Patient Satisfaction With Musculoskeletal Physical Therapy Care: A Systematic Review

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Background. Patient satisfaction is an important patient-centered health outcome. To date, no systematic review of the literature on patient satisfaction with musculoskeletal physical therapy care has been conducted.

Purpose. The purpose of this study was to systematically and critically review the literature to determine the degree of patient satisfaction with musculoskeletal physical therapy care and factors associated with satisfaction.

Data Sources. The databases CINAHL, MEDLINE, and EBM Reviews were searched from inception to September 2009.

Study Selection. Articles were included if the design was a clinical trial, observational study, survey, or qualitative study; patient satisfaction was evaluated; and the study related to the delivery of musculoskeletal physical therapy services conducted in an outpatient setting. The search located 3,790 citations. Fifteen studies met the inclusion criteria.

Data Extraction. Two authors extracted patient satisfaction data and details of each study.

Data Synthesis. A meta-analysis of patient satisfaction data from 7 studies was conducted. The pooled estimate of patient satisfaction was 4.44 (95% confidence interval=4.41–4.46) on a scale of 1 to 5, where 5 indicates high satisfaction and 1 indicates high dissatisfaction. Additional data were summarized in tables and critically appraised.

Limitations. Nonrespondent bias from individual studies may affect the accuracy and representativeness of these data.

Conclusion. Patients are highly satisfied with musculoskeletal physical therapy care delivered across outpatient settings in northern Europe, North America, the United Kingdom, and Ireland. The interpersonal attributes of the therapist and the process of care are key determinants of patient satisfaction. An unexpected finding was that treatment outcome was infrequently and inconsistently associated with patient satisfaction. Physical therapists can enhance the quality of patient-centered care by understanding and optimizing these determinants of patient satisfaction.

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Patient-centered health care is now the dominant paradigm in health service delivery. Within this framework, patient satisfaction has emerged as an important patient-focused indicator of the quality of patient care.[1–3] The significance of patient satisfaction is further emphasized by evidence that satisfied patients are more likely to adhere to treatment, benefit from their health care, and have a higher quality of life.[4–6] Regulatory health authorities and health insurers assess patient satisfaction to identify aspects of service delivery that can be improved.[7] Patient satisfaction data have been used for quality assurance and accreditation of hospitals and primary health care centers.[8] Beyond these quality assurance imperatives, patients' views and concerns are intrinsically important to clinicians because they can inform improvements in the quality and outcomes of care.[9]

Over the past decade, numerous authors have studied patient satisfaction with musculoskeletal physical therapy care.[10–25] Physical therapists are leading providers of care for patients with musculoskeletal conditions. Patients with axial low back pain, idiopathic neck pain, or hip and knee osteoarthritis often seek treatment to achieve pain management and improvement in functional mobility on an outpatient basis.[26] Thus, study of satisfaction with outpatient musculoskeletal physical therapy care is an important direction for research. However, to our knowledge, there has been no systematic review and critique of existing literature that can guide its use in professional work. The aim of this study was to conduct a systematic review of observational studies, clinical trials, or qualitative studies addressing satisfaction of patients who have received outpatient physical therapy musculoskeletal care.

Materials and Method

Data Sources and Searches

A systematic review of the literature was undertaken to determine the degree of patient satisfaction with musculoskeletal physical therapy care and identify factors associated with satisfaction. The following databases were searched from inception to September 2009: CINAHL, MEDLINE, and EBM Reviews (Cochrane DSR, ACP Journal Club, DARE, and CCTR), with 1969 the date of the earliest article retrieved in the search. Search terms were used to capture patient satisfaction ("patient satisfaction," "consumer satisfaction," "client satisfaction," "satisfaction survey," and "satisfaction questionnaire") and outpatient physical therapy care ("physiotherapy," "physical therapy," "allied health," and "outpatient"). Articles were screened for inclusion based on their titles; then abstracts and finally full-text copies were retrieved and analyzed for eligibility according to criteria determined *a priori*. Reference lists of reviews were hand searched to identify any additional relevant articles.

Study Selection

Articles were included if the study design was a clinical trial, observational study, survey, or qualitative study; patient satisfaction with overall physical therapy care was evaluated as a main outcome; and participants were adults aged 18 years or older who had received a course of

The Bottom Line

What do we already know about this topic?

Patient satisfaction is an important patient-focused indicator of the quality of patient care. It is known that satisfied patients are more likely to adhere to treatment and have a higher health-related quality of life.

What new information does this study offer?

