

Salman Althobaiti ¹
Sultan Alharthi
Ali Moosa
ALZahrani

MEDICAL SYSTEMS' QUALITY EVALUATED BY PERCEPTIONS OF NURSING CARE: FACING COVID 19 PANDEMIC

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Abstract: *The aim of this qualitative systematic review is to review the studies on patient perceptions of nursing care quality. All the papers available in the first five pages of Google Scholar using time frames of any time and 2016-2020 (10 web pages) and 2020 (five web pages) were reviewed. The review found that surveys using many different types of measurement frameworks was the methodology of choice for a majority of works. Among the topics, framework validation, care dimensions and specific problems like AIDS, surgery patients and cancer patients were researched most. Many types of measurement frameworks have been used for measuring patient perceptions of nursing care quality. Factors related to the patient, care environment and nursing were identified by the researchers. Individualised care, communicating the truth, competent and prompt care and response to various personal care needs of the patient, timely attention to urgent calls, safety, avoiding medical errors, empathy and instilling trust and confidence in the patient are important care dimensions. Patient-related dimensions are mainly demographic. They include age, education, occupation, income, marital status and certain behavioural attributes, which are outside the control of hospitals. Nurses may be able to adjust to individual behavioural problems to some extent, but not of all patients all the time. Nursing dimensions like working environment, staff strength, leadership effectiveness, involvement or empowerment for independent decision making, strain and burnout and work-life balance problems affect their care quality at professional level. At their personal level, knowledge, skills, competence and training, positive attitude towards the profession are important determinants. A care quality improvement bundle can be designed by the hospital to facilitate the nurses to improve on these factors. The hospitals need to obtain periodical feedback on the administrative aspects of nursing care from the nurses and make any improvement required to provide the proper working conditions without strain and burnout and facilitating work-life balance.*

Keywords: *Nursing quality perceptions; Nursing quality improvement; Patient perception*

1. Introduction

As the first direct contact point, nurses have the duty and responsibility of ensuring the

quality of care of their patients. The quality for healthcare business in terms of the patient volume may be affected if the patient perception is not favourable. Word of mouth

¹ Corresponding author: Salman Althobaiti
Email: salmanw.althobaiti@gmail.com

and social media can play havoc to the reputation high profile hospitals unfavourable perception even on a trivial issue. Therefore, researches on this aspect assume cardinal importance.

In this respect, nurse-patient interactions are of vital importance. Knowing each other, building up and maintain mutual trust and nurses going the extra mile have been recognised as essential elements of patient perceptions of nursing care quality (Fosbmdr, 1994). Out of 21 indicators of nursing availability and professionalism listed by the American Nurses Association, patient perceptions and satisfaction with nursing care quality is a significant one. Wide range of nursing staff levels, nursing hours and dimensions of care influence patient perceptions of nursing quality care in Californian hospitals (Bolton et al., 2003).

Many research findings are available on various dimensions and factors related to patient perceptions. The aim of this paper is a qualitative review of patient perceptions of nursing quality care with the hope of identifying standard parameters of nursing care quality across different contexts.

2. Methodology

Using the topic of this review itself as the search term in Google Scholar on different time frames yielded both old and new papers of significance. No paper within the topic was excluded. All abstracts and full papers were included to obtain the most extensive range of research findings.

The 69 papers obtained by this method of literature search were used for qualitative systematic review in the following sections.

3. Result and Discussion

3.1. Some specific framework

For any research on any topic, theoretical and measurement frameworks are essential. In the case of patient perception of nursing care

quality, most researchers used surveys and interviews. Therefore, the frameworks of surveys to measure patient satisfaction are relevant here. Some of the published survey frameworks are discussed below.

When developing frameworks and indices, the need to differentiate satisfaction and experience, selecting appropriate data collection method, required feedback time and translation of theory to practice, was stressed by Wang and Zeng (2017). In one of the early studies, Beck and Larrabee (1996) reported that how the patient perception of nursing care quality in pain management depended upon how well the pain was managed by the nurses.

In the business context of healthcare, patient satisfaction assumed immense importance. Scardina (1994) discussed the usefulness of adopting the SERVQUAL framework to measure patient satisfaction on care quality. The satisfaction of nursing quality care among 422 adult patients discharged from a Turkish hospital was measured by Uzun (2001) using SERVQUAL.

Generally, a low level of satisfaction was expressed. SERVQUAL gap scores were SQ gap scores for five dimensions were harmful in meeting expectations of tangibles, reliability, responsiveness, assurance and empathy. These factors were identified as the areas of improvements.

