Review Article

Comparison of Patient Satisfaction with the Nursing Care Quality in Medical and Surgical Wards between Developed and Developing Countries: A Systematic Review

Ali Obaidi[1], Azam Rahmani[2], Yousef Khader[3], Reza Negarandeh[2]

[1]Nursing and Midwifery Care Research Center, International Campus, Tehran University of Medical Sciences, Tehran, Iran, [2]Nursing and Midwifery Care Research Center, Tehran University of Medical Science, Tehran, Iran, [3]Department of Public Health, Faculty of Medicine, Jordan University of Science and Technology, Irbid, Jordan

Abstract

Background: Patient Satisfaction (PS) is a key indicator of health-care service quality. This review compared PS in medical and surgical wards among developed and developing countries. **Materials and Methods:** This systematic review of cross-sectional studies was conducted following Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines. Related articles were identified through a search of PubMed, Scopus, and Web of Science databases using a combination of relevant terms from January 2000 to December 2022. The Newcastle–Ottawa Scale was used to evaluate the quality of related studies. Narrative synthesis was used for the extracted data. **Results:** Out of 7656 records retrieved, 61 studies met the inclusion criteria. The studies used three reporting schemes for PS: the overall status of PS, the percentage of satisfied patients, and the mean and standard deviation of PS scores. The overall status of PS was higher in developed countries compared to developing countries. In developing countries, 59.25% of studies reported high levels of satisfaction, while in developed countries, all seven studies reported high levels. The percentage of satisfied patients varied, with a higher percentage in developed countries. In developing countries, nine studies reported over 75% satisfaction, 12 studies reported 50%–75% satisfaction, and three studies reported less than 50% satisfaction. In contrast, developed countries had one study reporting over 75% satisfaction and one study reporting 35%–61% satisfaction. **Conclusions:** Low PS in developing countries necessitates better nursing care. A global standard for assessing PS is needed for improved health-care service quality monitoring worldwide.

Keywords: *Developed countries, developing countries, nursing care, patient satisfaction, systematic review*

Introduction

Nursing, as defined by the World Health Organization (WHO), plays a vital role in health-care systems, providing essential care and advocacy.[1] Watson's[2] theory emphasizes human caring as a moral ideal in nursing, aiming to protect and enhance human dignity. Applying Watson's framework improves nursing care quality and patient satisfaction.[3] The Institute of Medicine found that care quality is the extent to which health services improve the likelihood of desired health outcomes.[4] However, the WHO indicated that inadequate nursing care quality can lead to mortality, suffering, and economic losses.[5] Providing quality nursing care can reduce hospital costs, shorten hospital stays, and increase patient satisfaction.[6]

Patient satisfaction is a key indicator of Nursing Care Quality (NCQ), reflecting the ability of health-care providers to deliver effective care.[7] It provides valuable insights into hospital performance and quality management.[8] Satisfied patients are more likely to exhibit loyalty and trust, and return to the same provider.[9] There is growing interest in assessing patient perceptions to develop health-care systems that meet all patient needs.[6] This aids nurses in determining appropriate interventions.[10] Satisfied patients are more likely to adhere to medical regimens, which positively impacts their health.[11] However, accurately measuring patient satisfaction is challenging as it requires reliable and valid surveys.[10] Patient satisfaction is a complex concept that includes lifestyle, values, past experiences, and future expectations that are

How to cite this article: Obaidi A, Rahmani A, Khader Y, Negarandeh R. Comparison of patient satisfaction with the nursing care quality in medical and surgical wards between developed and developing countries: A systematic review. Iran J Nurs Midwifery Res 2025;30:275-82.

Submitted: 28-Jan-2024. **Revised:** 05-Aug-2024. **Accepted:** 12-Aug-2024. **Published:** 08-May-2025.