This systematic review identified 15 studies that have investigated patient satisfaction with musculoskeletal physical therapy care. A meta-analysis revealed that patient satisfaction is consistently high. Determinants of satisfaction include: interpersonal aspects of treatment (eg, effective communication and empathy), the process of care (eg, continuity of care and adequate treatment duration), and well-organized care (eg, convenient access and low waiting times).

If you're a patient, what might these findings mean for you?

Patient satisfaction with physical therapy treatment for musculoskeletal conditions is high. Clinicians now have comprehensive information about how to optimize patient satisfaction and the quality of care by targeting aspects of treatment that patients consider most important.

musculoskeletal physical therapy care in an outpatient or private clinic setting. Qualitative studies were included to provide an understanding of the dimensions of physical therapy care that contribute to patient satisfaction.

Articles were excluded if: (1) the study had an inappropriate design (ie, not a clinical trial, observational study, survey, or qualitative study); (2) the study was related to delivery of services other than outpatient physical therapy care for musculoskeletal conditions; (3) patient satisfaction was not measured; (4) they described a clinical study in which participants were individuals recruited from the community rather than patients seeking physical therapy treatment; or (5) they primarily described clinimetric properties or the development of a patient satisfaction instrument.

Risk of Bias Assessment

Nine of the 15 included studies of patient satisfaction were surveys, comprising both written and interview studies. We were not able to use a formal scoring method to assess the risk of bias in these studies, as no well-validated instrument yet exists.[27] Instead, we judged the validity, reliability, and generalizability of each study using criteria relevant to patient satisfaction research outlined by Sitzia and Wood.[28] Qualitative studies were evaluated for risk of bias using a checklist based on the criteria of Greenhalgh and Taylor.[29] Methodological quality of clinical trials was assessed using the PEDro rating scale.[30] Risk of bias of the longitudinal cohort study was judged using the checklist developed by Pengel et al.[31] This process was conducted by the lead author (J.M.H.).

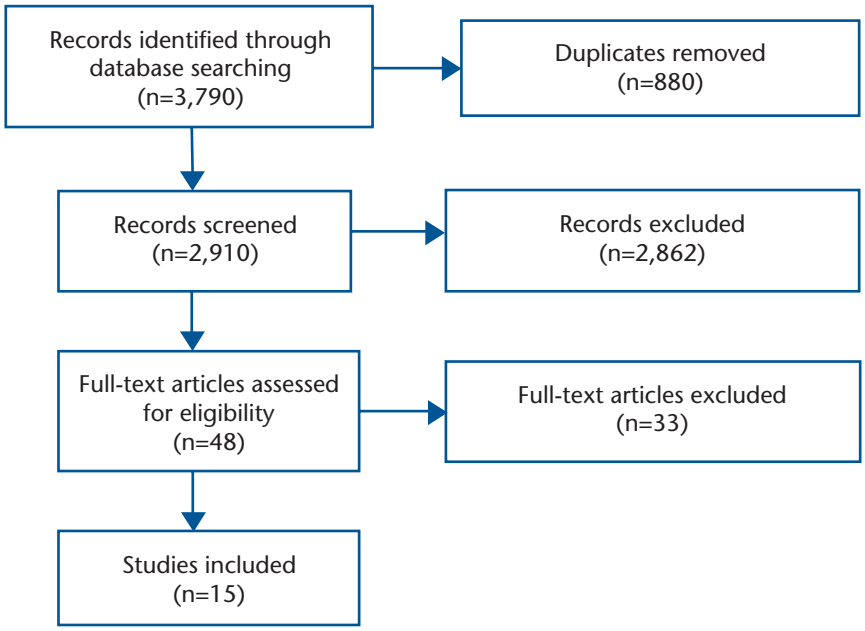

Figure 1.
Retrieval of studies for the review.

Data Extraction

Two researchers (J.M.H., K.C.) independently performed the data extraction. The following information was extracted to provide a description of each included study: study design, clinical setting and country, patient group, sample size, and patient sex and age. Patient satisfaction data and measures were extracted. There was adequate homogeneity of 7 studies, reported in 8 articles,[10–17] to perform a meta-analysis of patient satisfaction data. Either these studies reported a mean patient satisfaction score, or it was possible to calculate this score from data in the published article. Mean satisfaction scores were measured using a 5-point Likert scale in 5 studies.[11–13,16,17] Satisfaction scores for the other 2 studies[10,18] were re-scaled[32] and anchored to the endpoint of a 5-point scale to enable calculation of the pooled estimate. In 2 studies,[14,18] the Likert scale was anchored with opposite descriptors, so the scale was inverted for comparison with other data. Patient satisfaction data from these 7 studies were combined using RevMan 5.0 analyses.* The pooled estimate and standard error of the estimate were calculated using the generic inverse variance methods, using a fixed-effect model. This method calculates the pooled estimate by applying inversely proportional weighting to included studies based on their variance. That is, the less variance in the study, the greater the weighting in the pooled estimate. Other quantitative and qualitative data about patient satisfaction were extracted from the included studies and summarized in table format.

