items that measured physiotherapy accessibility, whereas in our case, the most likely explanation is that most administrative staff in public hospitals are experienced and thus have good interpersonal communication skills. This finding can also be attributable to the generally friendly nature of the Libyan people due to religious and other cultural values.

In terms of physiotherapist-related factors, our results showed high satisfaction percentages for aspects of communication between patients and physiotherapists. The patients rated their physiotherapists as "very good" or "excellent" on their ability to put them at ease, their ability to provide adequate explanations about what would be done during treatment, and the quality of information the patients received at the end of the treatment process, with satisfaction rates of 83.8%, 83%, and 77.7%, respectively. Our findings are consistent with previous studies, as physiotherapists' attributes were among the most consistent factors related to patient satisfaction in the literature (11,12,14,23,24). The ability of physiotherapists to provide enough explanation and details to their patients may be explained by the fact that most physiotherapists in the city of Misrata have relatively high educational degrees (ie, bachelor or master degrees) compared to other cities in Libya, where those with other qualifications, such as diploma-level certifications and short courses, can practice in clinical settings. As outlined by Hush et al (10) professionalism, skills, knowledge, and effective communication with patients were the most commonly mentioned features contributing to a high level of satisfaction among physiotherapy patients who received treatment.

On the associations between the level of satisfaction with physiotherapy services and sociodemographic variables such as gender, age, marital status, occupation, and medical conditions, we found that patients' gender had a significant influence on their overall satisfaction, with females being more satisfied than males. One possible explanation for this finding may be due to the psychosocial nature and personality profiles of Libyan females. In fact, based on our clinical experience, Libyan females are generally less critical toward services provided than males. Females also may come to treatment sessions with lower expectations than their male counterparts (24). Such variations may play a role in satisfaction with treatment; however, there are no data to confirm this assumption, and we encourage future research to consider gender differences in responses to physiotherapy sessions. Internationally, there is controversy in terms of the influence of gender on patient's satisfaction with physiotherapy services. Although some studies support our finding that females show more satisfaction with physiotherapy services than males (11,15,24), others suggest that males are more satisfied than females (25,26). This discrepancy between studies confirms our assumption that female psychosocial characteristics are different according to geographical location and cultural background.

Patients' occupations significantly influenced patient satisfaction, as noted earlier, with students and unemployed participants reporting more satisfaction than employed patients. This finding could be explained in part by employed patients having difficulty in getting an appointment with a physiotherapist, as they may end up on a waiting list for days or even weeks. Waiting time was acknowledged as a source of dissatisfaction and frustration that influenced

patient satisfaction, as documented in the literature (10). Notably, financial factors played an important role in patient satisfaction with physiotherapy services in previous research (12,22); however, for the current research, data were collected in public hospitals which are free of charge for the public, and thus we accounted for the financial influence on satisfaction level.

Contrary to what has been reported in the literature, however, we did not find any significant effect of age. This finding was unexpected because age was significantly associated with overall satisfaction with physiotherapy services in many other studies (10,11,15). One possible explanation for this finding may be due to the age distribution in our sample (Supplemental Appendix 1). The majority of our recruited patients were less than 60 years old, with only 11.78% of participants being 60 years of age or older. In contrast, however, previous research has shown that satisfaction with physiotherapy services is higher among seniors compared to other segments of the population (27). Regardless, we did not find a significant association between age and level of satisfaction with outpatient physiotherapy services.

All in all, the variations in the levels of satisfaction based on the patients' characteristics may be related to the initial expectations of the patients. Patients' expectations, which refers to the fulfillment or gratification of their needs and preferences, are empirically related to patient satisfaction with health care services in general (28) and with physiotherapy services in particular (26). Therefore, understanding patients' expectations and considering their needs and preferences can significantly improve patients' satisfaction and thus improve the quality of the health care system overall.

Study Limitations

A few limitations of this study should be noted. First, we included outpatients regardless of the medical conditions they were having treatment for. For example, we included patients with acute musculoskeletal problems and those with chronic neurological conditions, cancer, and permanent disabilities. Therefore, the findings should be interpreted with caution because as noted above, research has shown that patients with acute conditions may report more satisfaction than those with chronic or permanent disabilities (24). Second, we did not ask specific questions about different therapeutic interventions the patients had received; instead, we asked questions about the treatment program as a whole. Therefore, this might influence our findings, as it has been documented that patients show more satisfaction with exercise therapy compared to manual therapy, massage, or electrotherapy techniques (29,30).

Although the data were collected only in one city (Misrata), the study's participants came from different cities in Libya. However, we did not include their cities of origin in the final analysis of this study. Furthermore, the city of Misrata is considered the middle region's capital and the largest

industrial city in the country, and it is well-known as a therapeutic tourism destination for many Libyans due to its location on the Mediterranean Sea, the low costs for renting and living expenses, the quality of treatment centers and clinics, and the availability of recreational facilities. Thus, we believe that our findings can represent the entire country. Lastly, because we used a cross-sectional design, it is difficult to establish the direction of causal relationships, and therefore we recommend longitudinal research to better address these issues.

Conclusion

Overall, this study sheds some light on the experiences of outpatients in public physiotherapy clinics in Libya and provides some evidence regarding the factors that contribute to patient satisfaction. Participants in this study were satisfied or very satisfied in the domains that measure satisfaction with the physiotherapy they received; however, there was some variability in satisfaction levels between admission-related and physiotherapist-related factors, with the latter receiving higher ratings. This study also highlighted the association between high satisfaction and gender and occupation, which needs further exploration in future research. It would also be helpful for the Libyan health care system to direct future research to compare public and private clinics in relation to patients' satisfaction with the services provided. Based on our findings, a patient-centered approach is highly recommended, as this has been empirically identified as an essential factor for achieving high levels of patient satisfaction with physiotherapy services.

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Supplemental Material

Supplemental material for this article is available online.

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