Address for correspondence:
Prof. Reza Negarandeh, Nursing and Midwifery Care Research Center, School of Nursing and Midwifery, Tehran University of Medical Sciences, Iran.
E-mail: rnegarandeh@tums.ac.ir

Access this article online

Website: https://journals.lww.com/jnmr

DOI: 10.4103/ijnmr.ijnmr_38_24

Quick Response Code:

essential for the individual and society. These are accepted as indicators of health-care services yet bear various meanings for each individual.[7] Most scholars suggest that the best definition of patient satisfaction is a combination of patients' feelings, emotions, and perceptions of health-care services due to the requirements of health, disease, quality of life, and other aspects.[12,13]

Global studies on patient satisfaction with nursing care services have shown inconsistent results, possibly due to differences in health-care systems, NCQ, and cultural contexts.[14] A systematic review of these studies, particularly the comparison of Patient Satisfaction with Nursing Care Quality (PSNCQ) between developed and developing countries, could provide new insights into these inconsistencies. While several systematic reviews have assessed patient satisfaction with nursing care in specific countries,[14-16] none have compared PSNCQ in developed and developing countries. This systematic review aims to compare PSNCQ in medical and surgical wards between developed and developing countries. The findings will be crucial for monitoring and enhancing patient satisfaction globally, aiding policymakers in understanding patients' critical needs for improved health-care quality, and providing evidence for nurses to enhance their care quality.

Materials and Methods

A systematic review was conducted following a predefined guideline and registered on the PROSPERO database with the ID: CRD42023479918. The search was conducted on PubMed, Scopus, and Web of Science databases from January 2000 to December 2022 using search terms related to PSNCQ. The reason for selecting these three databases is that this review focuses on a health-related topic. In addition, the authors manually searched through reference lists and explored grey literature sources such as Google Scholar. The Population, Exposure, and Outcome methodology was used to incorporate all relevant literature.[17] A comprehensive search strategy was followed using Medical Subject Headings (MeSH) keywords, and Boolean operators like "AND" and "OR" were used to show relationships between terms. The search terms included "patient satisfaction," "determinants of patient satisfaction," "nursing care," "nursing care management," "developed countries," and "developing countries." The research team used EndNote (X8; Clarivate Plc., Philadelphia, PA, USA) to organize, review, and cite articles. This review included all studies conducted to investigate the status of patient satisfaction with NCQ. A set of criteria were used to determine eligible studies. The studies were included if they (1) were conducted to investigate the status of PSNCQ, (2) had quantitative methods, (3) included adult patients in medical and surgical wards for more than 2 days, and (4) were published in peer-reviewed journals in English for adults hospitalized between 2000 and 2022.

To select relevant articles for our systematic review, we followed a set of predefined inclusion criteria that were based on our research question and objectives. We included cross-sectional studies from any country, race, or gender. Our initial database search yielded 7656 articles. To avoid duplication, we used EndNote X8 and removed 2726 duplicate articles. The remaining 4930 articles were then screened by two independent researchers based on title and abstracts for relevance to the review question, excluding 4624 articles. The remaining 306 articles underwent full-text review, with 245 excluded based on eligibility criteria. We made an effort to contact the corresponding authors to obtain full texts for all studies, but we had to exclude those for which we were unable to retrieve the full text. Ultimately, 61 articles were included in the data extraction phase. The review process involved initial screening of titles and abstracts, followed by full-text screening. Any disagreements or inconsistencies during study selection were resolved through discussion. The principal researcher contacted the corresponding author for additional information when needed. Figure 1 shows the study selection process.

Data were extracted using a structured data extraction sheet prepared in a Microsoft Excel spreadsheet (Microsoft Corp., Redmond, WA, USA). This approach was adopted for all relevant studies to ensure that data extraction is systematic and unbiased, including seven data categories using a pre-piloted data extraction form. The main headings were the name (s) of the author (s), year of publication, study setting, sampling size, age of participants [mean and Standard Deviation (SD)], percentage of total satisfaction, and quality assessment score. To assess the quality of the included studies, a modified version of the Newcastle–Ottawa Scale for cross-sectional studies that was adopted by Modesti *et al*.[18] was used. This scale included three factors: (1) selection: including representativeness of the sample, sample size, response rate, and the measurement tool used; (2) comparability: assessed based on study design and analysis of whether any confounder variables were adjusted for; and (3) outcome: ascertainment of outcome data and the statistical test utilized for data analysis. To evaluate the quality of the studies and identify potential biases, we utilized a "star" rating system. The scores ranged from 0 (worst case) to 10 (best case). Studies with scores of 0–4, 5–7, and above 7 were classified as low quality, moderate quality, and high quality, respectively. The quality assessment was performed by two independent researchers, and in cases of disagreement, a third reviewer was consulted to reach a consensus through discussion.