Results

Included Studies

The search yielded 3,790 studies, of which 15 met the inclusion criteria (Fig. 1). Nine cross-sectional patient surveys,[10,12,13,15–21] 2 clinical trials,[11,22] 1 longitudinal cohort study,[14] and 3 qualitative studies[23–25] were included (Tab. 1). The

* Copenhagen, Denmark: The Nordic Cochrane Centre, The Cochrane Collaboration, www.cochrane.org.

Table 1.
Characteristics of the Studies Included in the Systematic Review[a]

Study	Design	Clinical Setting[b]	Country	Sample Size	Male (%)	Age (y): $\bar{X}$ (SD)
Beattie and colleagues,[16,17] 2005	Survey	Private	United States	1,502	42	55 (18)
Butler and Johnson,[14] 2008	Longitudinal	Outpatient	United States	1,831	NR	NR
Casserley-Feeney et al,[12] 2008	Survey	Private	Ireland	131	53	38 (12)
Cooper et al,[23] 2008	Patient interview	NHS	Scotland	25	20	NR
Hills and Kitchen,[13] 2007	Survey	NHS	England	279	35	NR
Hills and Kitchen,[25] 2007	Patient interview	NHS	England	41	30	NR
Law et al,[10] 2006	Survey	Sports medicine	Canada	83	53	25 (10)
Layzell,[20] 2001	Survey	Outpatient	United Kingdom	120	42	NR
McKinnon,[18] 2001	Survey	Outpatient and private	Canada	433	35	NR
MacDonald et al,[15] 2002	Survey	Outpatient and private	Canada	422	41	46 (18)
May,[24] 2001	Patient interview	NHS	England	34	41	54 (13)
Seferlis et al,[11] 1998	Clinical trial	Outpatient	Sweden	180	53	39 (NR)
Seibert et al,[19] 1999	Survey	Outpatient and private	United States	19,302	38	56 (NR)
Stephens and Gross,[21] 2007	Survey	Outpatient	Canada	7,200	70	35 (11)
Torstensen et al,[22] 1998	Clinical trial	Private	Norway	208	49	42 (11)

[a] NR=not reported, NHS=National Health Service.
[b] Classification of clinical setting (type) was taken from the respective articles.

studies examined patient satisfaction with musculoskeletal physical therapy in a range of settings: private clinics, hospital outpatient clinics, spine clinics, and an athlete rehabilitation clinic. Countries represented in these studies were: the United States, Canada, Ireland, England, Scotland, Norway, and Sweden. Seven studies investigated patients with mixed musculoskeletal or soft tissue injuries,[12,13,15–18,21,25] and 6 studies investigated patients with back pain.[11,14,20,22–24] One study investigated athletes with lower-limb injuries.[10]

Approaches to Investigate Patient Satisfaction

A number of approaches were used to evaluate patient satisfaction (Tab. 2). Quantitative methods included single-item or multi-item questionnaires. The simplest measure was a single question about global satisfaction with physical therapy care, assessed using a 5-point Likert scale,[11,12,14,21] a 4-point Likert scale,[22] or a 10-point Likert scale.[10] Five studies used multi-item questionnaires designed to assess different dimensions of patient satisfaction. Beattie and colleagues[16,17] used the 10-item version of the MedRisk Instrument for Measuring Patient Satisfaction With Physical Therapy Care. Hills and Kitchen[13] used a 38-item patient satisfaction questionnaire with 6 subscales. The 13-item questionnaire administered in the study by McKinnon[18] included 6 items on accessibility of services and 7 items about outcomes of care. Layzell[20] and Seibert et al[19] used 14-item and 38-item questionnaires, respectively, that assessed multiple dimensions of satisfaction with outpatient care.

The 3 qualitative studies[23–25] used semistructured patient interview techniques in individual or group settings. Framework analysis was the most commonly used method for identifying themes about patient satisfaction.

