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An Integrative Review On Patient Satisfaction Measuring Tool For Physiotherapy Care Among Clients In The Out-Patient Department

Abstract

Background and aims
Patient satisfaction is acknowledged as the corner stone of quality management and it is the paramount of any quality management program in health care system. This study is aimed to conduct an up-to-date systematic review on different validated tools that provide quantification of patient satisfaction in out-patient physical therapy services.

Literature search & data extraction
The process of data extraction was performed in accordance with PRISMA guidelines. An extensive literature search was performed using 3 electronic database systems (Google scholar, PubMed, and PEDro) for articles published between 2000 and 2020. Boolean operator AND was used in compilation with the exhaustive list of search terminologies. A total of 19 studies that investigated any patient satisfaction tool in outpatient physiotherapy settings were included.

Results
Consensus based standards for the selection of health status measurement instruments (COSMIN) scoring quantified psychometric property of each study as excellent, good, and fair. 8 studies reflected fair scoring of Cronbach alpha, 3 studies showed excellent whereas, 2 appeared to be poor.

Conclusion
The COSMIN scoring quantified multiple patient satisfaction tools. However, no gold standard was found. Nevertheless, physiotherapists working in out-patient care can increase the efficiency of patient-centered treatment by identifying and maximizing these patient satisfaction tool determinants.

Keywords
Satisfaction, Physical therapy, Satisfaction Tool, Psychometrics, Health care, Health Services

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Introduction

Patient satisfaction is narrated as an impressionistic assessment of the health services provided to the client[1]. It is one of the most significant sources of evaluation of the standard of care provided to the patient whereas, the patient's knowledge of the explanation given by the health care provider is an essential predictor of patient's adherence to return visits[2]. A patient who is satisfied with a specific hospital and the health care facilities provided by it may tend to regularly visit the institution and retain a positive interaction with the respective health care provider. Such patients are also anticipated to show compliance with their prescribed therapy plans and retain a beneficial interaction with the personnel assigned for their medical care in the facility[3]. The keystone of any relationship between patients and healthcare provider is based on communication. This is generally referred to as the interaction between patient and therapist. Moreover, it is the patient and therapist's sense of cooperation, warmth and support[4]. In addition to it, positive patient therapist interaction in physical therapy environments have been shown to be associated with decrease in pain, decrease in disability and in turn increase in satisfaction of the patient[4].Communication and satisfaction goes hand in hand thus, a lack of good communication has shown to influence patient satisfaction[5]. However, a number of studies showed that effective training could help in overcoming this set back of communication skills, and ultimately it improves medical outcomes leading to increased patient satisfactory level and adherence to the health care provider [5, 6, 7]. On the other hand, opinions of patient have also been found to be of significant importance. Patients who are more involved in raising their opinions related to the services provided are shown to be more satisfied than the contrary[8]. In order to quantify these satisfactory levels of a patient a tool is necessitated. Meanwhile, it is of equal importance to know the psychometric analysis of a developed tool, i.e. reliability, content, criterion, and construct validity[9]. Validity of a tool is defined as principles that concern the degree to which an instrument actually calculates what it is supposed to be measuring. Validity checking is an attempt to endorse the measurement claim, ensuring that the term under review is clearly defined by different objects on the measuring instrument. Reliability is consistency of the results when it is performed repeatedly whereas, the interclass coefficient, kappa statistics, and Pearson correlation coefficient are the ways to test the reliability[10]. In the field of healthcare, patient's satisfactory level is generally evaluated through survey questionnaires. These tools are used to show the level of therapeutic care provided and the amount of satisfaction encountered by the patient in relation to it[11].In the light of literature it is observed that, patient satisfaction surveys are easily built without much consideration being paid to establishing their legitimacy and reliability. Thus, making it difficult to choose a suitable tool for a patient-related outcome measurement; it relies on the desired outcome use and may have an effect on results precision[12]. The analysis of psychometric properties for validation of the instruments used for patient satisfaction in physiotherapy out-patient department has found to be lacking in previous literature. Therefore a study is needed in order to gather the validity evidence regarding the different instruments being used.

