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ORIGINAL ARTICLE

Instruments to measure patient experience in hospitals: a scoping review

Instrumentos para avaliar a experiência do paciente em hospitais: uma revisão de escopo

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Abstract: Patient experience (PE) has been associated with patients' perception of care services, organizational culture, and interactions experienced by patients. This article aims to characterize the process of measuring adult PE in general hospitals. Therefore, a scoping review (Scoping Review) in a sample of 51 empirical articles dealing with the assessment of PE was analyzed. The results show the predominance of quantitative PE measurement methods. HCAHPS is the most used instrument to evaluate PE. It was also possible to identify the attributes and dimensions (independent variables) considered in the PE measurement. In this case, the relational aspects between patients and health professionals have received great attention in the PE. Measures such as patient experience, satisfaction, quality, and loyalty have been used as PE outcomes (dependent variables). The article contributes to understanding the operationalization and measurement of PE by emphasizing the attributes and dimensions that have been considered in PE measurement, which can be useful for researchers and healthcare professionals interested in evaluating and identifying discrepancies in healthcare services.

Keywords: Patient experience; Measurement; Hospital; Scoping review.

Resumo: A experiência do paciente (EP) tem sido associada à percepção dos pacientes em relação aos serviços de cuidado, à cultura organizacional e às interações vivenciadas pelos pacientes. Este artigo tem o objetivo de caracterizar o processo de mensuração da EP adulto em hospitais gerais. Para tanto, uma revisão de escopo (Scoping Review), em uma amostra de 51 artigos empíricos que tratam da avaliação da EP, foi realizada. Os resultados evidenciam a predominância dos métodos quantitativos para a mensuração da EP. Entre os instrumentos usados para avaliar a EP, o HCAHPS é o mais utilizado. Foram identificados os atributos e as dimensões (variáveis independentes) considerados na mensuração da EP. Neste caso, os aspectos relacionais entre os pacientes e os profissionais de saúde têm recebido grande atenção na EP. Medidas, como experiência do paciente, satisfação, qualidade e lealdade, têm sido usadas como resultados (variáveis dependentes) da EP. O artigo auxilia na compreensão da operacionalização e mensuração da EP ao apontar os principais instrumentos de avaliação, os atributos, as dimensões e os resultados que vêm sendo considerados na EP, o que pode ser útil

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para os pesquisadores e gestores de hospitais interessados em avaliar e em identificar discrepâncias nos serviços de saúde prestados.

Palavras-chave: Experiência do paciente; Mensuração; Hospital; Revisão de escopo.

1 Introduction

The concept of customer experience has become important in the management area, as creating positive customer experiences increases the chances of satisfaction and loyalty, in addition to increasing the competitive advantages to companies (Pine & Gilmore, 1998; McColl-Kennedy et al., 2015; Mosavi et al., 2018; Silva et al., 2021). The customer experience is made by the perceptions that customers develop when they come into direct (e.g., personal service) or indirect (e.g., advertising) contact with different aspects of the company providing the product or service (Meyer & Schwager, 2007; Verhoef et al., 2009). Therefore, the customer experience is a multidimensional and holistic construct, involving cognitive, affective, emotional, social, and physical customer responses concerning the company, brand, product, or service (Maklan, 2012; Verhoef et al., 2009). The customer experience involves activities at different stages, such as research, purchase, consumption, disposition, and other related activities (Verhoef et al., 2009).

In the service sector, customer experience has been investigated in banks (e.g., Mbama & Ezepue, 2018), hospitality (e.g., Kandampully et al., 2018), and retail (e.g. Bustamante & Rubio, 2017). In healthcare, the concept of customer experience, called patient experience (PE), had a fast approval among researchers and healthcare professionals (Wolf & Jason, 2014; Rapport et al., 2019). PE reflects the quality of services from the patient's perspective and it has been a concern of health organizations (Wardhani et al., 2009; Macinati, 2008; Rapport et al., 2019; Rodrigues, 2019).

PE, according to Rodrigues (2019, p.19), "[...] includes aspects such as easy access to information, the way to respond to requests, respectful treatment, listening to the patient's needs and the compliance with individual values [...]". PE is not a simple concept and, it is often confused with other attributes, such as satisfaction, loyalty, and engagement (LaVela & Gallan, 2014; Rodrigues, 2019). However, Wolf & Jason (2014) point out that PE is more than customer satisfaction. For the authors, it is associated with patients' perception of care, organizational culture, and interactions experienced by patients. Beryl Institute proposes another seminal definition for PE, pointing to it as "[...] the sum of all interactions, shaped by an organization's culture, that influence patient perceptions throughout the care process" (The Beryl Institute, 2020). Thus, the use of slightly different conceptualizations for PE can lead to different interpretations of this phenomenon. Therefore, multiple conceptualizations can generate difficulties in their operationalization and measurement (Wolf & Jason 2014; Rapport et al., 2019). Therefore, understanding how PE has been evaluated, through attributes and dimensions, can contribute to better understanding the phenomenon and, consequently, improve PE in health organizations (Beattie et al., 2015; Rapport et al., 2019).

The measurement of PE has been the focus of investigation in several studies (e.g., LaVela & Gallan, 2014; Beattie et al., 2015; Male et al., 2017). Several quantitative and qualitative methods have been used to measure PE. Among the quantitative instruments are the *Picker Patient Experience Questionnaire - PPE* (e.g, Lusilla-Palacios & Castellano-Tejedor, 2017), the *Hospital Consumer Assessment of*

Healthcare Providers and System – HCAHPS (e.g., Banka et al., 2015), and *Press Ganey* (e.g, Heyworth et al., 2014). Among the qualitative methods, interviews and focus groups stand out (e.g., Sofaer et al., 2005; Kuis & Goossensen, 2017; Webster et al., 2019). Despite the multiplicity of instruments, there is no consensus among authors about the measurement items (attributes and dimensions) that should be considered to measure PE (LaVela & Gallan, 2014; Beattie et al., 2015).

