

Literature review

Clinical decision-making theories

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Abstract: Clinical decision-making is a cornerstone of healthcare, influencing patient diagnosis, treatment, and ongoing care. This article explores the multifaceted nature of clinical decision-making, emphasizing its significance, challenges, and implications for modern healthcare. It delves into three primary decision-making theories: the rationalist approach, which prioritizes evidence-based decision-making; the phenomenological approach, focusing on intuition and experience; and the hypothetic-deductive approach, which seeks a balance between the previous two. These theories, while offering valuable perspectives, must be applied with consideration of the complex factors that influence decision-making, including competence, confidence, organizational support, and the clinical environment. Ultimately, clinical decision-making is both an art and a science, demanding a nuanced understanding to ensure patient-centered care and improved healthcare outcomes.

Keywords: Clinical Decision-Making, Healthcare Decision Theories, Evidence-Based Practice, Clinical Judgment, Patient-Centered Care

Introduction

Clinical decision-making forms the bedrock of healthcare, guiding the labyrinthine journey of patient diagnosis, treatment, and ongoing care. At the intersection of human cognition, medical expertise, and patient data lies the challenging endeavor of making decisions that are both informed and impactful. As the complexity of healthcare delivery continues to burgeon, due in part to technological advancements and evolving patient needs, there emerges an undeniable urgency to grasp the underpinnings of how clinicians arrive at their judgments.

Historically, the decision-making process in clinical settings was perceived as an intuitive art, deeply rooted in a clinician's reservoir of experience and knowledge. This enigmatic process, wherein the seasoned physician, armed with years of experience, made judgments that seemed almost second nature, has long been revered. However, as the landscape of healthcare has evolved, the allure of this intuitive process has been juxtaposed against the pressing need for structured, evidence-based decision-making models. The exigencies of modern healthcare—with its emphasis on evidence-based practices, patient safety, and a heightened awareness of medical errors—mandate a deeper understanding of the mechanisms that guide clinical decisions.

Understanding clinical decision-making is not merely an exercise in academic curiosity; it holds profound practical implications. Every day, healthcare professionals worldwide face a plethora of decisions, each with its own set of challenges and repercussions. These decisions range from the seemingly mundane to the critically pivotal, each one impacting the trajectory of a patient's care. By dissecting the mechanisms that underlie these decisions, there's potential to elevate the quality of care, reduce the incidence of errors, and better align clinical judgments with best practice guidelines and patient preferences.

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Furthermore, the decision-making process does not exist in a vacuum. It's intricately intertwined with the modern healthcare milieu. The advent of advanced diagnostics, the exponential growth of medical literature, and the ubiquity of electronic health records have collectively reshaped the contours of clinical decision-making. With a veritable deluge of information at their fingertips, clinicians face the double-edged sword of "infobesity" - the overwhelming nature of excessive information. This underscores the importance of robust decision-making models that can aid clinicians in distilling vast amounts of data into coherent, actionable insights.

Additionally, there's a growing emphasis on patient-centered care, which champions the integration of patients' values, beliefs, and preferences into the decision-making equation. This shift towards a more collaborative model challenges traditional hierarchies in healthcare and underscores the necessity for theories that encapsulate this evolving dynamic.

Beyond the tangible aspects of healthcare, clinical decisions are also deeply embedded in ethical terrains. They navigate the nuanced realms of patient autonomy, beneficence, and broader considerations of population health. Thus, any exploration of clinical decision-making theories must also be cognizant of these ethical dimensions, recognizing their indelible influence on clinical judgments.

In the forthcoming sections, we shall embark on a comprehensive exploration of the intricacies of clinical decision-making, examining its significance, challenges, and broader implications. Through this journey, we aspire to shed light on the myriad factors that shape clinical judgments, emphasizing their pivotal role in the overarching narrative of patient care.

Understanding Clinical Decision-making Theories

Clinical decision making is an essential part of clinical practice, and yet the term itself is a bit ambiguous. There are numerous definitions and approaches, and still, none seems to be complete. There is no single universal definition of clinical decision making, and there are many overlapping terms used to describe the same construct like clinical judgment, clinical reasoning, diagnostic reasoning, and so on [1].

