

Study of Healthcare Supervisors' Perceptions of Knowledge, Attitudes, and Practices in Nursing Process in Senegalese Hospitals in 2025

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ABSTRACT

Introduction: The nursing process (NP) serves as a methodological framework for designing nursing interventions, promoting quality of care, and ensuring continuity and traceability of care. Although it is integrated into initial training in Senegal, the use of this approach in clinical practice remains limited.

Objectives: The study aimed to examine the perceptions of healthcare supervisors regarding knowledge, attitudes, and practices related to the nursing care process.

Materials and Methods: A qualitative study was conducted to explore the perceptions of healthcare supervisors regarding knowledge, attitudes, and practices related to nursing process. Care service supervisors from eight (08) regional hospitals in Senegal were interviewed using semi-structured interviews based on reasoned sampling. A thematic content analysis was performed on the data collected using the complete transcripts.

Results: The added value of the NP in the organization of nursing work and in improving the quality of care is understood by the participants. However, they stated that implementing EHRs is difficult and that the implementation of NP is fraught with obstacles, including a lack of continuing education, excessive workloads, a lack of supervision, and the absence of institutional guidelines. Although there is a willingness to use NP, their use remains limited and confined to the early stages of NP implementation, particularly data collection and planning.

Conclusion: The efficient and effective use of NP requires institutional support, educational reinforcement, and the recognition of supervisors as agents of change within the healthcare organization.

Keywords

Nursing process, Perception, Department supervisors, Nursing practices.

Introduction

The nursing process (NP) is a structured method of reasoning and

problem solving designed to organize individualized, continuous care tailored to each person's needs [1]. It provides a framework for identifying, prioritizing, and managing issues that fall within the nurse's role, then documenting and verifying the effects [1]. The NP supports clinical decisions, allows interventions to be tailored to the patient's profile, and ensures continuity and evaluation of

care [1].

Designed as a problem-solving tool, it also places the nursing profession within a scientific dynamic, or in other words, as a discipline. In practice, NP involves the following five steps: 1) assessment; 2) diagnosis; 3) planning; 4) implementation; and 5) re-evaluation [2].

The practice of nursing requires vigilance due to the multitude of actions, decisions, and assessments that nurses must perform. It therefore requires nurses to identify and avoid errors that could harm patients [3]. This performance requirement is passed on by experienced clinical nurses to novices [3]. From this perspective, the systematic use of NP becomes a pillar of training and improving the quality of care [4]. All professional practices involve the use of rigorous scientific methods. Nursing practice is no exception. Evidence-based practice is therefore one of the means of ensuring that nursing practice is based on a rigorously scientific framework [4]. Adequate nursing care also requires an administrative structure capable of articulating standards of practice according to the context of care [5]. To achieve this, it is necessary to mobilize the collective skills of the team, follow a comprehensive approach and adjust it continuously, and take into account the services and care contexts [6]. The quality and continuity of nursing care are based on a structured clinical approach and interprofessional coordination [5,6].

From an educational perspective, NP is taught during initial training and involves a series of iterative steps that are activated cyclically throughout the care of the patient [7]. NP is intended for both students and nurses and supports traceable and communicable nursing care [7]. It also enables the identification of nursing care issues.

NP is a framework for organizing and aligning clinical practice. It provides guidance for the design of nursing interventions and ensures continuity of care for patients. However, its application in clinical practice remains limited due to several constraints. In Senegal, the NP is integrated into initial training programs, but its effective integration by healthcare professionals remains limited. This situation calls for an examination of the circumstances surrounding its adoption, which is the very basis of this study [8].

The study by Seck et al. revealed that 22.3% of nurses had a good knowledge of NP and that 77.7% had gaps in their understanding of it. Although 95% of participants expressed a very positive attitude towards its importance, only 23.3% used the DSI regularly, mainly due to organizational restrictions [9].

So, beyond its relevance in training and its importance in clinical practice, is the NP really integrated into the daily practices of healthcare providers? This study seeks to document the understanding and application of the NP by ward supervisors in Senegalese hospitals. In summary, this study aimed to describe the perception of healthcare supervisors regarding the knowledge, attitudes, and practice of the nursing process in hospitals located

in Senegal in 2025.

The main question was: Are ward supervisors truly aware of the nursing process, and what are the reasons that could explain its lack of application in hospitals in Senegal?