Motivated by this research gap and recognizing the importance of PE for improving the quality of health services (LaVela & Gallan, 2014; Beattie et al., 2015; Male et al., 2017), this article aims to examine how PE has been measured through a scoping review, in a sample of 51 articles on the subject. Considering that the customer experience (as well as that of the patient) depends on the context in which it takes place (Silva et al., 2021), we chose to investigate studies that evaluated the experience of adult patients in hospitals. The choice is justified, as a scoping review is adequate to identify concepts that form a certain research topic, especially when this topic is not yet consolidated (Arksey & O'Malley, 2005; Peterson et al., 2017). Therefore, descriptive (e.g., year, country, journals, most cited studies, and, research strategies) and content analyses were carried out to identify the main assessment instruments, the evaluated attributes, and the main results considered of PE.

The article presents three main contributions. First, measuring patients' experience is a concern in the healthcare area, however, the conceptualization of PE lacks the conceptual clarity that, in turn, challenges its accurate assessment. Thus, this article helps to understand the operationalization and measurement of PE pointing out the attributes and dimensions that have been considered in several empirical studies on this topic. At this point, the article advances concerning existing reviews (e.g., Beattie et al., 2015; Male et al., 2017) in terms of breadth (total of articles analyzed) and scope (variables analyzed). Second, the identification of the main independent variables (attributes and dimensions of PE) and the dependent variables (PE results) can help in the construction of new acceptable and relevant instruments to measure PE in the hospital. Finally, the article collaborates by carrying out an analysis of the main quantitative instruments already used, which can be useful for hospital managers and other health professionals interested in evaluating and identifying discrepancies in the health services provided.

2 Research method

A scoping review is used to synthesize evidence from a set of studies linked to a study topic to identify gaps in the existing literature. Also, this type of study is recommended to map key concepts that support a particular research topic, especially when it is complex or little-explored (Arksey & O'Malley, 2005; Peterson et al., 2017). In particular, the use of scope reviews has a wide use and acceptance in studies related to the medical field (Peterson et al., 2017). Thus, it is believed that the scoping review is adequate to explore the theme addressed in this article. For its execution, the steps proposed by Arksey & O'Malley, (2005) were followed: (i) Identify research questions; (ii) Identify and select relevant studies; (iii) Archive and tabulate the data; and (iv) Grouping, summarizing, and reporting results.

2.1 Identify research questions

PE is not a clearly defined concept, which challenges its accurate measurement (Wolf & Jason, 2014; Rapport et al., 2019). In this case, research instruments may include constructs that do not accurately get patient responses to cognitive and behavioral stimuli linked to health care (Kashif et al., 2016). Furthermore, the diversity of constructs (independent and dependent) contained in previous studies makes it difficult to choose among the several options for assessing PE (Beattie et al., 2015; Male et al., 2017; Rapport et al., 2019). The lack of clarity regarding what to measure and how to measure PE can intensify the panorama of research related to this theme, contributing to producing a fragmented understanding of the measurement of PE and making comparisons among studies difficult. Therefore, there is a need for studies that can map the literature on PE to identify how it has been measured (instruments used) and organize the independent (antecedents) and dependent (consequent) constructs of PE. In short, based on the exposition of the research problem, relevant questions about the measurement of PE that could guide the investigation were identified. Therefore, this article seeks to answer the following questions:

QP#1 What are the characteristics of empirical research on PE in hospitals?

QP#2 What are the main PE assessment instruments cited in the literature?

QP#3 What are the independent constructs (attributes) considered in measuring PE?

QP#4 What are the results considered when measuring PE?

The questions were formulated to support the comprehensive review of the literature on the measurement of PE, and their answers were obtained through a robust and documented structure (Arksey & O'Malley, 2005).

2.2 Identify and select relevant studies

A second step refers to the selection of articles that make up the final sample. In this case, the identification and selection procedures were based on Beattie et al. (2015).

Figure 1 illustrates the steps used to carry out this research.

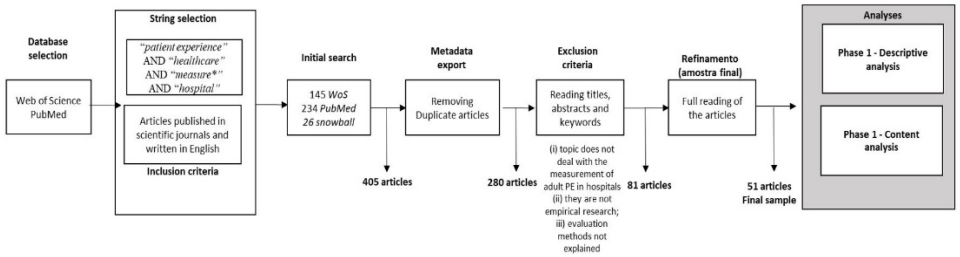

Figure 1. Literature search process

study. The definition of search terms was inspired by Beattie et al. (2015), however, modifications were made to expand the identification of articles, for example, the exclusion of the terms “inpatients” and “questionnaires”, aiming at not limiting the articles that measured PE only in the inpatient sector or that used only questionnaires as assessment tools. Thus, the terms used were: *“patient experience”* AND *“healthcare”* AND *“measure*”* AND *“hospital”.* As inclusion criteria, the following search filters were adopted: English language and timeframe from December 2013 to June 2019. Therefore, a longer period than that was investigated by Beattie et al. (2015), complementing its article base. Based on the procedures described, the search returned 379 articles, 145 from Web of Science and 234 from PubMed Central. 26 articles by Beattie et al. (2015) were included, totaling 405 articles. Metadata for these articles were extracted and exported to *Mendeley* bibliographic management software. After removing duplicate articles, an initial sample of 280 articles was obtained.