Understanding of various decision-making theories may help improve clinical judgment and outcomes. There is always a need to justify professional decisions. Emergency nurses often face tough decisions, as they have to make conclusions based on the minimal available information, they are under the time pressure, and yet they need to justify and explain their decisions, demonstrate accountability [2].

Although there are many decisions making theories, this article looks at the approaches more commonly used in medical practice.

A rationalist approach to decision making

This approach is based on making informed decisions, an evidence-based approach. Decisions are made based on the highest degree of clinical evidence like data available from random controlled trials, systematic reviews, and meta-analysis. Such an approach removes the scope of uncertainties from the decisions taking. It is a step by step approach involving identification of the problem, exploring the options, and then making a choice. It breaks the complex task into smaller and manageable pieces of information [3,4]. In this kind of approach, the decision maker has a clearly defined problem, knows all the action alternatives and their consequences, and decision maker must choose the most optimum alternative. To a certain degree, it is an idealistic theory [1]. Supporters of this theory believe that it is the only way to move forward, despite its known limitations. Some specialists think that only such an approach can help medical science move forward [5].

However, this theory clearly has some drawback, as decision making with such an approach is time taking, and such a method may not suit for quick decision making like that in the A&E department. Further, in the chaotic world, data is often missing for various reasons. Not all clinical conditions can be supported by hard evidence, trends, information [5]. In the

real world, nurses or other medical staff is faced with complex situations where there is a lack of information, not enough cues to judge the condition rationally.

Phenomenological approach to decision making

This approach is also called intuitive approach and is known through the work of Benner. It is most commonly mentioned in the context of quick decision making in clinical practice. There is no single definition of intuitive or a phenomenological approach, and many describe it as an understanding without rationale. It is something that becomes better with professional experience as one learns to recognise specific patterns. It is said that a higher level of intuitive approach distinguishes expert from the novice [6]. There is poor understanding about how it occurs; it is a judgment or reasoning that just happens; even the decision makers are not able to explain the reason behind their choices. Novices can also have intuition, but they have higher chances of going wrong. Benner describes this approach as one of the significant characteristics of experienced medical professionals and nurses, as experienced professionals are not just dependent on analytical thinking.

Strength of this decision-making process lies in its speed, as decision maker is not dependent on the data analysis. It means that this method is well suited when quick decisions must be taken when the situation is uncertain and risky. It does not mean that there is no science behind the intuitive thinking, as it is based on the experience, pattern recognition, common sense, sense of salience, skills earned over the years, and use of rationality to a degree [7].

The supporters of the theory say that there is a limitation to relying on the data and rational thinking. In many cases, data is merely not available. Moreover, in certain clinical situations, there is an acute shortage of time. Additionally, even the evidence-based guidelines heavily rely on expert opinions [5].

However, not everyone agrees with intuitive theory, as there is no justification for decision making, and it has implications for accountability. Critics say that decision makers may use this approach to ease the cognitive work involved in rational or deductive approaches. One may base a decision on just one single piece of information. Or one may use it as a rationale to confirm one's perceptions. Moreover, this theory has a very narrow application, and one cannot use this theory of decision making out in areas of less experience. Many think that this theory contradicts the science, on which the whole medical field is based. While others argue that pure intuition does not exist as expertise is always based on extensive knowledge, and an experienced professional is a person with abundant knowledge of the subject. Thus the decision that may be seen intuitive is still based on knowledge and rationale [1].