Given the diversity of settings, instruments, and reporting in the studies, a meta-analysis was not possible. Instead, we used "narrative syntheses" to summarize and explain findings from multiple studies. This method is useful when study heterogeneity makes a meta-analysis unfeasible or inappropriate.[19] In our systematic review, we used

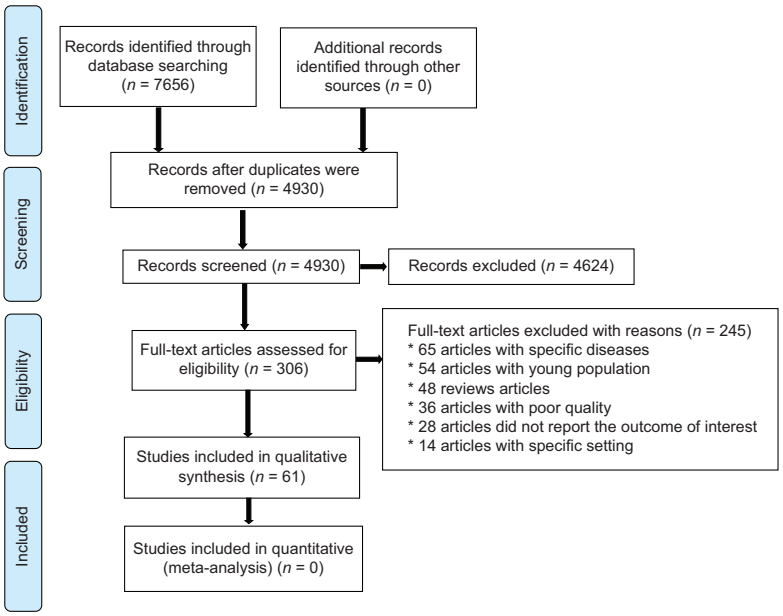

Figure 1: PRISMA flow diagram

quantitative and qualitative data analysis methods. The results from individual studies were pooled and categorized based on how they reported patient satisfaction. For example, we used frequency and percentage to enumerate the number of studies that fell into each patient satisfaction category. The researchers classified the results of patient satisfaction in studies into two categories: 1) overall patient satisfaction (qualitative) that was divided into four classes: high, moderate, low, and unsatisfied and 2) the percentage of satisfied patients that was categorized into three classes: over 75%, between 50% and 75%, and less than 50%. This approach allowed us to quantify the distribution of patient satisfaction levels across the studies. We also attempted to interpret potential reasons for differing patient satisfaction results across various studies based on the characteristics of the included studies. There were differing opinions among the authors during the categorization process, but they ultimately reached an agreement. The final results of the categorization can be found in the section "Results."

Ethical considerations

This study was approved by the Research Ethics Committee of the School of Medicine, Tehran University of Medical Sciences, Iran (IR.TUMS.MEDICINE.REC.1401.115). We properly cited all primary studies included in this systematic review, ensuring no plagiarized material was used. The results of our analysis are presented with complete honesty.

Results

Participant characteristics

This systematic review analyzed 61 articles with a total of 178,381 participants. Among these studies, 51 studies (83.60%) were conducted in developing countries, yet this percentage was only 16.39% (involving 10 studies) in developed countries (E32, E33, E34, E35, E36, E37, E38, E57, E59, E60) and two (E34, E37) were cross-national studies. It is worth noting that all studies reported a cross-sectional design except three, and therefore, we assessed their design more closely. Moreover, two (E2, E43) studies were considered cross sectional based on their provided information, but their methodology was not cross sectional. A study (E58) claimed to be a prospective descriptive, quantitative study, while it was cross sectional; therefore, we evaluated it as cross sectional. All studies included adult patients who were admitted to medical–surgical wards in hospitals. Out of the 61 studies included, 42 mentioned using the validated and well-known measurement, while 19 studies used researcher-made questionnaires. The characteristics of the included studies are presented in more detail in Table 1.