However, a survey instrument for this purpose was developed much earlier by Risser (1975). The instrument contained three subscales in which 25 items were distributed. The instrument measured patient satisfaction in terms of technical-professional area, interpersonal educational relationship and inter-personal trust relationships. The items under each adequately covered the variables identified in the above-cited researches done much later. Test results with 138 primary care patients showed validity, reliability and inter-correlation between subscales to be favourable for the instrument.

A newly developed survey instrument was tested and validated by Laschinger et al.

(2005) using random samples from Ontario hospitals. The instrument was proved to possess excellent psychometric properties. Nursing care quality scores were related to overall care quality while in hospitalisation. Patient-focused actionable results were obtained by using this instrument.

Serbia has made patient satisfaction monitoring is legally mandatory. Milutinović et al. (2012) tested a Serbian version of Patient Satisfaction Nursing Care Quality Questionnaire (PSNCQQ) to measure patient satisfaction of nursing quality care. The survey instrument was validated using a sample of 240 surgical patients discharged from hospitals. Construct validity, reliability and correlation between items and total were good. Age, education level and previous hospitalisation affected the satisfaction rating.

An Arabic version PSNCQQ was developed by Albashayreh, et al. (2019) using forward-backwards translation, face and content validation using a panel of experts and a pilot test. The instrument was used for the survey of 292 hospitalised adult patients. Scale-level and item-level content validity, construct validity, two-factor model fit to the data and reliability were high, and thus the instrument was validated. The survey results showed high levels of patient satisfaction with nursing care quality.

A Spanish version of Consumer Emergency Care Satisfaction Scale (CECSS), an instrument used to measure the quality of care nurses given in emergency units was tested and validated by Barrio et al. (2002). A Turkish adaptation of a Sri Lankan survey instrument to measure patient satisfaction of nursing care quality was tested and validated by Oren et al. (2016) using a survey of patients being discharged after hospitalisation.

More frameworks are dealt with in relation to the measurement of the patient in certain specific situations and healthcare contexts below.

3.2. Components of nursing care quality and patient perceptions

Both nursing care quality and patient perceptions seem to have many components or are affected by many factors. These are termed categories, dimensions, items, factors, determinants, predictors etc. Some of these applications in non-specific situations are discussed in this section.

From interviews of eight recently discharged surgical patients from a hospital, Schmidt (2003) identified four categories of patient perceptions of nursing care quality. They are seeing each patient individually emerged as the most important one. The patient is positively impressed when the nurse explains the care interventions to the patient informally. If the nurse responds to patient calls for specific needs and sudden symptom development, it raises the confidence of the patient. The nurse needs to be continuously vigilant for which surveillance is required and if this is a done, the patient perceives positively about the quality of care by the nurses.

In another study, content analysis from a qualitative study on 199 patients by Larrabee and Bolden (2001) revealed five themes as attending to the patient needs, pleasant posture, individualized care, demonstrating adequate nursing competent and promptness of care. Four of these themes are more or less similar to the ones identified by Schmidt (2003).

Pleasant posture is the new category identified in this work. Under the highly stressed condition, whether the nurses keep smiling is one question. When the patient is suffering from a serious illness, if nurses look pleasant, whether that will send a wrong message to the patient is another question.

The technical dimensions of nursing and physician care and outcomes were more important in the care quality perceptions of patients as per the findings obtained by Carman (2000). Patients in hospitals with better work environment for nurses were

more likely to be satisfied with nursing quality care, gauged (You et al., 2013) based on a survey which included 5786 patients in a Chinese survey study. Primary nursing care, when the hospital size was smaller, improved patient perception of individualized care quality in an enquiry by Suhonen et al. (2007) in a Finnish study. In an Australian study by Edvardsson and Pearce (2017) nursing quality perception of patients depended upon the existence of knowledgeable and communicable staff, timeliness of assistance and environmental support.

From the results of interviews with 16 patients with serious illness, Izumi et al. (2010) found that among competence, caring, professionalism, and conduct, the importance of caring domain was higher in the case of patients with advanced illness. Based on a survey of 66348 hospital patients and 2963 inpatient nurses in the UK, Aiken, et al. (2018) observed that care perceptions of patients were negative due to lack of confidence in either nurses or doctors and by increased instances of missed nursing care.

Patient perceptions of nursing care quality were lower, when Ozturk et al. (2020) used the Patient Perception of Hospital Experience With Nursing (PPHEN) scale to survey 566 patients in Turkey. The patient satisfaction level was unrelated to gender, marital status and clinics where hospitalized.

On the other hand, higher levels of satisfaction were related to the level of education, younger age, being employed and higher income. Patients expressed a need for improvement in psychosocial support and giving information.