The next steps were the reading of titles, abstracts, and keywords for article selection. In this case, articles were selected that i) addressed the issue of measuring the experience of adult patients in hospitals, ii) presented results of empirical research; iii) whose evaluation method was explained (e.g., type of strategy, instrument, variables, and results, etc.), allowing the identification of the observed variables. Consequently, articles were not selected that i) did not measure PE in health (e.g., Doyle et al., 2013), ii), focused on the assessment of satisfaction (e.g., Malik et al., 2016) or hospital safety (e.g., Lawton et al., 2015) instead of PE, iii), did not address the general hospital (e.g., Caneiras et al., 2019) or iv) or focused on the children’s experience (e.g., Toomey et al., 2015). With these criteria, we sought to analyze a more homogeneous sample of studies related to PE (considering the same type of patients, care, and health organization), as also suggested by Beattie et al. (2015). In case of doubt, the articles were read in full for a decision to include or not. Articles that did not provide access to the full text or technical reports were also discarded. Two of the authors engaged in this selection task. After this second filter, the sample had 81 articles. When starting to read the full text of these articles, 30 of them were discarded for not meeting the inclusion criteria. Therefore, the final sample includes 51 focal articles.

2.3 Filing and tabulating data

This step aimed to map the main variables that were observed in the publications to create a database that will serve as a source for further analysis (Arksey & O'Malley, 2005). The articles were organized in a spreadsheet with the following information to support the descriptive analysis: year, journals, type of approach, and research strategies. In the thematic analysis, the data collected were: methods used to measure the PE, attributes that form the PE (independent variables), and the objectives measured by the articles.

2.4 Grouping, summarizing, and reporting results

Grouping the data and summarizing it provided important information about the articles. The descriptive analysis provided information about the main characteristics of the sample, helping to solve QP1 and partially responding to QP2. Content analysis (thematic) allowed a quantitative/qualitative examination of the content of the articles

according to the characteristics of the applied PE measurement methods, answering the QP2, QP3, and QP4. The thematic analysis also helped to report and categorize the challenges and opportunities of measuring PE. These results are presented in the next sections.

3 Results

3.1 Descriptive analysis

The evolution of scientific production on the subject is represented in Figure 2. There was a greater interest in the subject from 2012, and the year in which there was the greater publication of articles in this research was 2016, with approximately 19.6% of the articles (e.g., Kemp et al., 2016).

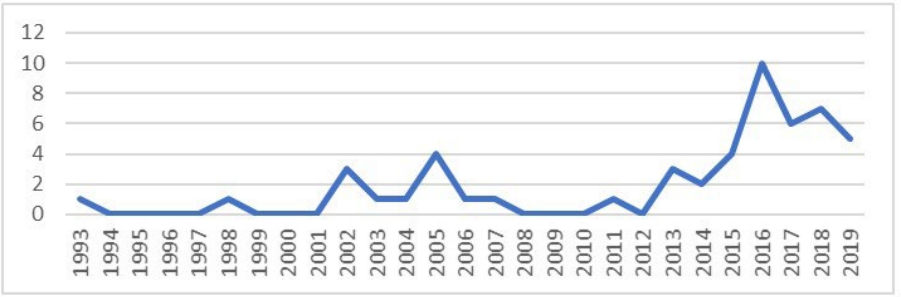

Figure 2. Frequency of publication.

The articles were published in 31 journals. In Table 1, there are journals with two or more publications. *BMJ Open* has the highest number of published articles (e.g., Beattie et al., 2016; Kemp et al., 2016; Lane et al., 2016), followed by *International Journal for Quality in Health Care* (e.g., Pettersen et al., 2004; Rao et al., 2006) and by *BMC Health Services Research* journals (e.g., Brown et al., 2015; Liu et al., 2017; McLean et al., 2017) and *Health Services Research* (e.g., Levine et al., 2005; O'Malley et al., 2005; Sofaer et al., 2005).

Table 1. Newspapers.

Newspapers	**Total of articles**	**%**
BMJ Open	6	11.76%
International Journal for Quality in Health Care	5	9.8%
BMC Health Services Research	4	7.84%
Health Services Research	4	7.84%
BMJ Quality & Safety	2	3.92%
International Journal of Health Care Quality Assurance	2	3.92%
Journal of Hospital Medicine	2	3.92%
Journal of Patient Experience	2	3.92%
Scandinavian Journal of Caring Sciences	2	3.92%

Regarding the research approach, 66.67% (34 articles) of the articles used the quantitative approach exclusively (e.g., Garrard & Narayan, 2013; Kerezoudis et al., 2018; Alaloul et al., 2019). The qualitative approach was used exclusively in 11.76% of the articles (6 articles) only (e.g, Kuis & Goossensen, 2017; Rapport et al., 2019). However, a qualitative-quantitative approach, which includes both approaches, was adopted in 11 articles (21.57%) (e.g., Rao et al., 2006; Carter et al., 2018). To complement the characterization of the research methods adopted by the focal articles, Table 2 presents the research strategies used.

Table 2. Research Strategy.

Research Strategy	Total of articles
Survey	34
Survey + individual interviews	7
Individual interviews*	4
Survey + individual interviews + focal groups	3
Individual interviews + focal groups	1
Focal groups	1
Survey + focal groups	1
Total of articles	**51**

*It includes the instruments “Diary of Patient” and “Emotional Touchpoint” and quantitative instruments as an interview.

The survey was the most used research strategy among the focal articles, with 66.67% (34) of the articles using only this method. In addition to it, the survey was also applied with other qualitative strategies, with a total of 88.24% of the articles. This research strategy is more appropriate when the operationalization variables of a construct are already consolidated, although this is not the case for PE. However, PE follows a trend of quantitative analysis adopted in the areas of satisfaction and quality in services. Although qualitative strategies ensure a deeper understanding of PE, studies that relied only on this type of strategy were less observed. Only interviews were used by only 7.84% of the articles. However, they were based on constructs present in instruments such as HCAHPS and *Quality form the Patient's Perspective* - QPP (Levine et al., 2005; Wilde et al., 1993) or instruments such as the *“Diary of patient”* (Webster et al., 2019) and the *“Emotional Touchpoint”* (Kuis & Goossensen, 2017). The interview strategy, when considering all the articles in which it was applied, was observed in 29.41% of the sample.