Satisfaction levels

The studies reported the level of patient satisfaction in different schemes [see Table 2 for more details]. Some studies categorically reported the level of patient satisfaction as high, moderate, low, or unsatisfied. In addition, 34 studies (55.73%) that were conducted in both developed and developing countries reported the satisfaction status of patients in one of the four qualitative categories: high, medium, low, and unsatisfied. Among them, 27 studies were from developing countries, of which 16 studies (59.25%) rated patients' satisfaction status as high, eight studies (29.62%) as medium, two studies (7.40%) as low, and one study (3.70%) as unsatisfactory. In all seven studies that were conducted in developed countries and used this method to report findings, patient satisfaction was reported to be high.

However, 26 (42.62%) studies conducted in both developed and developing countries reported patient satisfaction

Table 1: Characteristics of included studies

Authors	Year of publication	Study location	The category of country	Sample size	Total age Mean (SD)	Response rate	Instrument	Reporting schemes for patient satisfaction	Results
Abdel Maqsood *et al*. [E1]	2012	Jordan	Developing	250	43.70 (19.40)	Not reported	PSNCQQ	Overall	High
Ahmad and Alasad [E2]	2004	Jordan	Developing	225	38 (Not reported)	Not reported	NSNS	% of satisfied patients	74%
Alasad and Ahmad [E3]	2003	Jordan	Developing	266	37 (Not reported)	100%	NSNS	% of satisfied patients	77%
Aldaqal *et al*. [E4]	2012	Saudi Arabia	Developing	125	45.90 (2)	Not reported	PSNCQQ	% of satisfied patients	89.60%
Alhusban and Abualrub [E5]	2009	Jordan	Developing	300	37.50 (Not reported)	Not reported	NSNS	Overall	Moderate
Al-Momani [E6]	2014	Saudi Arabia	Developing	432	48.70 (Not reported)	86.40%	SERVQUAL	Overall	Unsatisfactory
Al-Neyadi *et al*. [E7]	2018	United Arab Emirates	Developing	127	Not reported (Not reported)	72%	SERVQUAL	Overall	Moderate
Atallah *et al*. [E8]	2013	Saudi Arabia	Developing	100	45.50 (13.50)	40%	PSNCQQ	Overall	High
Elias *et al*. [E9]	2022	Saudi Arabia	Developing	423	Not reported at all.	96%	PSNCQQ	% of satisfied patients	78.15%
El-Nagger *et al*. [E10]	2013	Saudi Arabia	Developing	150	Not reported (Not reported)	Not reported	NSNS	Overall	High
Farahani *et al*. [E11]	2014	Iran	Developing	382	41.67 (20)	Not reported	PSNCQQ	% of satisfied patients	69%
Findik *et al*. [E12]	2010	Turkey	Developing	229	51.20 (16.30)	Not reported	NSNS	Overall	High