A survey of 160 about-to-be discharged patients in Turkey was done by Dikmen and Yılmaz (2016) "Patient Information Form" which includes socio-demographic features of the patients and "Patients' Perception of Nursing Care Scale" (PPNCS) were used. The results revealed that the perceptions of patients about nursing quality were positive. There was a significant difference in educational levels of patients, the existence of

chronic diseases, the status of companion possession and duration of hospitalisation. Gender, age or previous experience of hospitalisation had no effect on the PPNCS scores.

Perceptions of older black patients at high risk of hospital readmission were assessed by Brooks Carthon et al. (2017) using qualitative interviews with 19 patients. Nursing care quality, unmet care needs, nurse-patient communication and observations of competing for nursing demands were identified as the themes emanating from the interviews. From a survey involving 604 inpatients of a Turkish hospital, Midilli et al. (2017) noted the association of patient's age with nursing care quality perception. The results of a Turkish study on hospital inpatients revealed age, gender and marital status to be the most influential variables of their perceptions. Patients recognised technical nursing activities more than care activities.

Most patients were satisfied with the nursing care quality in the high task-oriented environment (Oflaz & Vural, 2010). Age, education and hospital duration and number of admission had no effect on patient satisfaction of nursing care quality. However, the increased experience of nursing care was observed with lower educational levels.

In this Polish study of 205 patients, Zarzycka et al. (2019) used the Newcastle Satisfaction with Nursing Scale (NSNS) to measure patient satisfaction of nursing care quality. In an instrument validation survey of 221 US Veteran Affairs patients, Radwin et al. (2019) obtained positive perceptions of patients regarding nurse individualised care and care continuity.

The NSNS scale was used in a Turkish survey of 400 patients by Kol et al. (2018). Overall satisfaction with nursing care quality and experience of nursing were high. Among the subscales, highest scores were obtained for skills of nurses, respect of nurses for patient privacy. Lowest scores were obtained in the case of efforts of nurses to make patients feel

at home and in the case of the way nurses comforted relatives and friends of the patients.

Results of a survey by Karaca and Durna (2019) on 635 recently discharged indicated higher patient satisfaction with concern and caring by nurses and lower satisfaction with giving information by nurses to patients. In-hospital nursing care quality was rated excellent by the participants. Younger, married, graduates, treated at the surgery or obstetrics–gynaecology units, in excellent health and hospitalised more than once, expressed higher satisfaction with nursing care quality. In an Ethiopian survey of 281 hospital-admitted patients (Girmay et al., 2018), a majority of them perceived low level of nursing care, and the perception levels were correlated with their expectation, wards into which admitted, occupation of the patients and duration of stay in the hospital.

In Jordan, a sample of 148 currently admitted patients was surveyed by Al-Hussami et al. (2017). Overall, a low level of nursing care quality was noticed. However, those who rated nursing care quality higher exhibited revisit intention also.

From a SERVQUAL survey of 272 patients and 22 nurses in Korea, Lee and Yom (2007) observed that patients perceived lower levels of expectations and actual performance than nurses. However, overall, patients perceived nursing care quality higher than nurses themselves. The perception of better nursing care quality was related to the intention to revisit the hospital. A survey of 300 patients in surgical and medical wards of a hospital in Sri Lanka was done by Jagoda et al. (2019) using "perception of caring-behaviours" and SERVQUAL instruments. Perceptions of above-average levels of caring behaviour and satisfaction were noticed. Patient ratings were higher than those of 115 student nurses measured additionally.

A survey study by Bachnick et al. (2018) used Generic Short Patient Experiences Questionnaire on 2073 inpatients. Patients were found to report high levels of patient-

centred care. This care consisted of easily understood nurses, adaptive treatment and care, the sufficiency of information, and patient involvement in decisions related to their care and treatment and care. A vast majority responded positively to these aspects of individualised care quality.

Intentional rounds of nurses every two to three hours by nurses based on the six basic care principles of maintaining belief, knowing, being with, doing for, enabling, and patients' wellness were evaluated for patient perceptions of nursing care quality by Shin and Park (2018) in an experimental setting. A significant improvement in patient-perceived nursing care quality and satisfaction with nursing service levels was noticed with the intentional nursing rounds.

Perception of Quality Nursing Care Scale and the Patients' Satisfaction with Nursing Care Quality Questionnaire were used for data collection. A survey of 66 patients and 63 nurses was used by East et al. (2020) for comparison of their satisfaction with intentional nursing rounds and its effect on nursing care quality perceptions. The study was done in an Australian rural healthcare setting. The effect of intentional rounding by nurses on care quality was accepted and was rated positively both by nurses and patients. The main factor related to the effect of intentional rounding on nurses' satisfaction was the interest in patients' feelings about their care. Patient satisfaction was determined by predicted by the ability to see a nurse when they wanted, the relief from pain given by the nurse when needed, feeling comfortable and safe, and the perception of nurses being interested in their feelings about their care.