Methodology

Study setting

This qualitative study was conducted in eight hospitals in Senegal. These sites were located in both rural and urban areas. Together, these institutions serve a population of more than three million people [10].

The Lieutenant-Colonel Mamadou Diouf Regional Hospital (Saint-Louis) is the region's main hospital, located at the crossroads of healthcare flows between the river valley and the coast. It provides general care and specialized referrals. This facility has more than 240 beds and covers all medical and surgical specialties [11]. The Amadou Sakhir Mbaye Regional Hospital in Louga serves an agro-pastoral area, acting as a referral center for the districts of Koki, Sakal, and Keur Momar Sarr. The health directory lists 138 beds, supported by medical and surgical services and maternity and pediatric activities [12]. The Magatte Lo de Linguère Level 1 Public Health Facility is located in the heart of Ferlo, a sparsely populated area. The facility plays a front-line role and provides stabilization before transfer to a secondary or tertiary health center. It has a capacity of 52 beds. The hospital in Richard-Toll, also a frontline facility, supports an industrial and sugar-producing area. It has a bed capacity of 71. It is located in the Saint Louis region, 108 km from the city of Saint Louis. The Level 1 public health facility in Ndoum, historically built to structure the provision of services in the department of Podor, handles obstetric and medical cases. It has a capacity of 112 beds. The Ourosogui Regional Hospital Center, at the crossroads of the routes to Fouta and the Mauritanian border, provides medical, surgical, and maternity care, serving as a hub for the Matam region. This facility has a capacity of 118 beds. The Matam hospital completes the referral system in an area with limited access to healthcare, with a capacity of 66 beds. Finally, in Agnams, the Abdoul Cissé Kane hospital (level 1), inaugurated in 2021, improves front-line access for neighboring communities. The facility has 71 beds, a maternity ward, an operating theater, and a hemodialysis center, making it a critical resource for emergency care and treatment of diseases in the northeast of the country [12]. Figure 1 below shows the distribution map of public hospitals in the northern zone.

Type and period of the study

This is an exploratory qualitative descriptive study, conducted through semi-structured interviews with healthcare supervisors, with inductive thematic analysis. It was carried out between July 15, 2025, and August 31 of the same year.

Inclusion criteria

All supervisors were included in this study:

- Who had been a supervisor for at least one year
- Be a supervisor in one of the hospitals in northern Senegal and

have agreed to participate in the study

Exclusion criteria

- Have been in the position for less than one year.
- Not having direct responsibilities in the implementation of nursing process.
- Not agreeing to participate in the study
- Not working in one of the hospitals in northern Senegal and having agreed to participate in the study

Sampling

Purposive sampling was used to obtain a diversity of contexts and perspectives among healthcare supervisors. Recruitment ceased when data saturation was reached.

Data collection procedure

A semi-structured interview guide was developed and tested. The interview guide was developed based on the study objectives and a review of the literature on NP, following the methodological recommendations of Kallio et al. [13]. Structured in four sections (profile, knowledge, attitudes, and practices), the interview guide included open-ended questions and follow-up questions. Its content validity was reviewed by three experts, and two pilot interviews were conducted to adjust the language and duration in accordance with the approaches of Turner [14] and Castillo-Montoya [15]. It was divided into four sections: (i) socio-professional profile; (ii) knowledge of SD; (iii) perceptions of its usefulness and limitations; (iv) practices and implementation methods, explored in depth through open-ended questions and follow-up questions. The individual interviews, lasting approximately 30 to 45 minutes, were conducted face-to-face or by videoconference, under conditions ensuring confidentiality. After informing the study candidate and obtaining their written consent, we conducted and recorded the interviews. Data collection was carried out until data saturation was reached. This saturation corresponds to the point at which data collection no longer yields new information, thus reflecting the redundancy and completeness of the qualitative data

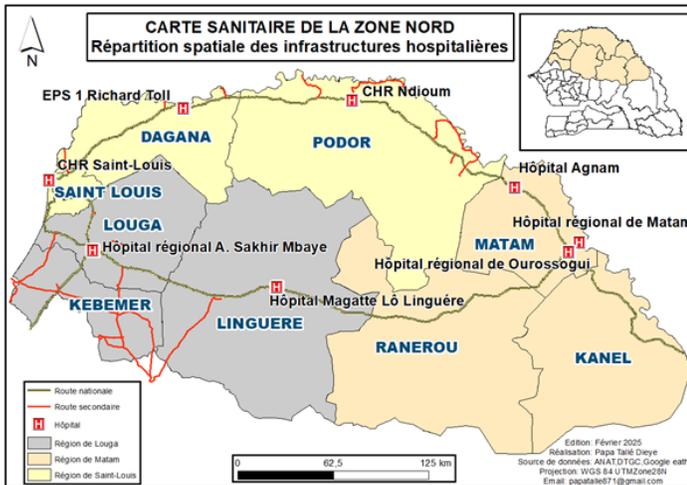


Figure 1: Map showing the distribution of public hospitals in the northern region.