Table 2.
Patient Satisfaction Measures Used in the Included Studies

Study	Patient Satisfaction Measure
Beattie and colleagues,[16,17] 2005	10-item MedRisk Instrument for Measuring Patient Satisfaction questionnaire[a]
Butler and Johnson,[14] 2008	Single-item question about satisfaction with care[a]
Casserley-Feeney et al,[12] 2008	4-item global rating of patient satisfaction with overall experience of physical therapy[a] and 3 open-ended questions about patient satisfaction, with themes identified from written responses
Cooper et al,[23] 2008	Semistructured patient interviews and framework analysis of data
Hills and Kitchen,[13] 2007	38-item patient satisfaction questionnaire with 6 subscales[a]
Hills and Kitchen,[25] 2007	Semistructured interviews in focus groups and an interactive model of data analysis
Law et al,[10] 2006	Single-item rating of patient satisfaction with the overall rehabilitation experience[b]
Layzell,[20] 2001	14-item questionnaire about patient satisfaction[a]
McKinnon,[18] 2001	13-item questionnaire about patient satisfaction with physical therapy services, administered by telephone interview[a]
MacDonald et al,[15] 2002	8-item Client Satisfaction Questionnaire, a global measure of client satisfaction,[c] and 2 open-ended questions to identify aspects of care patients like most and least
May,[24] 2001	Semistructured patient interview and framework analysis of data
Seferlis et al,[11] 1998	Single-item rating of patient satisfaction with treatment[a]
Seibert et al,[19] 1999	38-item questionnaire addressing patient experiences with care arrangements, communication, quality of service, wait time, and facility issues
Stephens and Gross,[21] 2007	Two satisfaction items: overall satisfaction with care and satisfaction with duration of treatment[a]
Torstensen et al,[22] 1998	Single-item rating of patient satisfaction with physical therapy treatment[c]

[a] Items scored on a 5-point Likert scale.
[b] Items scored on a 10-point Likert scale.
[c] Items scored on a 4-point Likert scale.

Risk of Bias in Included Studies

Surveys. The greatest threat to the validity of the 9 surveys included in this review was nonresponse bias. The response rate of the surveys ranged from 36% to 70%, all below the 80% response rate that has been proposed as a minimum for epidemiological studies.[33] Two studies[10,15] did not report the response rate, and no study provided a description of excluded participants. Risk of bias is introduced by this low response rate, as the respondents may differ systematically from nonrespondents, thus overestimating or underestimating the degree of patient satisfaction. Three studies[16,17,19,21] with large sample sizes (n=1,502–19,302) had a lower risk of sampling error. A further 3 studies[13,15,18] had a moderate sample size (n=279–4,330), and the remaining 3 studies[10,12,20] had fewer than 131 participants. Most studies had a lower risk of response bias due to measurement, as items were scored using Likert scales with equal numbers of positive and negative categories. It was not possible to rule out some degree of response bias due to social desirability, as patients may have been reluctant to admit unfavorable attitudes, particularly during telephone interviews or where surveys were administered in a clinic.

Clinical trials. The 2 randomized controlled trials included in this review[11,22] were high-quality studies, as indicated by their PEDro quality scores[30] of 6/10 and 7/10.

Longitudinal cohort study. The cohort study by Butler and Johnson[14] had a well-defined sample and adequate follow-up, but representativeness of the sample was compromised by inclusion of a low proportion (51%) of eligible participants.

Qualitative studies. Using the quality checklist of Greenhalgh and Taylor,[29] all 3 qualitative studies[23–25] fulfilled 7 of the 10 criteria on this checklist, indicating that these studies are of acceptable quality.

Conclusion. The clinical trials and qualitative studies included in this review have a low risk of bias. The surveys and the longitudinal cohort study have some design strengths, but it is not possible to be certain

Study	Mean	SE	Weight	Mean, IV, Fixed, 95% CI
Beattie and colleagues,[16,17] 2005	4.48	0.020	31.5%	4.48 (4.44, 4.52)
MacDonald et al,[15] 2002	4.67	0.020	31.5%	4.67 (4.63, 4.71)
Butler and Johnson,[14] 2008	4.35	0.024	21.9%	4.35 (4.30, 4.40)
Hills and Kitchen,[13] 2007	3.77	0.040	7.9%	3.77 (3.69, 3.85)
Casserley-Fenney et al,[12] 2008	4.32	0.058	3.7%	4.32 (4.21, 4.43)
Seferlis et al,[11] 1998	4.40	0.073	2.4%	4.40 (4.26, 4.54)
Law et al,[10] 2006	3.50	0.104	1.2%	3.50 (3.30, 3.70)
Pooled estimate			**100%**	**4.44 (4.41, 4.46)**

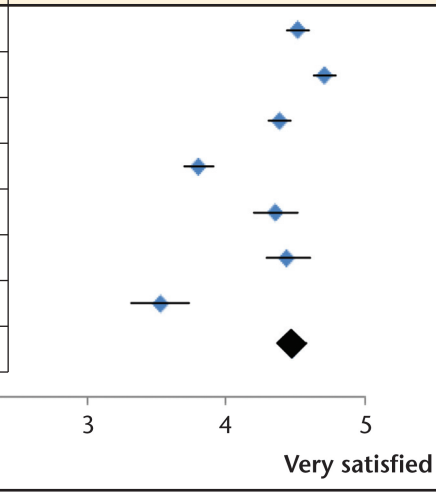

Figure 2.
Meta-analysis data and forest plot of patient satisfaction with physical therapy care. SE=standard error, IV=inverse variance, 95% CI=95% confidence interval.

that the patient cohorts included are representative of the wider patient population.