Rationale

Patient satisfaction is considered as the cornerstone of any quality management program. Patients who are satisfied are more likely to adhere to therapy and have a greater quality of life related to health. Therefore, quality measurement requires significant validated tools. Unfortunately, in the health care system the selection of a tool is often times questioned subjected to the unmet standards of validity and reliability. Hence, a study is required to evaluate the present validity measures and ultimately standardize a tool that can be used for the assessment of patient satisfaction in out-patient physiotherapy care.

Objectives

To validate different tools that provides measurement of patient satisfaction in out-patient physical therapy services.

Methodology

Protocol

This systematic review was conducted in accordance with the principles of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.

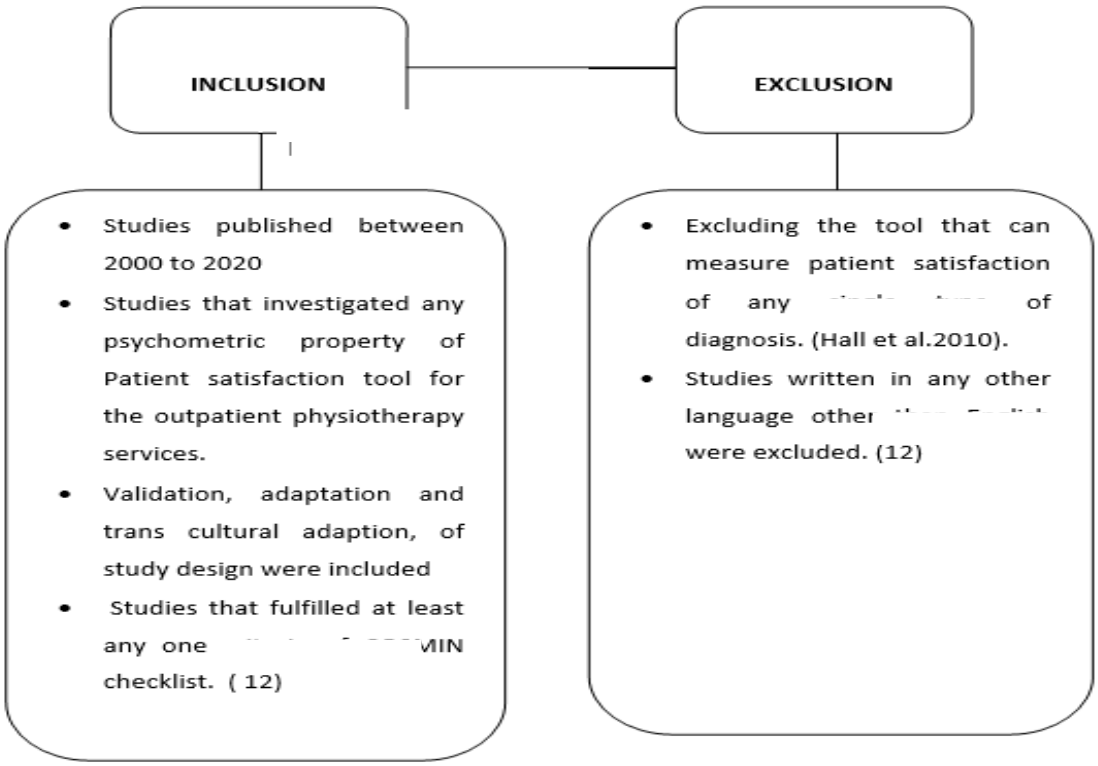
Study Design and Data Sources

A systematic review was conducted on patient satisfaction that underwent physiotherapy services in any out-patient department. A literature search was taken from past two decades from 2000 to 2020 using electronic databases i.e. PEDro, Google Scholar, and PubMed. The quest strategy was based exclusively on validation studies of patient satisfaction instruments used in out-patient physiotherapy and thus no other words were included that may be applicable to the standard of care. Additionally, the exhaustive search terms in the database were not only confined to validation study, we also explored via various different MESH terms like "Patient satisfaction questionnaire" AND "psychometric properties" OR "Physiotherapy" AND "Satisfaction questionnaire" OR "Out-patient physical therapy" AND "Satisfaction survey".