Telenursing provides a specific nursing care context for patients at home. A survey of 500 patient callers for telenursing services by Gustafsson et al. (2020) revealed that the patient satisfaction was associated with the calm posture of the nurse during the call; clarity of advice in terms of its distinct, concrete and practical value and competence in terms of knowledge and skills shown in advising the patient.

A survey of 829 hospitalised patients by Zaghini et al. (2020) showed that patients were more satisfied with the quality of the care provided by the nurses when the nurses are satisfied with their leadership which leads to fewer burnouts, less strained inter-personal behaviour and less misbehaviour all of which enhance the quality of nursing care services leading to higher patient satisfaction with nursing care quality.

In a qualitative study involving interviews with 24 patients/families, Costa et al. (2020) categorised satisfaction attributes into the structure, process, and care outcome of the structure-process-outcome model. These attributes were associated with access to the service, the strength of human resources especially nurses, care environment, interaction with the health team, technical competence of the staff, perception of safety arising from the presence of a relative, assistance patterns used in the care regime and the change in the health status of the patients as a result of all these structural and process parameters.

Thus, for better patient's perception of care quality, structural aspects were very relevant. In the case of the care process, the relationship with the care team was outstanding. The technical skills of healthcare staff determined the standards of technical assistance rendered to the patient.

McCaughey et al. (2020) used secondary data to show that patients treated in Magnet hospitals and patients who rated communication with nurses highly were satisfied to a greater extent than those treated in non-Magnet hospitals in the USA. The former category of patients was more likely to recommend the hospital in which they were treated.

3.3. What is missing in nursing care?

Another way of measuring patient satisfaction is to identify what is missing in nursing care. This approach was used by Kalisch et al. (2012) using an in-depth

interview of 38 patients. Patients were able to fully report on matters like mouth care, bathing and care medication. They were able to report on handwashing, vital signs and care education partially. Not reportable aspects were nursing assessment, skin assessment and intravenous site care. Regarding the extent and types of missing care, many factors were identified. Frequently missing were mouth care, ambulation, discharge planning, patient education, listening to them and being kept informed. Patients sometimes missed the response to call lights, alarms, meal assistance, pain medication and follow-up, other medication administration and repositioning. Rarely missed were bathing, vital signs and washing.

Perception of nursing care quality could be low if some care factors were not attended to. An investigation of missing care factors by (Lucero et al., 2010) revealed that essential nursing care not done was 26% for preparing patients and families for discharge through 74% for developing or updating nursing care plans. Most of the nurses also revealed that medical errors like wrong medication or dose acquired nosocomial infections or a fall with injury happened very often.

In a survey of 362 nurses and 206 patients in South Korea, Cho et al. (2017) measured nurse staffing using patient-to-nurse ratios and adequacy perceived by nurses and patients. Experiences of patients were measured using the items of adverse events, communication with nurses and overall hospital rating. Missed care reported by Patients was measured using the MISSCARE Survey of patients consisting of three domains: communication, primary care and timely response. The results showed higher miscommunication when nurse perceived nursing staff was inadequate. When patient-perceived nursing staff was inadequate, higher missed care, and adverse events were reported. This was also associated with inadequate communication with nurses. The relationship between nurse staffing and patient experiences was mediated by patient-reported missed care.

3.4. Care of patients with specific health problems

Focus group was used by Fusilier and Simpson (1995) in assessing the perceptions of AIDS patients regarding nursing care quality. AIDS being a socially relevant disease, factors like knowledge and practices of nurses, their carefulness in adopting universal precautions, discrimination issues, informing the patient about their disease status during the course of the treatment and expression of sympathy were associated with patient perception of nursing care quality. The perceptions of nursing quality care among 70 AIDS patients in Teheran were measured by Dabirian et al. (2008) using a survey instrument containing 55 items, including demographics. The nursing care quality was rated as moderate to very good by about 43% of the participants. None of the demographic variables affected the rating pattern.

Global satisfaction of trauma patients was significantly and directly affected by perceived professional care, which, in turn, was affected by the perception of perceived individual care. These findings implied that if patients were not acquainted with technical aspects of health care, their satisfaction level would be based on perceived interpersonal care (Berg et al., 2012).