Patient Satisfaction With Musculoskeletal Physical Therapy: Quantitative Data

Degree of patient satisfaction. A meta-analysis was conducted for the outcome of global satisfaction with physical therapy care reported in 7 studies (Fig. 2). The forest plot reveals that patient satisfaction reported in these studies was consistently high, with a pooled estimate of 4.44 (95% confidence interval [CI]=4.41–4.46) on a scale of 1 to 5, where 1 is "very dissatisfied" and 5 is "very satisfied" (Fig. 2). It is notable that the precision of the estimate is high, reflecting the homogeneity of data. Studies that reported the proportion of patients satisfied with care[12,14,20–22] revealed that 68% to 91% of patients were satisfied or completely satisfied with overall physical therapy care (Tab. 3). Studies that reported other data about patient characteristics and treatment variables associated with satisfaction are summarized below and in Table 3.

Patient characteristics. Hills and Kitchen[13] reported that satisfaction with care was higher in patients with acute musculoskeletal conditions than in patients with chronic musculoskeletal conditions. The determinants of satisfaction differed between these patient groups. For the group with acute musculoskeletal conditions, the therapist was the main determinant of satisfaction, whereas for the group with chronic musculoskeletal conditions, organization of care was the most significant predictor.[13] Differences between male and female patients also were identified. For male patients, the main predictors of satisfaction were the therapist and treatment outcome, whereas for female patients, the main predictors were organization and communication.[13] The expectation of care dimension of satisfaction was significantly higher in male patients than in female patients.[13] One study reported that satisfaction with health outcomes did not differ with patient age; however, patients aged 65 years and over were more satisfied with access to services and with the effectiveness of communication.[18]

Aspects of treatment associated with satisfaction. Two clinical trials showed that patients with back pain were as satisfied or more satisfied with exercise therapy than with treatment involving manual therapy, massage, or electrotherapies.[11,22] There also is evidence that patients were more satisfied when treated by the same practitioner over the course of treatment[16] and when the treatment duration was adequate.[21] One large survey conducted in the United States showed higher patient satisfaction ratings with treatment provided in private clinics compared with not-for-profit, hospital-based facilities.[19] Patient satisfaction was reported as higher following treatment delivered by physical therapists compared with general medical practitioners.[11,14,20] In particular, there was a notable difference in the degree of patient satisfaction with the explanation about back pain provided by a

