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DETERMINANTS OF NURSING CARE QUALITY IN A HOSPITAL SETTING: A CROSS-SECTIONAL SURVEY OF NURSING STAFF AT A UNIVERSITY HOSPITAL IN RABAT (MOROCCO)

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ABSTRACT

Introduction: The quality of nursing care depends on material, human, organisational and cooperative factors that care providers are well placed to appraise. This study aimed to identify the main determinants of care quality as perceived by the nursing staff of a university hospital, and to outline avenues for improvement.

Materials and methods: A descriptive cross-sectional study was conducted from 10 April to 5 May 2024 in four departments (gastroenterology, visceral surgery, oncology, cardiology) of International University Hospital in Morocco, using an anonymous self-administered questionnaire. Data were analysed descriptively with Microsoft Excel.

Results: Forty nurses responded (85% women; 82.5% aged 21–29 years; 77.5% with less than 5 years of experience). Only 17.5% considered the quality of care in their department satisfactory. The most frequently cited determinants were teamwork (82.5%), professional competence (72.5%), technical facilities and equipment (70%), risk management (62.5%) and cooperation within the institution (59%).

Conclusion: The nurses surveyed put human and organisational determinants first, alongside equipment availability. Continuing training, interdisciplinary meetings and clarification of roles emerge as priorities. Multicentre studies combining several data sources are needed.

Keywords: Nursing Staff, Quality of Care, Determinants of Care Quality, Patients, Hospital.

1 INTRODUCTION

Nursing plays a central role in the delivery of health services. The World Health Organization (WHO) recommends strengthening nursing, notably through education and research; safe staffing with a sufficient number of competent nurses conditions both patient safety and the working conditions of care providers [1,2].

Quality of care is a multidimensional concept. For the International Council of Nurses, the quality of nursing care corresponds to the conformity of the services provided with pre-established standards, adapted to patients' needs and to the evolution of knowledge [3]. Its classic dimensions (effectiveness, safety, accessibility, responsiveness, efficiency, equity) underpin most evaluation frameworks [4,5].

The determinants of quality and safety of care are the factors which, according to research and expert opinion, play an important role in improving them [6,7]. They fall into four families: material resources (facility design, technical facilities, information systems) [8,9]; human resources (competence, staffing, continuity of care, activity volume) [10–12]; organisation of teams (teamwork, risk management, patient-centred approach, quality of working life) [13–16]; and cooperation between teams and between institutions [17,18]. Nurses, who are in constant contact with patients, are well placed to appraise these determinants.

The main objective of this study was to identify the main determinants of the quality of nursing care delivered in hospital, as perceived by the nursing staff of a university hospital. The specific objectives were to assess the relative importance given to material, human, organisational and cooperative determinants, and to identify obstacles to the quality approach.

2 MATERIALS AND METHODS

2.1 Study design and setting

This was a descriptive cross-sectional study conducted from 10 April to 5 May 2024 among the nursing staff of international University Hospital in Rabat. It covered four departments: gastroenterology (diagnosis and treatment of digestive disorders), visceral surgery E (surgical conditions of the digestive tract and associated glands), oncology (multidisciplinary care of patients with cancer) and cardiology (cardiovascular care, from prevention to advanced treatments).

2.2 Population and selection criteria

The target population comprised all nursing staff providing care to inpatients in the selected departments and available during the study period. Professionals with less than one year of experience, those without direct patient contact and those unable to give informed consent were excluded.

2.3 Data collection

Data were collected using a self-administered questionnaire offered to volunteer nurses and organised in three parts: (i) participants' characteristics (sex; age group: 21–29, 30–40 or over 40 years; experience: less than 5 years, 5 to 20 years or over 20 years); (ii) determinants of care quality, explored in four domains (material resources, human resources, organisation of care teams, cooperation between care teams), each with a list of items; (iii) overall satisfaction with the quality of care in the department or institution (satisfactory, neutral, needs improvement).

2.4 Statistical analysis

Data were entered and analysed with Microsoft Excel. Qualitative variables are expressed as numbers and percentages, and quantitative variables as mean and standard deviation. As several items could be selected in each domain, the percentages within a domain may add up to more than 100%.