Study selection

Articles were reviewed by three reviewers independently. The analysis included examination, based on the inclusion requirements. The articles were selected upon the criteria that, they must be written in English, the abstract or title had to suggest that an empirical (qualitative or quantitative) research was performed investigating the definition, measure or action of patient centered treatment and some form of outcome measure. Collection of full text article was retrieved and their list of references was also searched to gain additional articles. Further, the removal of duplicate articles was done and a final list was made for full text reading. The reviewers elected the articles for further selection according to the quality synthesis. All these discussions were done amongst reviewer via video call meetings and email.

Inclusion and Exclusion criteria



Data Extraction

The reviewers extracted the following information from each qualifying paper i.e. Author name, year, title, study design, hospital / health care setting, construct

dimensions,sample size of practitioners or patients, instruments used, psychometric values and COSMIN scores. The data was extracted in between the year 2000 to 2020.

Evaluation of quality assessment

The methodological quality of the studies was analyzed using the Consensus based standards for the selection of health status measurement instruments (COSMIN) checklist that is one of the standard ways for measuring the instrument in various fields[13]. The COSMIN checklist consists of 10 items with different measuring psychometric property. These items were validity, conceptual validity, internal consistency, cross-cultural validity, precision, measurement error, criterion validity, hypotheses and responsiveness[14]. The checklist comprises of 10 boxes each containing an item to be measured in each study. The statements written in each box were rated according to a rating scale of excellent, good, fair, and poor. Then the methodological qualities were rated according to lowest rating of any statement. Further IRT and CRT and generalizability boxes were not utilized in this study as they don't provide any score.

Results

A total of 1200 search articles were approached. After the exclusion of duplicates, 1162 articles were obtained. However, only 34 articles remained after the implementation of inclusion and exclusion criteria. Each of these 34 studies was retrieved for reading, and further 15 studies were omitted. At the end only 19 articles were included in the review. (Figure 1)