Table 3.
Summary of Additional Quantitative Data About Patient Satisfaction

Study	Patient Satisfaction Outcomes
Beattie and colleagues,[16,17] 2005	High satisfaction with care was associated with the professional interaction (answering questions, instructions for home program) with the therapist (Pearson correlation=.794 and .759, respectively) Greater satisfaction with treatment delivery was associated with treatment by one practitioner (OR=3.4, 95% CI=2.7–4.3)[a]; greater satisfaction with environmental factors was associated with treatment by one practitioner (OR=3.0, 95% CI=2.4–3.7)
Butler and Johnson,[14] 2008	Percentage of patients satisfied or very satisfied with care by physical therapists: 86% Percentage of patients satisfied or very satisfied with care by medical doctors: 72%
Casserley-Feeney et al,[12] 2008	Percentage of patients whose overall satisfaction with the physical therapy experience was very good or excellent: 91%
Hills and Kitchen,[13] 2007	Highest satisfaction ratings were scored[b] for therapist component of care (4.21±0.57) and communication component of care (4.21±0.65). Lowest satisfaction ratings were scored for treatment outcome (2.81±0.85) Patients with chronic conditions reported lower satisfaction with care compared with patients with acute conditions Organization was the most significant predictor of satisfaction for the whole group and for the patients with chronic conditions (beta values: 0.336, 0.447) For the patients with acute conditions, the therapist was the key determinant of satisfaction (beta value: 0.321) For male patients, the main predictors of satisfaction were the therapist and treatment outcome (beta values: 0.392, 0.333) For female patients, the main predictors of satisfaction were organization and communication (beta values: 0.400, 0.328) The expectations subscale of satisfaction was significantly higher for male patients than for female patients ($P<.05$)
Law et al,[10] 2006	Athletes who used imagery techniques to manage pain had significantly higher satisfaction ($P<.01$) than those who did not use these techniques
Layzell,[20] 2001	Percentage of patients who were satisfied with physical therapy services: 83% Percentage of patients who were satisfied that a clear explanation had been provided by the physical therapist: 89% Percentage of patients who were satisfied that a clear explanation had been provided by the general practitioner: 42%
McKinnon,[18] 2001	Percentage of patients who strongly agreed with satisfaction items about access to physical therapy services: 73% Percentage of patients who strongly agreed with satisfaction items about outcomes of physical therapy services: 52% Patients ≥65 years of age were more satisfied with accessibility of services and with the effectiveness of physical therapists helping them understand their condition better There was no difference between age groups (<65 years, ≥65 years) in satisfaction with physical therapy outcomes
Seferlis et al,[11] 1998	Patient satisfaction ratings[b] with different treatments[c]: ● Satisfaction with manual therapy: 4.4±0.8 ● Satisfaction with physical therapy training program: 4.3±0.8 ● Satisfaction with general practitioner care: 3.4±1.2
Seibert et al,[19] 1999	Patient satisfaction ratings with different aspects of care[d]: ● Delivery of care: 79±19 ● Facility services: 67±20 ● Wait time: 92±17 Patient satisfaction ratings with delivery of care in different facilities[d]: ● Non-for-profit: 79±20 ● For-profit: 82±18 ● Free-standing clinic: 80±19 ● Hospital: 78±20
Stephens and Gross,[21] 2007	Percentage of patients satisfied or very satisfied with: ● Overall physical therapy care: 80% ● Overall chiropractic care: 88% ● Duration of physical therapy treatment: 77% ● Duration of chiropractic treatment: 63%
Torstensen et al,[22] 1998	Percentage of patients satisfied or completely satisfied with physical therapy treatment: ● Exercise therapy: 81% ● Conventional physical therapy (eg, electrotherapy, massage): 68%

[a] OR=odds ratio, CI=confidence interval.
[b] Mean±SD, on a scale of 1 to 5.
[c] After 1 month of treatment.
[d] Mean±SD, on a scale of 0 to 100.

Table 4.
Dimensions of Patient Satisfaction From Qualitative Data

Study	Patient Satisfaction Outcomes
Casserley-Feeney et al,[12] 2008	Greater satisfaction with care associated with: ● Friendliness of therapist (helpful, caring, polite) ● Professionalism of therapist (knowledgeable, skillful) ● Flexible hours ● Convenient location ● Staff personal and approachable Lower satisfaction with care associated with: ● Clinic location (parking, access) ● Poor standard of premises ● Lack of privacy ● Treatment cost ● Lack of administration/support staff
Cooper et al,[23] 2008	Aspects of physical therapy care that most influence patient satisfaction: ● Communication ● Individual care ● Decision making ● Information ● Physical therapist competence and personality ● Organization of care
Hills and Kitchen,[25] 2007	Aspects of physical therapy care that most influence patient satisfaction: ● Communication (therapist's ability to inform/explain) ● Patients' expectations ● Professional manner and personal characteristics of the physical therapist ● Organization of treatment sessions (process/content) ● Treatment outcome Patients with acute conditions were more satisfied than those with chronic conditions
MacDonald et al,[15] 2002	Greater patient satisfaction with the physical therapy experience associated with: ● Personality and attributes of the physical therapist ● Effective communication of knowledge and education ● Exercises and treatment ● Timeliness and efficiency ● Outcome or improvement of condition ● Professionalism
May,[24] 2001	Five dimensions of patient satisfaction identified were: ● The personal and professional manner of the therapist ● The explaining and teaching that occurred during the episode ● How much treatment was a consultative process ● Waiting time ● Treatment outcome

physical therapist (89%) compared with that of a general medical practitioner (42%).[20]

Patient Satisfaction With Musculoskeletal Physical Therapy: Qualitative Data

Five studies used qualitative methods to explore patients' perceptions about the dimensions of satisfaction with physical therapy care. The results (Tab. 4) show that patients consistently identified therapist characteristics, the process of care, and organization of care as key dimensions of satisfaction. Less frequently reported components of satisfaction were treatment outcomes and expectations of physical therapy.