Karaca and Durna [E13]	2019	Turkey	Developing	635	47.94 (19.66)	92.80%	PSNCQQ	% of satisfied patients	63.90%
Kilic *et al*. [E14]	2022	Turkey	Developing	250	54.12 (18.21)	Not reported	NSNS	Overall	High
Kol *et al*. [E15]	2018	Turkey	Developing	400	Not reported at all.	Not reported	NSNS	Overall	High
Makarem *et al*. [E16]	2016	Iran	Developing	21,476	Not reported at all.	96.10%	PSNCQQ	% of satisfied patients	59%
Midilli *et al*. [E17]	2017	Turkey	Developing	604	54.42 (16.81)	Not reported	PSNCQQ	Overall	High
Öztepe and Kanan [E18]	2021	Turkey	Developing	140	Not reported at all.	Not reported	NSNS	Overall	High
Ozturk *et al*. [E19]	2020	Turkey	Developing	566	41.21 (14.59)	Not reported	PSNCQQ	Overall	Low
Rafii *et al*. [E20]	2008	Iran	Developing	250	40.44 (18.10)	Not reported	PSI	Overall	High
Sadeghi-Gandomani *et al*. [E21]	2018	Iran	Developing	250	Not reported at all.	86%	PSNCQQ	Overall	Moderate
Uzun [E22]	2001	Turkey	Developing	422	40.50 (Not reported)	94%	SERVQUAL	Overall	Low
Mulugeta *et al*. [E23]	2014	Ethiopia	Developing	374	40.30 (1.55)	96%	NSNS	% of satisfied patients	90.10%
Woldeyohanes *et al*. [E24]	2015	Ethiopia	Developing	189	26.53 (15.10)	100.00%	PSI	% of satisfied patients	61.90%
Kibret *et al*. [E25]	2022	Ethiopia,	Developing	345	28.07 (7.09)	98%	PSNCQQ	% of satisfied patients	62.90%
Kasa and Gedamu [E26]	2019	Ethiopia	Developing	585	Not reported at all.	96.20%	PSNCQQ	% of satisfied patients	40.07%
Asamrew *et al*. [E27]	2020	Ethiopia	Developing	398	34 (Not reported)	100%	PSNCQQ	% of satisfied patients	60.80%
Ahmed *et al*. [E28]	2014	Ethiopia.	Developing	584	36.71 (12.90)	99.70%	NSNS	% of satisfied patients	52.07%
Anaba *et al*. [E29]	2020	Ghana	Developing	119	Not reported at all.	70%	NSNS	Overall	Moderate
Fuseini *et al*. [E30]	2022	Ghana	Developing	206	Not reported at all.	Not reported	PSNCQQ	% of satisfied patients	72.30%
Mobolaji-Olajide *et al*. [E31]	2020	Nigeria	Developing	131	38 (14)	94.90%	PSNCQQ	% of satisfied patients	81.70%
Sillero Sillero and Zabalegui [E32]	2018	Spain	Developed	150	63 (16)	96.80%	PSNCQQ	Overall	High
Suhonen and Leino [E33]	2005	Finland	Developed	279	56 (17.60)	93%	PSNCQQ	Overall	High
Suhonen *et al*. [E34][a]	2012	Czech	Developed	287	51.60 (17.10)	78%	PSNCQQ	Mean (SD)	3.22 (0.60)
	2012	Cyprus	Developed	239	47.10 (18.20)	78%	PSNCQQ	Mean (SD)	3.51 (0.54)
	2012	Finland	Developed	292	59.10 (14.40)	78%	PSNCQQ	Mean (SD)	3.43 (0.49)
	2012	Greece	Developed	250	53.40 (18.40)	78%	PSNCQQ	Mean (SD)	3.04 (0.73)
	2012	Hungary	Developed	274	56.30 (13.50)	78%	PSNCQQ	Mean (SD)	3.40 (0.52)