Radwin et al. (2003) developed an Oncology Patients' Perceptions of the Quality of Nursing Care Scale (OPPQNCS) based on a middle-range theory from a qualitative study to measure the quality of cancer nursing care from the patients' perspective. The finalised version based on an actual survey consisted of four subscales: responsiveness, individualisation, coordination and proficiency.

However, as authors have admitted, generalisability of the findings using this instrument was limited to white, predominantly female, well-educated and well-to-do cancer patients. Also, the data were not normally distributed. Using this

instrument along with the Individualized Care Scale-Patient (ICS-Patient), the Oncology Patients' Perceptions of Quality Nursing Care Scale (OPPQNCS), the Euro-QoL (EQ-5D-3L) and the Trust in Nurses Scale, Charalambous, et al. (2016) studied on the care quality perceptions of 590 cancer patients. Patients' trust and individualised care quality were found to more essential parameters of patient perceptions. Coban and Yurdagul (2014) used Patient Perception of Hospital Experience with Nursing Care (PPHEN) and Attitude Scale for Nursing Profession (ASNP) to measure the perceptions of cancer 100 patients discharged after medical and radiological oncology clinics in Turkey.

Very low level of patient satisfaction towards nursing care was noted. Nurses also had negative attitude towards their profession, which could have affected their care quality. In a Greek study on the care quality perceptions of oncology patients by Karlou et al. (2015), caregivers and nurses, knowledge and skill were rated as the most important attribute by both patients and caregivers. Nurses rated their caring behaviour lower than the other two. There was no effect for educational background, hospitalisation history or spouse as caregiver on care quality perceptions of patients. From a survey on 1659 surgical patients and 1195 nurses across six European countries, Patiraki et al. (2014) noted that better rating of care quality was given by patients with a planned admission and right health conditions than those who had emergency admission and poor health conditions. The perceptions of individualised nursing care varied among the cancer patients from the four countries of Cypress, Greece, Finland and Sweden. The level of support for individuality and receipt of individualised care was reported as moderate and right respectively. Greek patients had the lowest perception and the Swedish patients had the highest perception of individualised nursing care.

These observations were the results of a survey of 599 patients by Suhonen et al. (2018) spread over the four countries. In a related aspect of the same survey, which used Oncology Patients perceptions of the Quality of Nursing Care Scale (OPPQNCs), the Individualised care Scale (ICS-patient) and Trust in Nurses, Suhonen et al. (2016) did not find any effect of age on the cancer patients' perceptions of moderate level of individualised care. However, proficiency and responsiveness were rated high. The patients trusted the nurses strongly. Expectations of colorectal cancer patients consisted of their empowerment with knowledge, excellent encounters with nurses and skilled care. In this study, Tuominen et al. (2020) used interviews with 15 colorectal patients for data collection and thematic analysis.

Care quality of rehabilitation patients was rated by patients and nurses similarly with respect to knowing when to call the doctor and monitoring and following through. If nurses possess demonstrable skills and competencies and accessibility preceding the patient's needs to build comfort and trust, these patients are mostly satisfied with nursing care quality. In this work, Keane et al. (1987) used the Caring Assessment Report Evaluation Q-Sort (CAREQ).

In a Finnish study on surgical patients, Suhonen et al. (2005) used Finnish adapted versions of Individualised Care Scales, Patient-Satisfaction Scale, and Finnish versions of the Nottingham Health Profile and EuroQol 5D. Individualised care through specific nursing interventions was positively associated with a positive perception of patients regarding nursing care quality. Another Finnish survey of 874 patients and 143 perioperative nurses by Leinonen et al. (2003) revealed that patients tend to rate most of the care quality higher than by nurses. However, the patients were critical about specific items of care quality, which indicate the areas of improvement.

Differential perceptions of care quality between patients and nurses were also observed in the case of Chinese non-ICU patients through a survey of 221 nurses and 383 patients by Zhao et al. (2009). In a study of 25 hospitalised stroke patients by Khairani and Kariasa (2020) 60% of the stroke patients were satisfied with the nursing care, especially of its assurance dimension.

All elderly participants (345) from acute wards of a hospital were administered the Chinese version of Ascertain Dementia 8 (AD8) at admission and the Nursing Service Satisfaction Questionnaire before discharge. AD8 was used for screening them into two categories of AD8 score of ≥ 2 for high-risk dementia and less than 2 for low-risk dementia. The Nursing Service Satisfaction Score was significantly lower in $AD8 \geq 2$ than in $AD8 < 2$ patients. Thus AD8 score was useful as an indicator of nursing care quality (Huang et al., 2020).