Therapist characteristics. All studies identified therapist attributes as a critical dimension of patient satisfaction. Specific attributes considered important by patients included professionalism, competence, friendliness, and caring.[12,15,23–25] The ability to communicate effectively was another highly rated therapist characteristic, particularly in explaining the patient's condition and educating the patient about self-management strategies.[15,23–25]

Process of care. Process of care variables contributing to patient satisfaction included timely and efficient treatment[15] and adequate treatment frequency and follow-up.[25] Two studies reported that patient involvement in the decision-making process improved satisfaction.[23,24] The importance of individualized care was reported in one study of patients with chronic low back pain.[23]

Organization of care. The quality and efficiency of how care is organized appear to be contributory dimensions of patient satisfaction.[12,15,23–25] Patients were more

satisfied with good access to services, particularly convenient clinic hours, location, and parking,[12,24] as well as available and approachable support staff.[12] Patients were less satisfied if the standard of the premises regarding cleanliness and professional appearance was poor, there was a lack of privacy, the cost of treatment was high,[12] or there were long waiting times.[24,25]

Treatment outcomes. In only 3 studies was the treatment outcome or symptom improvement identified as important.[15,24,25] High satisfaction sometimes[24,25] but not always[15,24,25] was related to pain reduction, as some patients felt satisfied with the self-help strategies they had learned or with strength and mobility improvements from exercising, even if symptoms changed minimally.

Expectations. One study reported that patients' expectations of the physical therapy encounter influenced their evaluation of and satisfaction with care.[25] Patients with acute conditions tended to have lower expectations and higher satisfaction with treatment compared with those with chronic musculoskeletal conditions.

Discussion

By synthesizing quantitative and qualitative data in this systematic review of 15 studies, we reveal the degree of global satisfaction with care, patient characteristics associated with higher satisfaction, and specific determinants of satisfaction with physical therapy care.

How Much Are Patients Satisfied With Musculoskeletal Physical Therapy Care?

Included studies consistently reported very high levels of patient satisfaction with physical therapy care, as indicated by the high pooled estimate of patient satisfaction (4.44, 95% CI=4.41–4.46, on a 5-point scale) and the very high proportion of patients (68%–91%) reporting they were satisfied or completely satisfied. High satisfaction levels were reported for different clinical settings and across geographically diverse regions, including North America, the United Kingdom, Ireland, and northern Europe. These findings indicate that patients with musculoskeletal disease receive high-quality care from physical therapy management.

Which Patients Are More Satisfied?

These findings suggest that particular patient characteristics are associated with higher satisfaction with physical therapy care. For instance, patients with acute musculoskeletal conditions tended to report higher satisfaction with physical therapy care than those with chronic conditions.[13,25] One explanation for this finding is that expectations of treatment differ between these groups.[25,34] As would be predicted, meeting patients' expectations will improve satisfaction ratings,[34,35] as has been reported in other areas of health care.[36] Patients with acute musculoskeletal conditions were found to be generally optimistic about outcomes of care but had unformed expectations about the physical therapy experience. These patients tended to report a positive outcome to the encounter when the treatment met or exceeded their expectations. In contrast, those with chronic conditions who had unrealistic expectations of change often were less satisfied.[25] A theoretical model of patient satisfaction that further explores the complex role of patients' expectations has been proposed by Hills and Kitchen.[37]

A second feature is patient age. There is some evidence that older patients are more satisfied with particular aspects of physical therapy care.[12,18] Similar trends have been reported for medical care generally,[38,39] although lower satisfaction of older inpatients and outpatients in the United Kingdom health service specifically has been reported.[39] One hypothesis to explain age-related differences in satisfaction with physical therapy is that older patients coping with chronic pain and mobility problems may have greater need for, and appreciation of, physical therapy services that will assist them to more effectively manage musculoskeletal conditions.[18,40] It also has been proposed that older people may have lower expectations of care than younger patients.[40]

There also appear to be differences in satisfaction between the sexes. Female patients reported higher satisfaction with physical therapy compared with male patients.[13] One explanation for this finding may be different determinants of satisfaction, which were the organizational and communication components of care for female patients, whereas the therapist and the treatment outcome were the determinants of satisfaction for male patients.[13]

What Are the Determinants of Patient Satisfaction With Musculoskeletal Physical Therapy Care?