2.5 Ethical considerations

Participation was voluntary and based on informed consent. Anonymity and confidentiality of responses were ensured. [State, where applicable, the authorisation of the institution or ethics committee.]

3 RESULTS

3.1 Participants' characteristics

Forty nurses completed the questionnaire. Women accounted for 85% of the sample (female-to-male sex ratio of 5.7). The mean age was 27.2+/-8.1 years. The 21–29 age group clearly predominated (82.5%), and 77.5% of participants had

less than 5 years of experience. Only 17.5% said they were satisfied with the quality of care in their department (Table 1).

Table 1: Participants' characteristics and overall satisfaction (n = 40)

Characteristic	%
Female	85
Male	15
Aged 21–29 years	82.5
Aged 30–40 years	12.5
Aged over 40 years	5
Less than 5 years of experience	77.5
Overall satisfaction rated “satisfactory”	17.5

3.2 Determinants of care quality

Table 2 presents the determinants cited, by domain. For material resources, 70% of nurses chose technical facilities and equipment, and 45% chose both the architecture of facilities and information systems. For human resources, professional competence ranked first (72.5%), ahead of continuity of care and team stability (42.5%), activity volume (37.5%) and staffing levels and workload (35%). Regarding the organisation of teams, teamwork stood out clearly (82.5%), followed by risk management (62.5%) and evaluation and improvement initiatives (50%). Quality of working life (42.5%), implementation of good practice (37.5%) and the patient-centred approach (30%) came next, while governance and culture were cited by only 15% of respondents. Finally, for cooperation, 59% of participants selected cooperation within the institution, 46.2% the organisation and optimisation of care pathways, and 25.6% cooperation and tiering of care across the territory.

Table 2: Determinants of care quality cited by nurses, by domain (% of respondents)

Domain	Determinant	%
Material resources	Technical facilities and equipment	70
	Architecture and design of facilities	45
	Information systems	45
Human resources	Professional competence	72.5
	Continuity of care and team stability	42.5
	Activity volume	37.5
	Staffing levels and workload	35
Organisation of care teams	Teamwork	82.5
	Risk management	62.5
	Evaluation and improvement initiatives	50
	Quality of working life	42.5
	Implementation of good practice	37.5
	Patient-centred approach and user engagement	30
Cooperation between care teams	Governance and culture	15
	Cooperation within the institution	59
	Organisation and optimisation of care pathways	46.2
	Cooperation and tiering of care across the territory	25.6

Several answers possible per domain: percentages do not add up to 100%.

4 DISCUSSION

4.1 Main findings

In this survey of 40 nurses, the determinants most often cited concerned first the organisation and human resources (teamwork, 82.5%; professional competence, 72.5%), then equipment (70%), risk management (62.5%) and cooperation within the institution (59%). This ranking should be viewed alongside a modest level of satisfaction: only 17.5% of respondents considered the quality of care in their department satisfactory.

4.2 Material resources

The availability of technical facilities and equipment, cited by 70% of nurses, is in line with the literature: in the United States, permanent access to a full range of technical facilities in trauma centres was associated with 20% lower in-hospital mortality and 25% lower one-year mortality in patients with multiple trauma [19]. In Cameroonian public hospitals, the lack of equipment and staff undermines working conditions, care providers' motivation and, ultimately, the quality of care [20]. Facility design was considered a determinant by 45% of respondents; nurses also view single-occupancy rooms more favourably, associating them with better confidentiality, easier communication among staff and greater job satisfaction [21].

Information systems were also cited by 45% of respondents. In the international literature, however, the share of adverse events related to information technology varies from 0.2% to 25% depending on the study [22], and among 120 such events reported to the Joint Commission between 2010 and 2013, one third involved the human-machine interface [23]. The nurses in our sample therefore seem to give information systems less weight than these data suggest.