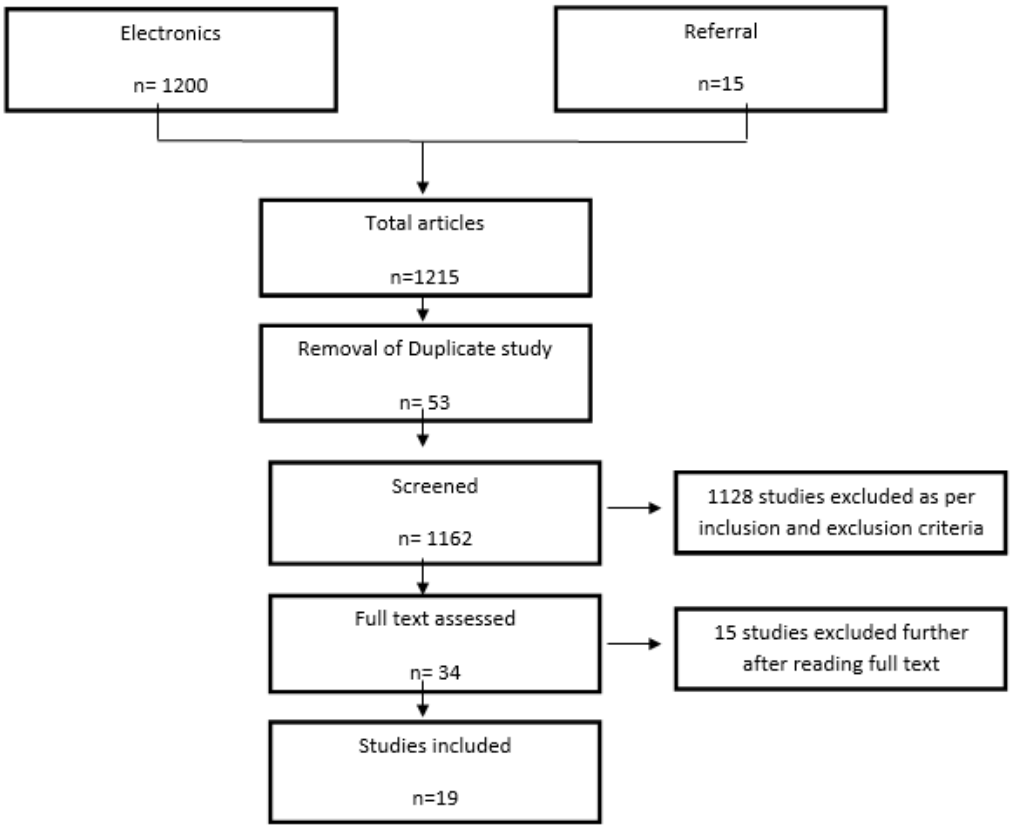


Fig 1

General data

The findings showed that satisfaction measuring instruments have been used all over the world (Pennsylvania, New York, Italy, USA, Brazil, Republic of Korea, Saudi Arabia, Spain, Norway, United Kingdom, Iran, Switzerland, Philippines, Ireland and Hong Kong). The sample

distribution revealed a large variance in screened trials. The inclusive number of citizens ranged from 40 to 1449. The health care setting where studies were conducted had variations from public to private setup, 5 studies were conducted in private outpatient departments[15,16,17] whereas other studies were conducted in general hospitals[18,19,20,21,22,23,24,25,26,27,28,29.]There are several tools used in these studies that intent to measure patient satisfaction in physical therapy setups. Among these 19 studies, 15 different measuring instruments were identified few of them were used in more than one study as MEDRISK were used in 3 of them[18,25,29].Patient Satisfaction Survey Physical Therapy (PTOPS) – was used twice[30,31] and Participants experience with physical therapy-tool was used twice as well[24,28] remaining all of the others were used once including Survey instrument: Compendium, Self-generated assessment instrument, newly design questionnaire (outpatient satisfaction questionnaire), SERVQUAL, rehabilitation patient experience questionnaire, 20 version MRPS Spanish version, survey instrument developed by authors, patient satisfaction questionnaire in germen (PSQ-G), 14 items self-design questionnaire, Treatment Outcome Satisfaction Questionnaire (TOSQ), Concise outpatient department user satisfaction scale and Filipino version).

Methodological quality of individual studies Out of the selected 19 studies, 8 were translated and cross culturally adapted validation study in other languages such as Italian, Portuguese, Persian, Swedish, Germen, Spanish[15,16,19,25,26,29,30] and rest of the 11 studies were based on instrument validation. The Reliability, structural validity and internal consistency were the principal properties which were evaluated in these studies. Other properties such as content validity, face validity, reliability (test-retest), interclass correlation coefficient, criterion validity were analyzed in few of studies. The overall studies showed Cronbach alpha ranging from 0.63 to 0.96. Analysis of Cosmin scoring showed most of the studies attained excellent to medium score whereas Cronbach alphas value showed variation. Upon analysis of psychometric properties, 8 studies reflected fair scoring of Cronbach alpha[,20,23,24,26,27,28,30,31], 3 studies showed excellent[22,32] 3 studies showed good[17,30] and 2 appeared to be poor[16,25]. Out of 15 different instruments only three of them (PSQ-G Patient satisfaction questionnaire in German, MedRisk Brazilian version and 14 item Self design) attained excellent scoring in each of the psychometric properties defined (Table 1).