The most consistent determinant of patient satisfaction across all studies in this review was the therapist's attributes,[12,13,20,23,24] as has been found for patient satisfaction in medical care.[41] Particular features of the physical therapist that contribute to high satisfaction are skill, knowledge, professionalism, a friendly attitude, and effective communication. Aspects of communication that patients value are the ability to provide a helpful explanation about the patient's condition, the ability to give prognostic information, and the ability to explain the patient's role in the treatment process. These characteristics also have been reported as those that identify a "good" physical

therapist in an Australian study of patient satisfaction.[42] Embedded in therapist professionalism and caring is the attribute of empathy, allowing patients to feel they are being listened to and dealt with in a sympathetic and respectful way. These interpersonal aspects of physical therapy treatment have been identified as the most important determinants of not only patient satisfaction but also the patients' evaluation of the quality of care.[43]

A second determinant of satisfaction with physical therapy is the process of care. Key process variables that result in high satisfaction are adequate duration and frequency of treatment,[15,21,25] appropriate follow-up,[25] continuity of care,[16] and mode of treatment and involvement of the patient in the decision-making process.[23,24] Clearly, patients need to feel they have had adequate time with the therapist and not feel rushed through an appointment[21,24] and that they have been carefully re-evaluated and followed up.[16] Reducing patient-therapist time, a current pressure in health care, can be interpreted by patients as lack of interest in them[44] and lead to lower satisfaction and quality of care. Beattie and colleagues[16] have demonstrated the importance of longitudinal continuity of care: patients treated by the same practitioner over the course of treatment are approximately 3 times more likely to report complete satisfaction with care than those who receive care from multiple therapists. The mode of treatment also can have an impact on satisfaction. Interestingly, patients with back pain were found to be equally or more satisfied with exercise-based physical therapy treatment than with passive treatment modalities.[11,22] It would be interesting to establish how widespread this trend is among patients with spinal pain and to explore whether it generalizes to other musculoskeletal conditions. A range of individual differences, including treatment expectations, personality characteristics, and previous treatment experiences, are likely to drive aspects of satisfaction such as treatment preference. Exploration of these potentially influential characteristics warrants attention in future research.

Higher satisfaction is reported when the treatment process is more consultative. However, Cooper et al[23] found some participants wanted less involvement in the decision-making process, considering the physical therapist as the "expert." This finding highlights the need for physical therapists to assess each patient's desire for involvement in decision making and tailor their approach accordingly.

Three studies reported higher patient satisfaction with physical therapy management compared with medical care for low back pain.[12,23–25] According to patients, one reason for this finding was that the physical therapist provided a more satisfactory explanation about their condition and was equipped with more up-to-date information.[16,17] A further explanation may be the longer consultation time typically available for physical therapy compared with general medical practitioner appointments.

Well-organized physical therapy care is a third determinant of high patient satisfaction. Multiple studies found that patients were more satisfied if the physical therapy service had easy access (location, parking, clinic hours), helpful administrative staff, low waiting times, and premises of a high standard.[12,23–25] However, compared with therapist and treatment components of care, organizational variables were weaker predictors of overall satisfaction with physical therapy care.[16,17,45,46] Clearly, a high-quality patient-therapist interaction is more important to patients than a convenient clinic with accessible parking.[47] This conclusion is supported by other studies that evaluated the relative determinants of satisfaction with physical therapy care.[46,48] The degree of patient satisfaction also can significantly differ among facility types, such that patients are more satisfied with treatment in a private clinic than with treatment in a government hospital.[19] The most likely explanation for this finding is that better resources (in particular, therapist time) are available in private clinics.

Unexpectedly, the actual treatment outcome was infrequently and inconsistently a determinant of satisfaction with physical therapy care. This finding supports the concept that patient satisfaction with physical therapy care is determined more by interactions with the therapist and the process of care than by the outcome of treatment. The finding, however, contrasts with Donabedian's early model of patient satisfaction, which includes treatment outcome as a key factor.[3] There is recent evidence that the relationship between overall patient satisfaction with care and satisfaction with clinical outcome is weak.[34,49] One implication of these observations is that high patient satisfaction can be achieved by optimizing aspects of the patient-therapist interaction, particularly when treating conditions such as chronic back pain or progressive arthropathies in which there is limited capacity for symptom improvement. A second implication is that multifactorial assessment of patient outcomes is required to distinguish between symptom improvement and satisfaction with overall care.

The main limitation of this study is the potential nonresponse bias of the survey-based data, which is a common problem in survey research. Therefore, the survey data reviewed here may not be representative of the wider population of patients receiving physical therapy care, poten-

tially affecting the accuracy and generalizability of the findings. Future research should implement strategies to improve response rates. In addition, despite high satisfaction levels reported across geographically diverse regions, it is not known whether cultural factors or within-country regional differences in practice affect patient satisfaction.

This review has revealed that patient satisfaction with physical therapy care is consistently high, although the potential for nonresponse bias must be considered. The most important aspects of care influencing patient satisfaction appear to be therapists' interpersonal attributes and the process of care. An unexpected finding was that the outcome of care is not consistently associated with patient satisfaction. This study provides evidenced-based information that may be valuable to clinicians and educators in guiding their professional practice toward optimizing patient satisfaction and the quality of musculoskeletal physical therapy care.

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