3.2 Thematic analysis

3.2.1 Instruments for measuring patient experience

Table 3 shows PE assessment instruments identified in the articles. *“Hospital Consumer Assessment of Healthcare Providers and Systems”* (HCAHPS) was the most mentioned method in the articles (39.22%). This instrument consists of 29 items, with attributes such as communication with physicians, communication with nurses, the responsiveness of the hospital staff, communication about medications, information about discharge and transition of care/care, cleanliness and tranquility of the hospital

environment, a general classification of the hospital and possibility of recommendation. The pain control variable was eliminated from surveys of patients who were discharged as of October 1, 2019, by the Centers *for Medicare and Medicaid Services* (AHRQ, 2018). HCAHPS is highly popular among American hospitals, as an indicator of hospital quality by health management organizations such as the *Medicare and Medicaid Service* Centers (Giordano et. al., 2010; Rodrigues, 2019).

Table 3. Measurement Instruments of the patient's experience.

Evaluation Instrument	Articles	Total
HCAHPS (*Hospital Consumer Assessment of Healthcare Providers and Systems*)	1, 2, 6, 7, 8, 9, 11, 14, 21, 22, 23, 30, 34, 36, 39, 40, 41, 44, 46, 48	20
PPE - 15 or PPE – 33(*Picker Patient Experience Questionnaire*)	16, 17, 32, 37, 43	5
QPP (*Quality of care from the patient's Perspective*)	27, 28, 50	3
HKIEQ (Hong Kong Inpatient Experience Questionnaire)	10, 51	2
PEECH (*Patient Evaluation of Emotional Care during Hospitalisation*)	35, 37	2
PPQ (*Patient Perceptions of Quality*)	4, 24	2
Press Ganey	15, 42	2
Own Questionnaire	33, 26	2
CCAENA (*Questionnaire of Continuity between Care Levels*)	31	1
CEFIT (*Care Experience Feedback Improvement Tool*)	3	1
CEPS IC (*Canadian Patient Experience Survey–Inpatient Care*)	45	1
CollaboRATE	12	1
Diary of patient (escrito pelo próprio paciente)	49	1
Emotional Touchpoint	25	1
EUROPEP *Questionnaire*	47	1
EXQ (*Customer Experience Quality*)	20	1
FPS (*Flemish Patient Survey*)	5	1
I-PAHC (*Patient Assessment of Healthcare for Inpatient Care*)	29	1
JPCAT (*Primary Care Assessment Tool*)	19	1
NORPEQ (*Norwegian patient experience questionnaire*)	38	1
O-PAHC (*Patient Assessment of Healthcare for Outpatient Care*)	29	1
PEQ (*Patient Experience Questionnaire*)	18	1
SERVQUAL	13	1

Subtitle: 1. (Alaloul et al., 2019); 2. (Banka et al., 2015); 3. (Beattie et al., 2016); 4. (Brown et al., 2015); 5. (Bruyneel et al., 2017); 6. (Carter et al., 2018); 7. (Chan et al., 2015); 8. (Cowen et al., 2016); 9. (Drennan et al., 2018); 10. (Wong et al., 2013); 11. (Fisher et al., 2019); 12. (Forcino et al., 2018); 13. (Garrard & Narayan, 2013); 14. (Gillam et al., 2016); 15. (Heyworth et al., 2014); 16. (Jenkinson et al., 2002); 17. (Jenkinson et al., 2003); 18. (Pettersen et al., 2004); 19. (Kaneko et al., 2019); 20. (Kashif et al., 2016); 21. (Keller et al., 2005); 22. (Kemp et al., 2016); 23. (Kerezoudis et al., 2018); 24. (Rao et al., 2006); 25. (Kuis & Goossensen, 2017); 26. (Lane et al., 2016); 27. (Larsson et al., 1998); 28. (Larsson & Larsson, 2002); 29. (Lawton et al., 2015); 30. (Levine et al., 2005); 31. (Liu et al., 2017); 32. (Lusilla-Palacios & Castellano-Tejedor, 2017); 33. (Malik et al., 2016); 34. (McFarlan et al., 2019); 35. (McLean et al., 2017); 36. (Merlino et al., 2014); 37. (Murrells et al., 2013); 38. (Oltedal et al., 2007); 39. (O'Malley et al., 2005); 40. (Otani et al., 2016); 41. (Pottenger et al., 2016); 42. (Rapport et al., 2019); 43. (Reeves et al., 2002); 44. (Roseen et al., 2017); 45. (Rubens et al., 2018); 46. (Sofaer et al., 2005); 47. (Van den Hombergh et al., 2016); 48. (Wallace et al., 2018); 49. (Webster et al., 2019); 50. (Wilde et al., 1993); 51. (Wong et al., 2015).

The second most used instrument (9.80%) was *Picker Patient Experience Questionnaire* (PPE). It was originally elaborated with 15 items by Reeves et al. (2002), but an expanded version with 33 items was used by Lusilla-Palacios & Castellano-Tejedor (2017). The questionnaire addresses the variables: information and education, care coordination, physical comfort, emotional support, respect for the patient's request, involvement of family and friends, continuity and transition, and overall impression (Lusilla-Palacios & Castellano-Tejedor, 2017). Next, there is *Quality of care from the Patient's Perspective* (PPQ), with 5.88%, which was developed by Wilde et al. (1993) to capture quality from the patient's perspective. Larsson et al. (1998) formulated the version of the questionnaire with 68 items, reduced to 24 items by Larsson & Larsson (2002). QPP addresses the variables: physician's technical competence, commitment, technical and physical conditions, characteristics and situation of the place, socio-cultural atmosphere, identity-oriented approach, patient participation, meeting personal needs, and positive treatment of significant people (Wilde et el., 1993; Larsson & Larsson, 2002). The 24-item version addresses the variables: physician's technical competence, technical and physical conditions, sociocultural atmosphere, and identity-oriented approach (Larsson & Larsson, 2002). Both HCAHPS, PPE, and QPP assess different aspects of the hospital experience, with many dimensions of service quality.