Contd...

Table 1: Contd...

Authors	Year of publication	Study location	The category of country	Sample size	Total age Mean (SD)	Response rate	Instrument	Reporting schemes for patient satisfaction	Results
Kowalska *et al.* [E35]	2022	Poland	Developed	100	60.44 (14.36)	Not reported	NSNS	% of satisfied patients	77.99%
Edvardsson *et al.* [E36]	2017	Australia	Developed	528	61 (16.80)	40%	PCQ	Overall	High
Aiken *et al.* [E37][a]	2012	Finland	Developed	1947	Not reported at all.	64%	PSI	% of satisfied patients	61%
	2012	Ireland	Developed	285	Not reported at all.	64%	PSI	% of satisfied patients	61%
	2012	USA	Developed	More than 120,000	Not reported at all.	74%	PSI	% of satisfied patients	60%
	2012	Switzerland	Developed	997	Not reported at all.	64%	PSI	% of satisfied patients	60%
	2012	Poland	Developed	4136	Not reported at all.	64%	PSI	% of satisfied patients	55%
	2012	Germany	Developed	244	Not reported at all.	64%	PSI	% of satisfied patients	48%
	2012	Belgium	Developed	2623	Not reported at all.	64%	PSI	% of satisfied patients	47%
	2012	Greece	Developed	616	Not reported at all.	64%	PSI	% of satisfied patients	42%
	2012	Spain	Developed	470	Not reported at all.	64%	PSI	% of satisfied patients	35%
Merkouris *et al.* [E38]	2013	Cyprus	Developed	324	57.60 (17.80)	Not reported	PSI	Overall	High
Santos *et al.* [E39]	2017	Brazil	Developing	150	Not reported at all.	40%	PSI	Overall	High
Sousa *et al.* [E40]	2021	Brazil	Developing	81	Not reported at all.	Not reported	PSI	Overall	Moderate
Zhang *et al.* [E41]	2020	China	Developing	291	45.59 (15.96)	Not reported	NSNS	Overall	Moderate
You *et al.* [E42]	2013	China	Developing	5786	54.30 (17.60)	89%	NCS	Overall	High
Liu and Wang [E43]	2007	China	Developing	320	45.60 (Not reported)	Not reported	PSNCQQ	Overall	High
Chen *et al.* [E44]	2016	China	Developing	878	Not reported at all.	92.42%	PSNCQQ	% of satisfied patients	89.75%
Chen *et al.* [E45]	2022	China	Developing	756	57.70 (14.50)	98.60%	PSNCQQ	% of satisfied patients	34.90%
Han *et al.* [E46]	2003	Taiwan	Developing	477	51.38 (19.30)	59%	NCS	Overall	Moderate
Ho *et al.* [E47]	2006	Malaysia	Developing	52	Not reported at all.	Not reported	NCS	Overall	High
Teng and Norazliah [E48]	2012	Malaysia	Developing	110	Not reported at all.	Not reported	NCS	% of satisfied patients	82.70%
Kannan *et al.* [E49]	2020	India	Developing	124	Not reported at all.	Not reported	PSNCQQ	% of satisfied patients	83.03%
Rajkumari and Nula [E50]	2017	India	Developing	751	38 (17.10)	Not reported	PSNCQQ	Overall	High
Khan *et al.* [E51]	2007	Pakistan	Developing	122	Not reported at all.	79.70%	NCS	% of satisfied patients	45%
Younas and Sundus [E52]	2018	Pakistan	Developing	50	Not reported at all.	Not reported	NSNS	% of satisfied patients	68%
Hussain *et al.* [E53]	2021	Pakistan	Developing	162	Not reported at all.	Not reported	PSNCQQ	% of satisfied patients	52.40%
Dorigan *et al.* E54]	2015	Brazil	Developing	351	49.43 (15.55)	Not reported	NSNS	Overall	High
Cardozo *et al.* [E55]	2021	Brazil	Developing	101	Not reported at all.	Not reported	PSI	% of satisfied patients	58.4%
Freitas *et al.* [E56]	2014	Brazil	Developing	275	Not reported at all.	Not reported	PSI	% of satisfied patients	92%
Garczyk *et al.* [E57]	2013	Poland	Developed	104	Not reported at all.	Not reported	NSNS	Overall	High
Goh *et al.* [E58]	2016	Singapore	Developing	278	48.25 (14.95)	91.83%	PCQ	Overall	Moderate
González *et al.* [E59]	2005	Spain	Developed	1648	48.90 (19.30)	24.2%	SERVQUAL	Overall	High
Gröndahl *et al.* [E60]	2019	Finland	Developed	480	59 (17)	80%	NCS	Overall	High
Marcelino *et al.* [E61]	2018	Brazil	Developing	60	62.10 (7.70)	Not reported	NSNS	Overall	High

NCS=Nurse Competence Scale, NSNS=Newcastle Satisfaction with Nursing Care scale, PCQ=Psychological Capital Questionnaire, PSI=Patient Satisfaction Instrument, PSNCQQ=Patient Satisfaction with Nursing Care Quality Questionnaire, SD=standard deviation, SERVQUAL=Service Quality scales. [a]Cross-national study (E34, E37)

Table 2: Comparison of overall patient satisfaction, instrument, and the sample size of included studies (developing and developed countries)

1- Reporting the result	**# Of developing countries=27**				**# Of developed countries=7**			
a- Overall patient satisfaction (qualitative)	High	Moderate	Low	Unsatisfied	High	Moderate	Low	Unsatisfied
	16	8	2	1	7	Non	Non	Non
	# Of developing countries=24				**# Of developed countries=3**			
b- Percentage of satisfied patients	Over 75%	Between 50% and 75%	Less than 50%		Over 75%	Below 75%	Less than 50%	
	9	12	3		1	One study conducted in nine developed countries (35%–61%)		
2- Instrument used	**# Of developing countries= 51**				**# Of developed countries= 10**			
PSNCQQ*	21 (41.17%)				3 (30%)			
NSNS**	15 (29.41%)				2 (20%)			
PSS***	6 (11.76%)				2 (20%)			
NCS****	5 (9.80%)				1 (10%)			
SERVQUL*****	3 (5.88%)				1 (10%)			
PCQ******	1 (1.96%)				1 (10%)			
3- Sample size	**# Of developing countries=51**				**# Of developed countries=10**			
	Range from 50 to 21,476				Range from 100 to more than 120,000			