In another study by Suhonen et al. (2010), age, gender, education and type of admission affected individualised care perceptions leading to the corresponding perception of nursing care quality among orthopaedic and trauma patients in five countries. In a comparative pre and post-discharge survey of post-surgical cancer and cardiac patients, the perceptions of these patients on empowering nurse behaviours were correlated with post-discharge patient activation, in turn, was related with mental functional health status. When such patients are satisfied that nurses have been adequately empowered, their perception of nursing care quality is also good.

Survey items "help me with my care until I'm able to do it for myself," "give my treatments and medication on time," and "check my condition closely," were rated as indicators of nursing care quality during childbirth by the women in a study by Manogin et al. (2000). In the case of women who gave birth to healthy babies recently, nursing care quality included preservation of dignity, respect, value and preferred control levels as was

revealed in interviews with 20 such women (Matthews & Callister, 2004).

Lower frequency of patients rated the psychiatric care quality as satisfactory compared to the rating by nurses. Patients in military hospitals perceived better care quality than those in government hospitals. This survey in Jordan involved 123 nurses and 150 patients and was reported by Alsyouf et al. (2018).

An evidence-based service nursing bundle for quality improvement in the emergency department was tested by Skaggs et al. (2018). There were significant improvements in the number of patients who rated the care quality as excellent and in the ranking percentile of rating excellent after the implementation of the nursing service bundle. Post-bundle implementation, patients were 1.5 times more likely to rate all five items of the survey as excellent.

In a paediatric care setting, nurse characteristics were the only factor which affected the perceptions of paediatric patients about nursing care quality, which was assessed as moderate in the multicentre survey of 692 paediatric patients by Comparcini et al. (2018). This and positive satisfaction level were not age-sensitive across the sample participants.

In the home care contexts of Netherlands, interviews of both patients and formal/informal caregivers were performed by Haex et al. (2020) and identified factors of care quality of caregivers. Both preferred a small number of caregivers, wanted sufficient time for the provision of the required care and the right atmosphere for caring, which facilitated open communication and humour. In addition, care routines need to fit with the patient's former way of living. The preference was for a closer personal care relationship-enhancing trust, openness and empathy rather than a formal and detached professional care relationship.

A summary of numerical frequency distribution of the above topics and methods followed in these studies have been presented

in Table 1 and Table 2 in the Appendix. The total number is more than the number of papers cited in Table 1 because the same reference is duplicated say in survey instrument and components and factors. Maximum frequency of 28 papers were on care factors and components. Next was 22 studies on specific problems. In the case of research method, survey was used in 46 papers and the distant second is interviews with only 8 papers. There were only three experimental studies. Methods other than survey and interviews were used for investigation in specific cases only, probably because of the limitations on the available sample size.

4. Conclusion

Patient perception of nursing care quality has been researched using a number of survey frameworks and interviews in a variety of contexts in different countries. One rarely used method is direct participant observation. Not many attempts were made to use secondary data available in the hospital. It is also not known how the different standards on nursing care quality proposed by various nursing organizations in different countries are comparable with the patient assessment of nursing care quality.

Many measurement models have been used in these works including SERVQUAL, PSNCQQ, CECSS, PPHEN, PNCS, NSNS, GSPEQ, PQNCS, OPPQNCS, ICS=Patient, Euro-QoI (EQ-5D-3L), ASNP, CARE-Q, AD8, NSSQ, MISSCARE and their local language adaptations.

The reviewed papers provide many important directions. Basically, patient perception of care quality is affected by factors related to care environment, patient characteristics and nursing dimensions. Among the care dimensions, factors like individualised care, communicating the truth, competent and prompt care and response to various personal care needs of the patient, timely attention to urgent calls, safety, avoiding medical errors, empathy and instilling trust and confidence in

the patient are important. These are in the hands of nurses. So, they need to examine whether all these factors are taken care of and improve where lacking.

Age, marital status, education occupation and income level of patients may affect their nursing care quality perceptions. Hospitals do not have any control over them. Nurses may not be able to adjust to these characteristics always.

Nursing dimensions include working environment, staff strength, leadership effectiveness, independence or involvement in decision making (adequate empowerment), strain and burnout and work-life balance problems. Knowledge, skills, competence and training, positive attitude towards the profession, time availability and care atmosphere. A care quality improvement bundle may provide the necessary inputs to

for what needs to be done at the nurses' end. Other factors are to be attended by the hospital. The hospitals need to obtain periodical feedback on the administrative aspects of nursing care from the nurses and improve on the limitations. This is particularly important during pandemic's like Covid-19 when the medical staff are under immense pressure.