Table 1: Psychometric properties of studies

S.no	Study year	n	Health Care setting	Study design	Instrument used	Construct Dimensions	Measurement properties	Psychometric values	Cosmin score
1	Beattie et al. (2005)	1449	Hospital Based outpatient department	Validation	MedRisk	Bidimensional	1-Reliability	r = 0.87 to 0.90	1-Poor
2	Vanti et al. (2013)	354	Hospital based Outpatient clinic	Translated and Cross-cultural adaptation (Italian)	Physical Therapy Out patient satisfaction (PTOPS)	Multidimensional (4)	1-Reliability 2-Internal consistency	α =0.758 to 0.88 intra class of correlation between scale r = 0.26 to 0.37	1-Good 2-Good
3	Goldstein et al. (2000)	289	Hospital based OPD and clinic	Validation	Survey instrument: Compendium	Multidimensional (5)	1-Reliability 2-Content validity 3-Internal consistency	α =0.99 item total correlation r=0.58 to 0.97	1-Fair 2-Good 3-Good
4	Diogenes et al. (2009)	221	Hospital based OPD and clinic	Validation	Self-generated Assessment Instrument measuring patient satisfaction	Multidimensional (23)	1-Reliability 2-Internal consistency	α=0.943	1-fair 2-good
5	Lee et al. (2016)	40	Hospital Based Outpatient clinic	Validation	Newly Design questionnaire (Outpatient Satisfaction Questionnaire)	Multidimensional (7)	1-Validity 2-Reliability 3-Internal consistency	α=0.87 Correlation with another instrument, r= 0.69 to 0.81 inter subscale r=0.73 to 0.88	1excellent 2-fair 3-good
6	Carla Vanti et al. (2013)	315	Hospital Based Outpatient Department	Translated and cross cultural adaptation (Italian)	Physical Therapy Patient Satisfaction Questionnaire	Multidimensional (12)	1-Reliability 2-Internal consistency 3-Structure Validity	α=0.905 correlated r=0.33	1-fair 2-excellent 3-excellent
7	Al Fraihi et al. (2016)	306	Hospital Based Outpatient department	Validation	SERVQUAL questionnaire	Multidimensional (5)	1.Reliability	α=0.89 to 0.95	1-Fair
8	Medina-Mirapeix et al. (2015)	465	hospital	Validation	Participants experience with Physical Therapy questionnaire (PEPAP-Q)	Multidimensional (7)	1-Reliability 2-Internal consistency 3-Structural validity	α =0.70 to 0.87, item scale correlation r=0.70 to 0.93, intraclass correlation coefficient r=0.57 to 0.80	1-Fair 2-Good 3-Fair
9	Oliveira et al. (2014)	303	Hospital Based Outpatient department	Translated and Cross cultural Adaptation (Brazilian Portuguese)	MedRisk instrument	Multidimensional (3)	1-Reliability 2 Internal consistency	α =0.63 to 0.77 intraclass correlation coefficient r=0.64 to 0.79, SEM=0.86 to 1.75	1-Poor 2-Fair

10	Margeth et al. (2009)	412	Hospital Based Rehabilitation center	Validation	Rehabilitation patient experience questionnaire (Re-PEQ)	Multidimensional (4)	1-Reliability 2-Internal consistency	α =>0.7 item total r = 0.77 to 0.87	1-Poor 2-Good
11	Beattie et al. (2007)	203	Health care Setting Outpatient departments	Validation and Transcultural adaptation (into Spanish version)	20 version MRPS Spanish version	Bidimensional	1-Reliablility 2-Internal consistency 3-Criterion referenced validity	α=0.90 for internal factor α=0.82 for external factor and correlation with sub factors r=0.59 to 0.82	1-Fair 2-Excellent 3-Fair
12	Beattie et al. (2002)	191	Hospital Based outpatient department	Validation	Survey instrument developed by authors	Multidimensional (5)	1-Reliability 2-Internal consistency 3-Content validity	α=0.90 Item correlation r = 0.095 to 0.722	1-Fair 2-Excellent 3-Excellent
13	Mosallanezhad et al.(2019)	297	Hospital Based outpatient department	Translated and Transcultural adaptation (Persian version)	Participants experience with Physical Therapy (PEPAP-Q)	Multidimensional (4)	1-Reliabilty 2-Internal consistency 3-Structural validity 4-Face validity	α=0.95 ICC=0.88	1-Fair 2-Good 3-Poor 4-Excellent
14	Scascighini et al. (2007)	123	Outpatient physical therapy department	Validation and Transcultural adaptation (germen)	PSQ-G Patient satisfaction questionnaire in German	Multidimensional (13)	1.Face validity 2-Internal consistency 3-Content validity	α=0.85 to 0.96 r=0.53 to 0.83	1-Excellent 2-Excellent 3-Excellent
15	Almeida et al. (2019)	326	hospital	Translated and transcultural (Brazilian)	MedRisk (Brazilian version)	Multidimensional (16)	1-Structure validity	Correlation between factors r =0.05 to 0.44 RMSEA=0.10 CFA=0.84	1-Excelent
16	Monnin et al. (2002)	528	Outpatient and inpatient department	Validation	14 item Self design questionnaire (French)	Multidimensional (4)	1-Internal consistency	α=0.77 to 0.90 r=0.96 to 0.98	1-Excellent
17	Martire et al. (2017)	131	Outpatient department	Translated and transcultural adaptation (Swedish)	Treatment Outcome Satisfaction Questionnaire (TOSQ)	Uni dimensional	1-Test–retest reliability	ICC=0.79	1-Fair
18	Tso et al. (2006)	344	Outpatient department	Validation	Concise Outpatient Department User Satisfaction Scale	Multidimensional (9)	1-Internal consistency 2-Criterion validity	α=0.90 r=0.38 to 0.85	1-Good 2-Poor
19	Palad et al. (2014)	125	Outpatient department clinic settings	Validation	Filipino version of the Parent Satisfaction Scale (F-PSS)	Multidimensional (11)	1-Internal consistency	α=0.96 k=0.56 to 0.72 total item correlation r=0.79 to 0.82	1-Good