*PSNCQQ=Patient Satisfaction with Nursing Care Quality Questionnaire,**NSNS=Newcastle Satisfaction with Nursing Care scale,*** PSS=Patient Satisfaction Scale, ****NCS=Nurse Competence Scale, *****SERVQUAL=Service Quality scales, ******PCQ=Psychological Capital Questionnair

as a percentage of satisfied patients. Among them, 24 studies were conducted in developing countries and two studies were conducted in developed countries. Of the studies carried out in developing countries, nine (17.64%) studies (E3, E4, E9, E23, E31, E44, E48, E49, E56) reported a level of patient satisfaction over 75%, while of the studies performed in developed countries, only one (50%) study showed a level of patient satisfaction of over 75% (E35). Moreover, 12 studies (50%) in developing countries presented a level of patient satisfaction between 50% and 75% (E2, E11, E13, E16, E24, E25, E27, E28, E30, E52, E53, E55) and three studies (12.50%) presented a patient satisfaction level of less than 50% (E26, E45, E51). It is remarkable that one (50%) study (E37) conducted in nine different developed countries showed that the level of satisfied patients was between 35% and 61%. Furthermore, another study (E34) conducted in five developed countries reported the status of patient satisfaction as mean and SD [Czech 3.22 (0.60), Cyprus 3.51 (0.54), Finland 3.43 (0.49), Greece 3.04 (0.73), and Hungary 3.40 (0.52)].

Study quality

Studies in developed countries included a sample size ranging from 100 to more than 120,000. The sample size in most of the studies conducted in developing countries was small (E52, E47, E61, E40, E8, E55, E48, E29, E51, E49, E4, E7, E31, E18, E10, E39, E53, E24, E30, E2, E12, E1, E14, E20, E21, E3, E56, E58, E41, E5, E43, E25, E54, E23, E11, E27, E15, E9, E22, E6, E46, E19, E28, E26, E17, E13, E50, E45, E44), and only two studies in China and Iran had a large sample size (E16, E42). In developed countries, only three studies did not mention the response rate in their reports (E35, E38, E57). However, 27 studies (52.94%) conducted in developing countries did not report the response rates and only one study reported a response rate of 100% (E24). The presence of confounding factors was acknowledged in 23 studies, describing strategies to deal with them, while 38 studies failed to mention how to deal with the confounding factors. In addition, the quality assessment for studies in both developed and developing countries received scores ranging from 5 to 7 and from 3 to 7, respectively. Only two papers from China and Saudi Arabia obtained scores of 8 (E9, E45).

Measurement tools

The included studies used different instruments to measure patient satisfaction of NCQ. The PSNCQ Questionnaire (PSNCQQ) was used in 24 studies (E1, E4, E8, E9, E11, E13, E16, E17, E19, E21, E25, E26, E27, E30, E31, E32, E33, E34, E43, E44, E45, E49, E50, E53), 17 studies (E2, E3, E5, E10, E12, E14, E15, E18, E23, E28, E29, E35, E41, E52, E54, E57, E61) used the Newcastle Satisfaction with Nursing Care scale (NSNS), eight studies (E20, E24, E37, E38, E39, E40, E55, E56) used The Patient Satisfaction Instrument (PSI), six studies (E42, E46, E47, E48, E51, E60) used the Nurse Competence Scale (NCS), four studies (E6, E7, E22, E59) used the Service Quality scales (SERVQUAL), and two studies (E36, E58) used the Psychological Capital Questionnaire (PCQ) to measure patient satisfaction. All the instruments were applied in both developed and developing countries.