In addition to these, there are less-used instruments, such as *Emotional Touchpoint* and *Customer Experience Quality* (EXQ). *Emotional Touchpoint* is an instrument in which no predefined category is used, based solely on the patients' values, being essential from the ethical point of view of care (Kuis & Goossensen, 2017). The instrument assesses *touchpoints*, which characterize the main moments in which the patient remembers having been touched emotionally or cognitively (Kuis & Goossensen, 2017). EXQ instrument consists of a scale made by four dimensions: product experience, focus on results, moments of truth, and peace of mind (Maklan, 2012). Through the 19-item scale, it was concluded that the service experience has a considerable influence on customer satisfaction, loyalty, and indication (Maklan, 2012). Kashif et al. (2016) adapted the scale to measure constructs related to PE in Malaysian hospitals.

3.2.2 Attributes (independent variables)

Table 4 presents the individual variables (attributes) considered by the authors to measure PE. They were identified from the content analysis of the assessment instruments. In all, 98 individual variables were identified. Later, they were grouped into categories (constructs/dimensions) according to their similar nature. Table 4 presents this grouping.

Table 4. Categories and Independent Variables.

Constructs/Independent Variables	Articles	Total
Admission and Accessibility		
System access	3	6
Improved access to care	15	
Immediate access	10	
Admission	45, 51	
First contact	19	

Table 4. Continued…

Constructs/Independent Variables	Articles	Total
Hospital Discharge and Care Transition		
Information on hospital discharge and transition of care and care	1, 9, 22, 23, 41, 45, 46, 48, 51	19
Continuity and Transition	16, 32, 43	
Relational, informational, and managerial continuity	31	
Discharge information	1, 2, 7, 8, 21, 22, 23, 39, 41, 48	
Preparation for discharge	42	
Hospital Environment		
Food	51	18
Healing environment	33	
Sociocultural atmosphere	27, 28, 50	
Physical comfort	16, 32, 43	
Visit coordination and quality	15	
Tranquility and Cleanliness	1, 2, 22, 23, 46, 48	
Organization	18	
Privacy	5, 10	
Communication and Information		
Ability to transmit information	13	29
Communication with nurses	1, 2, 7, 8, 9, 11, 21, 22, 23, 29, 36, 39, 40, 45, 46, 48	
Communication with doctors	1, 2, 9, 11, 15, 21, 22, 23, 29, 39, 40, 45, 46, 48	
General communication	18, 42	
Communication about medications	1, 2, 7, 8, 9, 14, 18, 21, 22, 23, 29, 39, 46, 48	
Provision of information	10	
Information	16, 32, 43	
information and communication	5	
Information about exams/tests	18, 38	
Information about future complaints	18	
Guidance	15, 19	
Perception of being informed	12	
Responding to Concerns and Complaints	42	
Care and Safety		
Pain control	1, 2, 5, 8, 9, 21, 22, 23, 29, 36, 39, 44, 46, 48	24
Care coordination	10, 16, 32, 43	
Beware at the right time	3	
Care and treatment	51	
Safe care	5	
Best and worst aspects of care	26	
Care orientation	15	
Care plan	33	
Quality of care	10	
Safety	3, 33, 37	

Table 4. Continued…

Constructs/Independent Variables	Articles	Total
Hospital Team		
Heads up	3	26
General service/team support	10, 15	
Ability to develop the service reliably and accurately	13	
Responsiveness	1, 2, 8, 21, 22, 23, 36, 39, 40, 45, 46, 48	
Commitment	27, 50	
Connection with the team	37, 44	
Reliability	13	
Knowledge	13, 37	
Coordination	5, 19	
Courtesy	13	
Disposition	13	
Education	16, 32, 43	
Empathy	13	
Identification with patients	34	
Precision	13	
Speed	13	
Respect	5, 10, 16, 32, 43	
Sensitivity	13	
Emotional support	16, 32, 43	
Teamwork	15, 34	
Experience		
Experience with the product (service)	20	8
General experience at the hospital	26, 44	
Overall impression	16, 32, 43, 51	
General satisfaction	18	
Infrastructure		
Technical and physical conditions	27, 28, 50	11
Hospital and equipment	13, 18	
Infrastructure	24	
Facilities, characteristics, and location situation	10, 13, 27, 50, 51	
Communication materials	13	
Management practices	47	
Available services	19	
Quality and Services		
Medical assistance/services	4, 18	13
Nursing care/services	4, 18	
Hospital general classification	8, 11, 34, 36, 41, 44	
Physician's technical competence	27, 28, 50	
General perception of quality	4	
Room quality	40	
General Quality / Quality	33	
Feelings and Behaviors		
Emotion or cognition	25	8
Moments of truth	20	

Table 4. Continued…

Constructs/Independent Variables	Articles	Total
Peace of mind	20	
Possibility of recommendation	11, 34, 36, 44	
Personal value	35, 37	
Treatment		
Functional and transactional aspects of treatment	37	4
Availability of medications	24	
Efficiency	3	
Focus on the result	20	
Dealing with the Patient and Family		
Identity-oriented approach	27, 28, 50	13
Person-centered service/individualized care	13, 33, 45	
Dignity of the patient	33	
Involvement, contact and positive treatment of significant people, family, and friends	16, 27, 32, 42, 43, 50	
Involvement/participation of the patient in the decision/treatment	10, 12, 27, 42, 50	
Emotional and Spiritual Needs	42	
Physical and personal needs	10, 27, 50	
Preparation for hospital admission	5	
Treatment of patient's feedback	10	