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DISCUSSION

The patient or client satisfaction centered care in physiotherapy has been proposed all around the world to improve the treatment quality services. Creation or adaptation of surveys about satisfaction has found to be the most common tool for assessing patient satisfaction in outpatient. A number of instruments have been used in different studies for assessing or measuring patient satisfaction around the globe for quality assurance. In our study we evaluated the quality of different questionnaires of patient satisfaction that focused on the assessement of the psychometric properties broadly; validity, reliability, and internal consistency. Moreover, each of them were evaluated on cosmin checklist scoring. Nonetheless, other properties proposed by comsin checklist such as hypothesis testing, criterion and content validity, measurement error and cross cultural validity were not assessed in given studies. Besides, we also included studies that have had used cross culturally adapted questionnaire[12,15,16,19,25,27,28] and have had assessed the psychometric properties of each translated versionas well[30-35]. Surprisingly, we concluded that there are some limitations in cross culturally adapted questionnaire that are used to check the level of satisfaction in outpatient physiotherapy department. Few studies have found to be excellent at their each psychometric property[12,15,32] but the choice of instrument usage and application were different among all. The study conducted by Scascighini et al study used an instrument Patient satisfaction questionnaire in German language (PSQ-G), that was multidimensional and further it assessed face validity, internal consistency and content validity of the tool[15]. Another Study conducted by Almeida et al used MedRisk instrument, a multidimensional questionnaire in Brazilian version and they assessed only the structural validity of their tool[12]. Further, another study proposed by Monninet et al used 14 Item Self Design Questionnaire, and analyzed only the internal consistency of their tool. Adding more to it, the MedRisk instrument was used as a tool in another three of the studies. One of them conducted by Beattie et al assessed its reliability only. However, two of the studies proposed by balmeida et al and Oliveria et al cross culturally adapted this questionnaire into Portuguese version and it showed a good cosmin scoring on the checklist[25].However, Vanti et al used the instrument Physical Therapy Out-Patient Satisfaction and they evaluated reliability, internal consistency that appear to be good on Cosmin scoring[30]. Similarly Tso et al used Concise Outpatient Department User Satisfaction Scale and the psychometric properties and internal consistency were scored as good for them on cosmin. Unfortunately, we do not have much systematic review available on this concern, so comparison with different studies was not possible[36-39]. Besides, most of the instruments appeared to be average in term of quantification of patient satisfaction on cosmin scoring. Further, this review highlighted the concern that there is no particular gold standard tool for assessing patient's satisfaction that can be applied in out-patient physiotherapy services[40-43]. Moreover, our study recommends the construction of such questionnaires that covers all the aspects which a patient considers as an essential component of service, as patient satisfaction is significantly based on patient centered approach.

CONCLUSION

This review analyzed that most of the studies appeared to be good on COSMIN scoring, however no gold standard tool was found. In the considered studies some of the tools were analyzed on the basis of a single psychometric property that does not provide sufficient validation. However, others showed inclusion of multiple psychometric measures and thus, provides better construct on patient satisfaction tool. Concluding, physiotherapists can increase the efficiency of patient-centered treatment by identifying and maximizing these patient satisfaction tool determinants.

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