Discussion

This review assessed patient satisfaction with nursing care in medical and surgical wards worldwide. A total of 61 articles were reviewed, involving 178,381 participants. Among the articles, 83.60% were conducted in developing

countries, while only 16.39% were performed in developed countries. High satisfaction was reported in developed countries. In developing countries, satisfaction was rated as high, medium, low, or unsatisfactory. The higher satisfaction in developed countries may be due to superior resources, infrastructure, and staffing.[14,16] In contrast, in developing countries, issues like limited resources and understaffing[20,21] lead to lower patient satisfaction. Many of the studies showed that the differences in NCQ were related to the level of poverty, geographic location, and hospital size.[20,22] Quality nursing care, which is linked to patient satisfaction, requires attention, particularly in developing countries. Regular evaluation of nurses' competence and skills, high professional values, and the introduction of advanced nurse practitioners can enhance patient satisfaction.[23-26] Our study found higher patient satisfaction in developed countries, interpreted through the SERVQUAL and Donabedian models. The SERVQUAL model suggests that skills, competence, and continuity of care positively impact patient satisfaction.[23] It assesses whether patient needs and expectations are met through the five dimensions of tangibility, reliability, responsiveness, assurance, and empathy.[25] Studies in Bahrain and Thailand highlighted the influence of these dimensions on health-care service quality.[27,28] The Donabedian model also emphasizes the positive effect of the facility's physical structure and organizational issues on patient satisfaction.[29] The quality of the studies included in this review varied between developed and developing countries. Developed countries generally had better quality studies, likely due to stronger research infrastructure, networking, and collaborative research capacity.[30] Another factor could be that patient satisfaction surveys are not yet integrated into hospital information systems in developing countries.[31]

In total, six instruments were used to measure patient satisfaction in the studies. PSNCQQ was the most popular, with a high Cronbach's coefficient (0.97) and the three components of nursing care, nurse's communication, and patient's perception.[32] NSNS was used less frequently, possibly due to insufficient validation,[33] but it covers many dimensions of patient satisfaction.[34] PSI and NCS evaluate three domains of NCQ.[35,36] SERVQUL and PCQ were used less, possibly due to their cost.[37] The use of various instruments could affect patient satisfaction results,[14] and some studies used tools with unclear validity.[12,13] A standard instrument is needed for more reliable, comparable data.[38] This study is in line with another systematic review, highlighting the urgent necessity for standardized instruments for measuring NCQ.[39]

This systematic review, which uniquely compares PSNCQ across developed and developing countries, has shed light on a critical issue: the limited sample size in studies performed in developing countries. This constraint significantly impacts the quality and reliability of their research findings.[12] Developed countries typically had larger sample sizes, likely due to superior research infrastructure, allowing for more comprehensive studies that are representative of the population. Conversely, developing countries often had smaller sample sizes, possibly due to resource limitations, coordination challenges, and patient participation reluctance.[14] Notably, two studies from China and Iran had large sample sizes, potentially due to their patient follow-up methods and the fact that they were conducted in capital cities with numerous hospitals and willing participants.

This systematic review has some limitations. We only used three core databases, which may have affected the sensitivity of our search. In addition, our search strategy was limited to English publications, potentially causing language bias. Moreover, the wide variety of studies, settings, scales, and samples resulted in high heterogeneity, which prevented meta-analysis. A lack of similar systematic reviews also made comparisons difficult. Despite these issues, the review offers important insights for future research.

Conclusion

Patient satisfaction with nursing care exhibits global variation, with lower levels reported in developing countries. However, given the diverse study designs and contexts, these findings warrant cautious interpretation. The results underscore the urgent need for enhanced nursing care, particularly in developing nations, as it directly influences overall health outcomes. Implementing regular surveys is pivotal in elevating care quality. This review not only informs policymakers, hospital managers, ward heads, and hospital employees about patient satisfaction, but also underscores the critical role of adequate sample sizes. Particularly in studies in developing countries, ensuring robust sample sizes is essential. Furthermore, future research should adopt standardized tools to ensure reliable data and facilitate cross-national studies.

Acknowledgments

The authors declare that there are no acknowledgments.

Financial support and sponsorship

School of Medicine, Tehran University of Medical Sciences, Iran

Conflicts of interest

Nothing to declare.

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