Table 1: Summary of the results of the KAP survey of healthcare supervisors.

Main theme	Sub-themes	Illustrative quotes (verbatim)
Knowledge of the NP	Limited knowledge	"People don't understand the importance of the nursing process. The process is implemented by third-year nursing students or registered nurses (...)" (Surv.2)
	In-depth knowledge	"I am familiar with the NP; I learned about it during my nursing and obstetrics training (...). It allows us to monitor patients and provide quality care." (Surv.5)
Attitudes towards the NP	Favorable attitude	"It helps to identify problems and plan solutions. As we make corrections, our patients improve (...)" (Surv.3)
	Persistent misunderstandings	"Well, there's no resistance, but perhaps a little misunderstanding about the care process." (Surv.4)
Practices (application) of the NP	Structuring in stages	"The approach consists of five stages: data collection, data analysis and interpretation, formulation of the nursing diagnosis, and the nursing care plan (...)" (Surv.1)
	Contextualized application	"For a patient who is about to undergo hemodialysis, we really need to prepare them psychologically, explain the vascular access, give them dietary guidelines (...)" (Surv.7)
Limitations to implementation	Lack of training	"The main obstacle is the fact that the nurses working in the department are not trained in this. They are nursing assistants (...)" (Surv.6)
	Shortage of qualified staff	"In terms of ward staff, there is only one registered nurse here. The rest are not registered nurses (...)" (Surv.8)
	Work overload	"A provider receives more patients than they should; we can't follow all the steps of the NP." (Surv.11)
Needs and recommendations	Initial and continuing training	"It is better to start the DSI in the first year and extend it to nursing assistants (...)" (Surv.9)
	Institutional strengthening	"Ask the administration to organize training sessions so that staff can take ownership of this approach." (Surv.10)

[16,17]. In our study, this was achieved after iterative analysis of the interviews, when the participants' responses no longer revealed any emerging categories. This observation guided the decision to stop data collection [18].

Data processing

The audio recordings were transcribed verbatim and anonymized. Field notes were incorporated, and the corpus was then imported into analysis software (NVIVO, version 15). The analysis followed an inductive thematic approach inspired by Braun and Clarke [19,20], comprising the stages of familiarization with the data, initial line-by-line coding, construction and revision of themes, then definition, identification, and narration.

Ethical considerations

This study was approved by the Senegalese National Health Research Ethics Committee (CNER) in note no. 00000150/MSAS/CNER/SP dated June 13, 2025. Participants were informed of the purpose of this study and informed consent was obtained. The study was anonymous, and only members of the research team had access to the information collected.

Results

Table 1 presents a thematic summary of the results from the interviews. It highlights five main dimensions: knowledge, practices, attitudes (representations), barriers, and needs/recommendations related to NP (strengths and limitations). Each dimension is broken down into sub-themes, illustrated by representative verbatim quotes. This organization allows us to visualize the contrasts observed between in-depth knowledge and persistent gaps, between a favorable attitude and misunderstandings, as well as the main obstacles (lack of training, staff shortages, work overload) and the levers proposed by the participants (initial and continuing training, institutional strengthening).

Discussion

Knowledge of DSI and barriers to training

The verbatim transcripts highlight a lack of uniformity in the level of knowledge of the NP. On the one hand, service supervisors describe the methodical sequence and its clinical usefulness in detail; on the other hand, some admit to having a limited understanding. Two comments sum up this contrast: *"People don't know the importance of the nursing care process. The process is implemented by third-year nurses or registered nurses (...)"*; conversely: *"I am familiar with the NP, I learned about it during my nursing and midwifery training... It allows us to monitor patients and provide quality care. We identify needs and apply them."* This heterogeneity could be explained by a lack of training. Quantitative studies identify knowledge as the primary determinant of NP implementation [1,3,4,9,22]. When initial training is short or not focused on NP, adoption remains partial and its use intermittent [1,3,4,9,22].