4.1 Limitations

This work was a qualitative systematic review. All types of papers without any exclusion or inclusion criteria widened the range of papers available. However, abstracts, in which some essential details were missing, were not included. There can be other opinions on how the topic should have been arranged.

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Salman Althobaiti
University of Technology
Sydney
salmanw.althobaiti@gmail.com

Sultan Alharthi
University of Technology
Sydney
mr.sultantalharthi@gmail.com

**Ali Moosa
ALZahrani**
University of
Technology Sydney
[alimossa-
2008@hotmail.com](mailto:alimossa-2008@hotmail.com)

Appendix

Table 1. Topic distribution among cited papers

Topic of paper	References	No of papers
FRAMEWORKS		
SERVQUAL	Scardina (1994), Uzun (2001), Lee and Yom (2007), Jagoda, Edirisinghe, and Meegoda (2019),	4
PSNCQQ	Milutinović, Simin, Brkić, and Brkić (2012), Albashayreh, Al-Rawajfah, Huda, Karkada, and Al Sabei (2019), Shin and Park (2018) (with PQNCS)	3
CECSS)	Barrio, García, Cereijo, and López (2002).	1
PPHEN	Ozturk, Demirsoy, Sayligil, and Florczak (2020), Coban and Yurdagul (2014) (with ASNP),	1
PPNCS	Dikmen and Yılmaz (2016)	1
NSNS	Zarzycka, Bartoń, Mazur, and Turowski (2019), Kol, Arıkan, İlaslan, Akıncı, and Koçak (2018).	2
Generic Short Patient Experiences Questionnaire	Bachnick, Ausserhofer, Baernholdt, and Simon (2018)	1
MISSCARE	Cho, Mark, Knafl, Chang, and Yoon (2017)	1
OPPNCS	Charalambous, et al. (2016) (with Individualized Care Scale-Patient (ICS-Patient), Euro-Qol (EQ-5D-3L) and the Trust in Nurses Scale), Suhonen, et al. (2016),	2
CAREQ	Keane, Chastain, and Rudisill (1987),	1
NSSQ	(Huang, et al., 2020)	1
Other non-specific survey instrument	Risser (1975), Laschinger, Hall, Pedersen, and Almost (2005), Oren, Zengin, and Yildiz (2016)	3
COMPONENTS AND FACTORS OF NURSING CARE QUALITY		
Patient perception categories	Schmidt (2003), Larrabee and Bolden (2001),	2
Care dimensions	Carman (2000), (You, et al., 2013), Suhonen, Välimäki, Katajisto, and Leino-Kilpi (2007), Edvardsson and Pearce (2017), Izumi, Baggs, and Knafl (2010), Aiken, et al. (2018), Ozturk, Demirsoy, Sayligil, and Florczak (2020), Dikmen and Yılmaz (2016), Brooks Carthon, Rearden, Pancir, Gamble, and Rothwell (2017), Midilli, Kirmizioglu, and Kalkim (2017), (Oflaz & Vural, 2010), Zarzycka, Bartoń, Mazur, and Turowski (2019), Radwin, et al. (2019), Kol, Arıkan, İlaslan, Akıncı, and Koçak (2018), Karaca and Durna (2019), (Girmay, Marye, Haftu, Brhanu, & Gerensea, 2018), Al-Hussami, Al-Momani, Hammad, Maharmeh, & Darawad (2017), Lee and Yom (2007), Jagoda, Edirisinghe, and Meegoda (2019), Bachnick, Ausserhofer, Baernholdt, and Simon (2018), Shin and Park (2018), East, et al. (2020), Gustafsson, Wälivaara, and Gabrielsson (2020), Zaghini, Fiorini, Piredda, Fida, and Sili (2020), Costa, Moura, Moraes, Santos, and Magalhães (2020), McCaughey, McGhan, Rathert, Williams, and Hearld (2020)	26
MISSING CARE DIMENSIONS	Kalisch, McLaughlin, and Dabney (2012), (Lucero, Lake, & Aiken, 2010), Cho, Mark, Knafl, Chang, and Yoon (2017)	3

Table 1. Topic distribution among cited papers (continued)