Subtitle: 1. (Alaloul et al., 2019); 2. (Banka et al., 2015); 3. (Beattie et al., 2016); 4. (Brown et al., 2015); 5. (Bruyneel et al., 2017); 7. (Chan et al., 2015); 8. (Cowen et al., 2016); 9. (Drennan et al., 2018); 10. (Wong et al., 2013); 11. (Fisher et al., 2019); 12. (Forcino et al., 2018); 13. (Garrard & Narayan, 2013); 14. (Gillam et al., 2016); 15. (Heyworth et al., 2014); 16. (Jenkinson et al., 2002); 18. (Pettersen et al., 2004); 19. (Kaneko et al., 2019); 20. (Kashif et al., 2016); 21. (Keller et al., 2005); 22. (Kemp et al., 2016); 23. (Kerezoudis et al., 2018); 24. (Rao et al., 2006); 25. (Kuis & Goossensen, 2017); 26. (Lane et al., 2016); 27. (Larsson et al., 1998); 28. (Larsson & Larsson, 2002); 29. (Lawton et al., 2015); 31. (Liu et al., 2017); 32. (Lusilla-Palacios & Castellano-Tejedor, 2017); 33. (Malik et al., 2016); 34. (McFarlan et al., 2019); 35. (McLean et al., 2017); 36. (Merlino et al., 2014); 37. (Murrells et al., 2013); 38. (Oltedal et al., 2007); 39. (O'Malley et al., 2005); 40. (Otani et al., 2016); 41. (Pottenger et al., 2016); 42. (Rapport et al., 2019); 43. (Reeves et al., 2002); 44. (Roseen et al., 2017); 45. (Rubens et al., 2018); 46. (Sofaer et al., 2005); 47. (Van den Hombergh et al., 2016); 48. (Wallace et al., 2018); 50. (Wilde et al., 1993); 51. (Wong et al., 2015).

The most frequent dimensions are Communication and Information, that is, 56.9% of the articles had one or more individual variables about them. A concern with the work team is also evident through variables that identify competence, responsibility, empathy, knowledge, and others. Therefore, the Hospital Team category focuses on the quality of the health professional and was addressed in 50.98% of the articles. Finally, Care and Safety, evidenced in 47% of the articles in the sample, shows that there is a concern with aspects such as care at the right time, coordination, and guidance of care and safety. On the other hand, two categories were less addressed: Treatment (7.84%) and Admission and Accessibility (11.76%). The fact that the category Treatment is less addressed maybe, hypothetically, due to the understanding that patients do not have the clinical knowledge to assess the effectiveness of the treatment, being the entire responsibility of physicians and nurses. The variables in the Admission and Accessibility category were considered by the formulators of the instruments as less important because they understood that they may already be incorporated in other aspects that are evaluated.

Regarding individual variables, the most cited were: communication with nurses (31.37%), communication with doctors (27.45%), communication about medication (27.45%), pain control (27.45%), and responsiveness of the team (23.53%). It is noticed

that communication is seen with great importance not only as a category but also through its variables. The variables pain control and team responsiveness comprise, respectively, the Care and Safety and Hospital Team categories, which are also among the most evident.

3.2.3 PE results

Table 5 identifies the main results of the experiment (dependent variables) in the sample articles. These variables were also grouped, by similarity, into outcome categories (constructs). Of the focal articles, 10 of them (e.g., Levine et al., 2005; O'Malley et al., 2005; McLean et al., 2017) focused on developing, testing, or reducing the instruments, not emphasizing a specific result. The Experience category is represented in the variables patient-centered care experience, the experience of care continuity, patient experience, and patient experience with the nursing team, having been the most used (62.75% of the articles), which indicates a consolidation of this measure about “patient experience” in the health area. It is possible to observe that the patient experience result was found in 41.18% of the articles. Also, according to Table 5, although the articles focus on measuring PE, constructs such as satisfaction and service quality are also present in the literature. For example, results related to satisfaction are present in 19.61% and service quality in 9.80% of the articles in the sample. It is interesting to notice that customer satisfaction, loyalty and indication are traditional results of service quality (Verhoef et al., 2002), but that they have also been used as results of customer experience (Klaus & Maklan, 2013). However, the use of loyalty and indication objectives is still incipient in the measurement of PE in hospitals.

Table 5. Experience Results.

Categories/ Variables	Articles	Total
Experience		
Patient-centered care experience	15	24
Continuity of Care Experience	31	
Patient’s experience	3, 5, 6, 7, 8, 10, 16, 18, 19, 23, 26, 29, 34, 37, 38, 41, 42, 44, 47, 49, 51	
Patient’s experience with the nursing team	9	
Satisfaction		
Satisfaction	1, 2, 20, 24, 32, 33, 36, 40, 42	9
Satisfaction with medical care	2	
Quality		
General classification of physician and ward	22	5
Patient’s expectations	13	
Quality from the patient's perspective	28, 50	
Perceived quality	4	
Communication		
Indication	20	3
Communication about medications	14	
Comfort to talk about problems during hospitalization	11	
Loyalty		

Table 5. Continued…

Categories/ Variables	Articles	Total
Loyalty	20	2
Recommendation	2	
Caution		
General care	45	2
Ethics of care	25	

Subtitle: 1. (Alaloul et al., 2019); 2. (Banka et al., 2015); 3. (Beattie et al., 2016); 4. (Brown et al., 2015); 5. (Bruyneel et al., 2017); 6. (Carter et al., 2018); 7. (Chan et al., 2015); 8. (Cowen et al., 2016); 9. (Drennan et al., 2018); 10. (Wong et al., 2013); 11. (Fisher et al., 2019); 13. (Garrard & Narayan, 2013); 14. (Gillam et al., 2016); 15. (Heyworth et al., 2014); 16. (Jenkinson et al., 2002); 18. (Pettersen et al., 2004); 19. (Kaneko et al., 2019); 20. (Kashif et al., 2016); 22. (Kemp et al., 2016); 23. (Kerezoudis et al., 2018); 24. (Rao et al., 2006); 25. (Kuis & Goossensen, 2017); 26. (Lane et al., 2016); 28. (Larsson & Larsson, 2002); 29. (Lawton et al., 2015); 31. (Liu et al., 2017); 32. (Lusilla-Palacios & Castellano-Tejedor, 2017); 33. (Malik et al., 2016); 34. (McFarlan et al., 2019); 36. (Merlino et al., 2014); 37. (Murrells et al., 2013); 38. (Oltedal et al., 2007); 40. (Otani et al., 2016); 41. (Pottenger et al., 2016); 42. (Rapport et al., 2019); 44. (Roseen et al., 2017); 45. (Rubens et al., 2018); 47. (Van den Hombergh et al., 2016); 49. (Webster et al., 2019); 50. (Wilde et al., 1993); 51. (Wong et al., 2015).