Respondents advocate for progressive and early learning of IS: *"It is better to start in the first year of training and then extend it to nursing assistants."* The association between level of education,

and implementation is well documented. The earlier in the training program students are exposed to EHRs and their processes, the more robust their practice becomes [3,4,9]. In contexts of shortage, it is difficult to strike the right balance between training quickly and training adequately. Hence the value of short refresher modules on the use of NP in the workplace. These modules appear to be beneficial in critical units (emergency rooms, intensive care, hemodialysis) and in key functions (monitoring, communication, coordination) [3,4,9].

Three types of obstacles stand out. First, the lack of training and the presence of assistants who do not have NP skills: *"The main obstacle is... nursing assistants; their program does not include nursing care."* Second, excessive workloads and unfavorable nurse-to-patient ratios: *"A provider receives more patients than they should; it is impossible to follow all the steps of the NP."* Thirdly, the heterogeneity of career paths and frequent staff turnover undermine the accumulation of skills, the continuity of practices, and the capitalization of clinical experience. This organizational instability limits the consistent implementation of NP, as newly assigned nurses do not always receive appropriate support or continuing education. Seck and al. [8] emphasize that this situation compromises the systematization of clinical reasoning and the sustainable appropriation of key steps in the nursing process, particularly diagnosis and planning. The literature confirms these obstacles, as insufficient knowledge, a stressful work environment, staff shortages, and limited time all converge to create constraints on the implementation of NP [1,3,4,9].

Attitudes: favorable, but needing to be translated into action

The participants expressed a predominantly positive attitude: *"NP helps to identify problems, plan, and monitor progress."* *"It really helps... if we apply the nursing process, as we make corrections, we realize that our patients are progressing."* This view is consistent with empirical findings showing that, despite gaps in knowledge, attitudes toward NP are favorable [8,9,21]. However, a positive attitude is not enough: it must also be supported by: (i) favorable and concrete conditions for implementation (protocols, time, supervision) and (ii) common benchmarks [3,9].

From this study, we can conclude that a favorable attitude and unevenly distributed skills converge on one conclusion: the ability to implement EHRs depends on a combination of individual skills (knowledge, documentation expertise, clinical judgment), organizational resources (ratios, dedicated time, protocols, templates, supervision), and clinical leadership. When one of these three pillars is missing, the use of NP becomes problematic and dependent on individuals. The results provide a contextual specification: they show how NP are (or are not) implemented in departments and how training modulates the quality of application.

Practices: a methodical ideal confronted with constraints in the field

Among teams that have mastered it, the nursing diagnosis is described as a five-step scientific process: *"The process consists*

of five steps: data collection, data analysis and interpretation, formulation of the nursing diagnosis, and the nursing care plan (...)". A concrete application of this approach can be seen in the example of hemodialysis: "psychological preparation of the patient, therapeutic education, preparation of the vascular access site (arteriovenous fistula), dietary guidelines, support before/during/after". This structure makes the continuity of care clear and facilitates its evaluation. However, the use of the NP is limited when there is an increase in workload, a reduction in the availability of nurses, and the presence of assistants who are not trained in the NP. These factors thus limit the time devoted to assessment, diagnosis, and documentation of the care episode. Quantitative studies report that, in some hospitals, the steps of the nursing process are not followed systematically, with organization and resources accounting for a substantial part of the variance [3,4,8,9,22].

Several verbatim accounts describe a less vertical and more horizontal caregiver/patient relationship, focused on preparation, therapeutic education, and the involvement of the patient and their family and friends. The example of hemodialysis illustrates the added value of a structured approach: psychological preparation, explanation of the steps and vascular access, dietary guidelines, and ongoing support. The NP therefore provides an operational framework for these dimensions, linking diagnoses, shared objectives, and evaluation of results. In turn, traceability also makes these elements visible, facilitates interprofessional coordination, and supports continuous improvement. Study results indicate that this dual movement of structuring and visibility is a marker of successful NP implementation [1,22,23].

The NP becomes operational when it is made visible and shareable. "We have a monitoring sheet and a prescription sheet; hourly nursing planning has improved traceability and caregiver engagement." The combination of paper charts and computerized care records facilitates planning, prioritization, continuity, and evaluation [2,23]. Nevertheless, cognitive aids are not enough. Without clinical guidance and a culture of use, generic templates remain formal and insufficient.