Topic of paper	References	No of papers
COMPONENTS AND FACTORS OF NURSING CARE QUALITY		
SPECIFIC HEALTH PROBLEMS	Fusilier and Simpson (1995), Dabirian, Zolfaghari, Saidi, and Alavi-Majd (2008), (Berg, Spaeth, Sook, Burdsal, & Lippoldt, 2012), Radwin, Alster, and Rubin (2003), Coban and Yurdagul (2014), Karlou, Paphanassoglou, and Patiraki (2015), Patiraki, et al. (2014), Suhonen, et al. (2018), Suhonen, et al. (2016), Tuominen, Leino-Kilpi, and Meretoja (2020), Keane, Chastain, and Rudisill (1987), Suhonen, Välimäki, and Leino-Kilpi (2005), by Zhao, Akkadechanunt, and Xue (2009), Khairani and Kariasa (2020), (Huang, et al., 2020), Suhonen, et al. (2010), (Matthews & Callister, 2004), Manogin, Bechtel, and Rami (2000), Alsyouf, Hamdan-Mansour, Hamaideh, and Alnadi (2018), Skaggs, Daniels, Hodge, and DeCamp (2018), Comparcini, et al. (2018), Haex, Thoma-Lürken, Beurskens, and Zwakhalen (2020).	22

Table 2. Methodological categories

Method	References	Validation	Factors and components	Missed care	Specific cases
Survey	<p>Survey instrument validation- Uzun (2001), Risser (1975), Laschinger, Hall, Pedersen, and Almost (2005), Milutinović, Simin, Brkić, and Brkić (2012), Albashayreh, Al-Rawajfah, Huda, Karkada, and Al Sabei (2019), Barrio, García, Cereijo, and López (2002), Oren, Zengin, and Yildiz (2016), Radwin, et al. (2019).</p> <p>Factors and components- (You, et al., 2013), Suhonen, Välimäki, Katajisto, and Leino-Kilpi (2007), Edvardsson and Pearce (2017), Aiken, et al. (2018), Ozturk, Demirsoy, Sayligil, and Florczak (2020), Dikmen and Yılmaz (2016), Midilli, Kirmizioğlu, and Kalkim (2017), (Ofiaz & Vural, 2010), Zarzycka, Bartoń, Mazur, and Turowski (2019), Kol, Arıkan, İlaslan, Akıncı, and Koçak (2018), Karaca and Durna (2019), Girmay, Marye, Haftu, Brhanu, & Gerensea, (2018), Al-Hussami, Al-Momani, Hammad, Maharmeh, & Darawad (2017), Lee and Yom (2007), Jagoda, Edirisinghe, and Meegoda (2019), Bachnick, Ausserhofer, Baernholdt, and Simon (2018), East, et al. (2020), Gustafsson, Wälivaara, and Gabrielsson (2020), Zaghini, Fiorini, Piredda, Fida, and Sili (2020).</p>	8	19	2	17

	<p>Missed care- (Lucero, Lake, & Aiken, 2010), Cho, Mark, Knafl, Chang, and Yoon (2017).</p> <p>Specific cases- Dabirian, Zolfaghari, Saidi, and Alavi-Majd (2008), (Berg, Spaeth, Sook, Burdsal, & Lippoldt, 2012), Radwin, Alster, and Rubin (2003), Charalambous, et al. (2016), Coban and Yurdagul (2014), Karlou, Papathanassoglou, and Patiraki (2015), Patiraki, et al. (2014), Suhonen, et al. (2018), Suhonen, et al. (2016), Suhonen, Välimäki, and Leino-Kilpi (2005), Leinonen, Leino-Kilpi, Ståhlberg, and Lertola (2003), Zhao, Akkadechanunt, and Xue (2009), Suhonen, et al. (2010), Manogin, Bechtel, and Rami (2000), Alsyof, Hamdan-Mansour, Hamaideh, and Alnadi (2018), Comparcini, et al. (2018)- specific cases</p>				
Interviews	<p>Factors and components- Schmidt (2003), Izumi, Baggs, and Knafl (2010), Brooks Carthon, Rearden, Pancir, Gamble, and Rothwell (2017), Costa, Moura, Moraes, Santos, and Magalhães (2020).</p> <p>Missed care- Kalisch, McLaughlin, and Dabney (2012).</p> <p>Specific cases- Tuominen, Leino-Kilpi, and Meretoja (2020), (Matthews & Callister, 2004), Haex, Thoma-Lürken, Beurskens, and Zwakhalen (2020).</p>	0	4	1	3
Content analysis	Factors and components- Larrabee and Bolden (2001).	0	1	0	0
Experiment	Specific cases- Shin and Park (2018)- on factors and components (Huang, et al., 2020), Skaggs, Daniels, Hodge, and DeCamp (2018).	0	1	0	2
Secondary data	Factors and components- McCaughy, McGhan, Rathert, Williams, and Hearld (2020)	0	1	0	0
Focus group	Specific cases- Fusilier and Simpson (1995)	0	0	0	1
Cross-sectional descriptive ranking	Specific cases- Keane, Chastain, and Rudisill (1987), Khairani and Kariasa (2020)- specific cases	0	0	0	1