4 Discussion

Some discussion points are highlighted from the results. First, concerning the research methods, most research on measuring PE is based on traditional methods such as quantitative research and survey application (Silva et al., 2018). Our results show that this strategy has a long tradition in the evaluation of related constructs (e.g., service quality, satisfaction, etc.). Despite providing structured results and reaching a larger number of patients, the quantitative approach is limited to the variables analyzed. Therefore, it is interesting to complement the PE assessment with qualitative methods. In general, qualitative methods that use strategies, such as interviews and focus groups, are also used and allow us to achieve this objective. Thus, the association of qualitative and quantitative methods favors a greater capture of PE, enabling the cross-validation of qualitative and quantitative data to observe converging points and obtain greater depth on PE (LaVela & Gallan, 2014).

The second point of discussion refers to the most used assessment instrument. A stream of research was observed that proposed assessment instruments for this purpose, such as HCAHPS (O'Malley et al., 2005), PPE (Reeves et al., 2002), QPP (Larsson et al., 1998), and other less frequent instruments, as shown in Table 3. This diversity of measuring instruments occurs because there is no consensus on the PE concept and its formative dimensions (Ahmed et al., 2014). Furthermore, many dimensions related to service quality and satisfaction are generally considered formative of PE, as well as complementing its metrics. However, although there is no consensus on the best method for measuring it, there is a trend towards greater use of the HCAHPS instrument. It is believed that this trend is due to the instrument is originally American, where the government payment to these providers is related to PE measurement through the HCAHPS method and the results of this measurement are publicly disclosed (Rodrigues, 2019). Thus, health institutions felt obliged to be concerned about PE, as it began to affect the financial part and the image of health institutions in the country (Rodrigues, 2019).

A third point refers to the categories and individual variables considered in the different PE assessment instruments. Table 6 shows the independent variables and the respective categories that make up the instruments most used in the sample. It is possible to notice that HCAHPS variables have greater evidence than other

instruments and the variables that have been considered with greater weight by the most evidenced instruments are focused on relational issues involving the patient and the team providing the service. Suggestions for the implementation of training strategies (Alástico & Toledo, 2013), educational, emotional, and cultural (Wiig et al., 2013) were found in the literature to contribute to the quality of hospital services and the recognition and appreciation of the involvement and experiences of patients by staff. The fact that nursing teams are close to patients and in constant contact with other professionals has an impact on the establishment of hospital accreditation (Mendes & Mirandola 2015), which directly influences quality and PE. For this reason, Leggat et al. (2017) emphasize the importance of training for better development of team functions

Table 6. Independent Variables and Assessment Instruments.

Independent Variables	Category	%	HCAHPS	PPE	QPP
Communication with nurses	Communication and Information	31.37%	X		
Communication with doctors	Communication and Information	27.45%	X		
Communication about medicines	Communication and Information	27.45%	X		
Pain control	Care and Safety	27.45%	X		
Team Responsiveness	Hospital Team	23.53%	X		
Information on discharge and transition of care/attendance	Hospital Discharge and Care Transition	19.60%	X		
Hospital general classification	Quality and Services	11.76%	X		
Involvement, contact and positive treatment of significant people, family and, friends	Dealing with the Patient and Family	11.76%			X
Tranquility and Cleanliness of the Hospital Environment	Hospital Environment	11.76%	X		
Involvement/participation of the patient in the decision/treatment	Dealing with the Patient and Family	9.80%		X	X
Facilities, characteristics and, location situation	Infrastructure	9.80%			X
Respect for the patient's request	Hospital Team	9.80%		X	
Care coordination	Care and Safety	7.84%		X	
Overall impression	Experience	7.84%		X	
Possibility of recommendation	Feelings and Behaviors	7.84%	X		
Identity-oriented approach	Dealing with the Patient and Family	5.88%			X
Sociocultural atmosphere	Hospital Environment	5.88%			X
Physician's technical competence	Quality and Services	5.88%			X
Technical and physical conditions	Infrastructure	5.88%			X
Physical comfort	Hospital Environment	5.88%		X	
Continuity and Transition	Hospital Discharge and Care Transition	5.88%		X	

Table 6. Continued…

Independent Variables	Category	%	HCAHPS	PPE	QPP
Information and education	Communication and Information/Hospital Staff*	5.88%		X	
Physical and personal needs	Dealing with the Patient and Family	5.88%			X
Emotional support	Hospital Team	5.88%		X	
Commitment	Hospital Team	3.92%			X

*The variable Information belongs to the category Communication and Information and the variable Education belongs to the category Hospital Staff.

Finally, some constructs considered in PE assessment are similar to service quality assessment models (Garrard & Narayan, 2013). SERVQUAL, for example, was created by Parasuraman et al. (1988) and the constructs evaluated in this model are tangible (physical facilities, equipment, personnel, and communication materials); reliability (the ability of teams to perform the promised service reliably and accurately); guarantee (staff's willingness to help patients, meet their needs, and provide quick service); responsiveness (knowledge and courtesy of the team and their ability to convey information and trust) and empathy (care, sensitivity and individualized attention that the team provides to patients). Thus, when analyzing the SERVQUAL scale's constructs, it is possible to notice similarities when comparing some constructs evidenced in this *scoping review* (Table 6).