The convergence between IS and leadership emerges from the results as a determining factor. In units where close supervision structures file reviews and traceability follow-ups, IS ownership is better integrated. Leadership is not limited to "reminding people of the procedure": it must also organize work, arbitrate priorities, protect documentation time, and ensure regular feedback to teams. Meta-analyses confirm that nursing leadership is a major determinant of evidence-based practice and the sustainability of structured clinical processes [2,5,21,23].

At the end of this study, it would be interesting to focus on four main themes. (i) Initial and continuing education: A) integrate NP modules from the first year through the third year of training; B) offer refresher courses to nursing assistants and new hires; C) back each training course with formative feedback in the workplace

(structured bi-monthly feedback on a few cases) [1,3,4]. (ii) Clinical leadership: A) formalize review rituals (daily or biweekly planning meetings, targeted case reviews, feedback loops) and B) equip supervisors with tools for observation, supervision, coaching, and recognition of documentary work [2,5]. (iii) Tools: A) deploy standardized templates (assessment, diagnoses, planning, interventions, evaluation) in the care file; B) use simple traceability indicators (proportion of justified diagnoses, rate of updated plans, completeness of transmissions) [2,23]. (iv) Conditions: A) protect time for assessment and documentation; B) adapt ratios and schedules; C) clarify roles (including for nursing assistants), and D) provide structured supervision for new hires [1,3,9].

The limitations of this study relate to its contextual scope and the absence of systematic direct observation. A multi-site extension, file audits, and non-participant observations would make it possible to examine the conditions for transferability and refine the estimate of training and supervision needs.

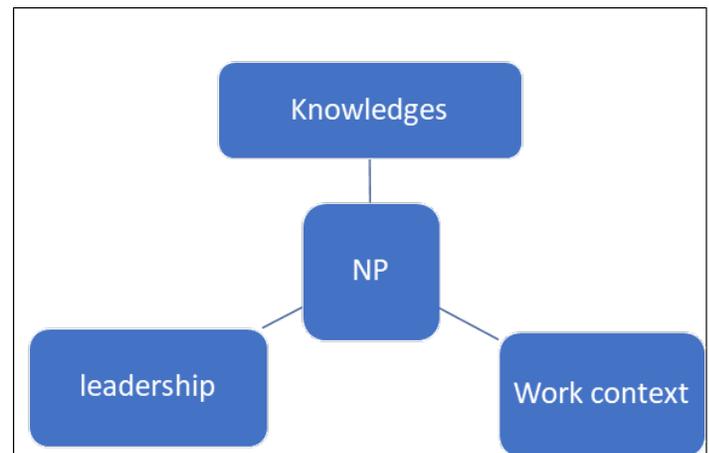


Figure 2: Conceptual model of factors influencing the implementation of the nursing process (NP).

Figure 2 above illustrates the interactions between three key dimensions of NP adoption: knowledge, leadership, and work context. Knowledge represents the cognitive foundation necessary for understanding and applying the approach. Nursing leadership refers to the ability of managers to motivate, supervise, and guide professional practices. The work context encompasses all the organizational, relational, and material conditions that promote or hinder the implementation of the NP. These three components interact dynamically to influence the quality, continuity, and traceability of care.

Following in-depth discussions, we have summarized the main recommendations in Table 2 below. This table is intended to facilitate the implementation of the proposed actions and guide the next steps.

Table 2: Recommendations.

Main theme	Recommendations
Initial and continuing education	<ul style="list-style-type: none">• Integrate IT modules from the first year through to the third year of training• Offer refresher courses to nursing assistants and new hires• Back up each training course with formative feedback in the workplace
Clinical leadership	<ul style="list-style-type: none">• Formalize review rituals• Equip supervisors with tools for observation, supervision, coaching, and recognition of documentary work
Tools	<ul style="list-style-type: none">• Deploy standardized templates• Use simple traceability indicators
Conditions	<ul style="list-style-type: none">• Set aside time for evaluation and documentation• Adapt ratios and schedules• Clarify roles• Provide structured supervision for new hires

Conclusion

Based on the feedback gathered, the NP appears to be a dynamic framework: methodical without being rigid, demanding but useful for quality, safety, and the care relationship. The similarities with the literature are clear: knowledge, work context, and leadership are the three key elements for successful implementation of the NP. The sources of reflection are based on combining training, working conditions, and clinical management so that the favorable intention to use the NP translates into routine, traceable, and assessable practices. This study has given us new and broader insight into the use of the NP in Senegal.

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