4.3 Human resources

Professional competence was the most frequently cited human determinant (72.5%). It combines technical knowledge and non-technical skills (communication, teamwork, professional behaviour) [10,24], and research use in nursing organisations depends on a supportive organisational culture, research training and professional autonomy [25]. Continuity of care and team stability (42.5%) echo the “weekend effect”: mortality is higher among patients admitted on Saturdays or Sundays [26]. Activity volume (37.5%) remains debated: a systematic review of systematic reviews concludes that there is a volume–outcome relationship in complex surgery [27], whereas a recent French study found no association for ten digestive, cardiovascular or orthopaedic procedures [28].

Staffing levels and workload were cited by only 35% of respondents, although surgical mortality increases with the number of patients per nurse [29] and higher nurse staffing is associated with lower hospital mortality [30]. This low priority may reflect habituation to current working conditions among mostly young nurses (77.5% have less than five years of experience), a hypothesis our study cannot test.

4.4 Organisation of care teams

Teamwork was the most frequently cited determinant (82.5%). This perception is consistent with the Veterans Health Administration team-training programme, which was associated with an 18% reduction in surgical mortality [31], and with the cluster-randomised trial showing that systematic cross-checking between emergency physicians reduces adverse events [32]. Risk management (62.5%) echoes the view that safety is an imperative for health systems, with a substantial share of postoperative mortality attributed to factors related to their management [33]. Evaluation and improvement initiatives (50%) are supported by the experience of the Veterans Affairs surgical quality improvement programme, in which feedback on 30-day morbidity and mortality was accompanied by a 45% fall in morbidity and a 27% fall in mortality [34].

Quality of working life (42.5%) is presented by the French national health authority's certification framework as a component of the quality policy that governance must integrate [35]. Implementation of good practice (37.5%) is not automatic: developing and disseminating guidelines is not enough to ensure they are applied, and adherence to recommended care reached only about half in a large US study [36]. The patient-centred approach (30%) is associated with favourable effects on recovery and emotional health [37]. Finally, governance and culture were cited by only 15% of respondents; this low score may reflect the perceived distance of these levers from day-to-day bedside practice, a hypothesis worth exploring.

4.5 Cooperation between care teams

Cooperation within the institution was considered essential by 59% of respondents. A study in a tertiary hospital setting reports an association between interprofessional collaboration and several patient safety indicators, such as fall prevention, reduction of hospital-acquired infections and pain management [38]. The organisation and optimisation of care pathways (46.2%) meet the need for coordinated care without gaps or loss of information between teams and

institutions [17,18]. Cooperation and tiering of care at territorial level (25.6%) appear a lower priority, perhaps because they extend beyond the department in which respondents work.

4.6 Practical implications

These results point to four areas for action:

- Material resources: develop guidelines for the use and maintenance of equipment, ensure the availability of diagnostic equipment and essential medicines, and train staff in equipment use and stock management.
- Human resources: implement continuing training and professional development programmes (medical advances, clinical best practice, communication with patients).
- Organisation of teams: establish regular interdisciplinary meetings devoted to potential risks and mitigation strategies.
- Cooperation: define roles and responsibilities through protocols, encourage collaborative problem-solving, and use electronic medical records and secure messaging to share information.

4.7 Strengths and limitations

This study captures the perceptions of front-line care providers in four departments of different specialties, using a questionnaire structured around the main families of determinants described in the literature. Its limitations are the small sample (40 respondents), recruitment of volunteers in a single institution, the use of a single non-validated tool and a purely descriptive analysis, the self-reported nature of the responses with no link to patient outcome indicators, the high proportion of young, less experienced nurses, and the short study period. The findings are therefore not generalisable.

5 CONCLUSION

According to the nurses surveyed, the quality of care depends first on teamwork, professional competence, equipment availability, risk management and cooperation within the institution. These findings call for joint action on material resources, continuing training, interdisciplinary organisation and clarification of roles. Multicentre studies with larger samples, combining the perceptions of care providers and patients with outcome indicators, are needed to confirm these findings.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

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Disclosure of conflict of interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Statement of informed consent

Informed consent was obtained from all participants prior to their inclusion in the study. Participants were informed about the purpose and procedures of the study, and their participation was entirely voluntary.

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