5 Conclusions

Measuring PE is one of the challenges for organizations in the healthcare sector. Thus, this article is based on a scoping review to investigate the measurement of PE in hospitals through a sample of 51 empirical articles on the subject. The results show the predominance of quantitative methods (especially the survey method) for measuring PE. Among the instruments used to assess PE, HCAHPS is the most used in focal articles compared to other instruments (e.g., PPE and QPP), because HCAHPS includes a greater number of attributes that contribute to PE. Finally, it was possible to identify the attributes and dimensions (independent variables) considered in the PE assessment. In this case, the relational aspects between patients and health professionals have received great attention in the measurement of PE. Likewise, measures such as patient experience, satisfaction, quality, and loyalty have been used as outcomes (dependent variables) of PE measurement. Theoretical and managerial contributions are highlighted in the next section.

5.1 Theoretical contributions

This article has theoretical contributions. First, it contributes to a better understanding of PE measurement identifying the main methods, variables, and constructs used to assess PE in hospitals. This is an important contribution since PE measurement is characterized by literature fragmentation and the use of a wide variety of scales and constructs. Thus, the study adds to other existing reviews (e.g., Beattie et al., 2015; Male et al., 2017) and allows researchers, especially, but not only novices, to better understand PE scope.

Second, the article also contributes by demonstrating that PE is a construct used to measure patients' sensory, affective, cognitive, relational, and behavioral responses to medical care (Wolf & Jason, 2014; Rapport et al., 2019). However, the results show (see Table 6) that constructs related to emotional aspects (patient-centered) have been less explored, while constructs related to cognitive and relational aspects are more considered in the studies. However, the patient's emotions directly impact PE and can act as a filter in the relationship between stimuli related to care. Thus, the results of the article can be used for different types of abductive investigations. For example, researchers are encouraged from these results to investigate how patients' positive and negative emotions (e.g., fear, faith, safety, friendship, and respect) affect their perceptions of the experience during the hospital journey.

Finally, our results may support the development of new PE assessment model instruments by pointing out the main methods, variables, and constructs used to assess the experience of adult patients in hospitals. So, researchers can consider the importance of each dimension, depending on the research purpose. However, it is noteworthy that PE is a personal phenomenon with different levels of involvement: rational, emotional, sensory, physical, and spiritual (Wolf & Jason, 2014; Beattie et al., 2015; Silva et al., 2021).

5.2 Management contributions

This paper has two main managerial contributions. First, the article analyzes the main quantitative instruments used to assess the experience of adult patients, which can be useful for hospital managers and health professionals interested in evaluating and identifying discrepancies in the health services provided. In addition to it, these professionals can use instruments that have high acceptance (such as HCAHPS), which will allow them to carry out performance comparisons between their health organizations and others that use the same instrument. Finally, hospital managers and health professionals can rely on the results indicated to create their measuring instruments, as a more efficient diagnosis also contributes to a more assertive design to achieve and sustain loyalty long-term patient care, and the quality of the health service.

5.3 Limitations and directions for future research

This article has limitations that point to possibilities for future research. First, other databases can be consulted to expand the search for studies related to this topic. Second, because the delimitation of a research area (experience of adult patients in hospitals) was important to optimize the work; however, other healthcare organizations and other types of patients could have been investigated. Third, the number of empirical studies on PE and the period covered in this research (publications until 2019) are limitations but represent opportunities for further research and updates.

Finally, below, it is shown how the results can contribute to generating new directions for future research. The proposed research agenda is based on the discussions presented as well as the analysis of the articles in the sample. Thus, four main directions for future research are presented below:

- Although there have been advances in PE measurement, new metrics are needed to assess new aspects and new ways of capturing PE (Bull, 2021; Wolf & Jason,

2019). This requires that standardized instruments (e.g., HCAHPS, PPE, or QPP) are updated. Thus, future research should consider that PE is dynamic and test new metrics in updating and validating measurement instruments (Bull, 2021; Wolf & Jason, 2019);

- About patients' emotions, researchers recognize the challenge of adequately capturing patients' emotions about the care they receive throughout their journey with healthcare professionals and organizations (Kashif et al., 2016; Fisher et al., 2019; Silva et al., 2021). Therefore, more research is needed to investigate methods and techniques to assess a patient's emotions.

Several measurement instruments have been created to investigate PE in specific contexts. One example is the predominance of HCAHPS use in the United States (AHRQ, 2018). Thus, future research should test the assessment instruments in different countries or in national health systems to identify cultural differences in perceptions of PE (Beattie et al., 2015; Kashif et al., 2016; Rapport et al., 2019). This research direction is also valid for adapting scales to other specific contexts (e.g., types of patients, the severity of hospital care, etc.). Such initiatives would guarantee the robustness or not of the existing instruments.

Finally, new technologies (e.g., smartphones, telemedicine, artificial intelligence, wearables, etc.) have an impact on PE as well as on the way healthcare organizations offer their services (Webster et al., 2019; Wolf & Jason, 2019; Silva et al., 2021). For example, the Covid-19 pandemic accelerated the use of technology in healthcare services. Therefore, future research must deal with the impacts of new technologies on PE. For example, new studies should include experiences partially or fully mediated by digital and intelligent technologies (Webster et al., 2019; Wolf & Jason, 2019).

Author's Contributions

Juliana Maria Savio Bernardo and Glauco Henrique de Sousa Mendes contribute to the conceptualization and theoretical-methodological approach. The theoretical review was conducted by Juliana Maria Savio Bernardo. Data collection was coordinated by Juliana Maria Savio Bernardo, and Glauco Henrique de Sousa Mendes. Data analysis included Juliana Maria Savio Bernardo, Glauco Henrique de Sousa Mendes, Fabiana Letícia Lizarelli e Meliza Goi Rosconi. All authors worked together in the writing and final revision of the manuscript.

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