Hypothetic-deductive approach to decision making

Also called information-processing theory is the most common theory used in medical research and clinical decision making. It has four major stages. The first stage is about gathering preliminary information about the patient by going through a patient's history, physical examination. There is a need for a systematic approach else one may miss the vital information; further, the accuracy of collected information also depends on the clinical skills of the specialist. It is essential that the thought process should follow a certain logic. The second step is the hypothesis generation when a specialist needs to make some initial conclusion regarding the disease condition based on the information gathered, experience, and knowledge/education. The third step is the clue interpretations. This step involves checking the validity of clues from step one against the generated hypothesis. It is about deciding which clue is relevant and which does not hold relevance. Finally, in the fourth stage, one must see if the hypothesis can be confirmed or not. This final stage also involves diagnostic reasoning. Studies show that this model is the most commonly used model by nurses and medical practitioners. Further, in this method, the nurse may frequently corroborate with colleagues to validate their knowledge and interpretations. However, sometimes need for verification is required as a person is not able to reach the decision. This model has its drawbacks too, as it is quite reliant on the decision trees, which are not perfect and may have inaccuracies resulting in false deductions. A person may have the wrong hypothesis. Further, most decisions trees assume that all the information is available at the time of deduction, which is not the case in

practice. Moreover, it is not an entirely rational approach; further, some nurses may start to use intuition in the process, though it may happen unconsciously [8].

Some of the factors influencing clinical decision making

There are many factors that may facilitate or inhibit decision making in nursing and medical practice. Feeling competent can improve decision making, which is highly dependent on the knowledge level and experience of the nursing staff. Self-confidence can also boost decision making in clinical situations. A confident person is self-reliant, independent, and proactive. Decision making is not only about knowledge or inherent qualities, and organisation structure may also influence the level of authority, organisational culture, tolerance to mistakes, degree of autonomy gives to various participants. Support provided by organisation and peers may also positively influence decision making. Like support from senior nursing staff, better financial and emotional support by the organisation. Finally, Continued education can help improve decision making [9,10]. A study by Gizaw shows that confident nurses are 3.4 times more probable to engage in decision making than less confident nurses. Nurses supported by senior staff are 2.8 times more probable to practice decision making. Nurses who do not get an opportunity for continued medical education are 79% less likely to make decisions. On the other hand, reduced patient-nurse ratio, poor organisational culture, lack of diagnostic facilities, poor communications between various stakeholders, lack of feedback, may inhibit decision making [11].

Discussion

Clinical decision-making, as described in the provided text, is not just a singular, straightforward process but rather a complex orchestration of various theories and influencing factors. Its profound importance in patient care necessitates a deep understanding and, when possible, a mastery of its nuances. In analyzing the body of the article, we are presented with a rich tapestry of perspectives, shedding light on the multifaceted nature of this essential aspect of medical practice.

The rationalist approach to decision-making seems to champion an era of evidence-based medicine, an era where every decision made in the clinic is underpinned by rigorous research and empirical data. This perspective underscores a methodical, step-by-step evaluation, where decisions evolve from a foundation built on systematic reviews, randomized controlled trials, and meta-analyses. However, while its systematic nature is undoubtedly a strength, especially in scenarios demanding meticulous assessment, its applicability might be constrained in high-pressure, time-sensitive situations, like those in emergency departments. Real-world scenarios are often fraught with information gaps, necessitating a more adaptive approach than a purely rationalist one.

Contrastingly, the phenomenological approach dives into the more elusive realm of intuition. Grounded in experience and pattern recognition, this theory suggests that seasoned professionals often have an innate understanding, an intuitive 'knowing,' which enables them to make decisions swiftly. Benner's work highlights how this intuition differentiates novices from experts. While the speed and efficiency of intuitive decision-making can be invaluable in certain clinical settings, especially when rapid judgments are crucial, its potential for subjectivity can't be overlooked. Sole reliance on intuition, absent empirical checks and balances, might introduce biases, with implications for patient care and professional accountability.

Attempting to harmonize the strengths of both the previous theories is the hypothetic-deductive approach. By championing a systematic process of gathering patient data, forming hypotheses, interpreting clues, and validating these assumptions, this method endeavors to combine the methodical nature of the rationalist approach with the adaptability of the phenomenological perspective. Yet, while it's a balanced method on paper, its real-world implementation can sometimes be hindered. Dependencies on decision trees, which might not fully encapsulate the complexity of certain clinical situations, and potential inaccuracies arising from this reliance, are pertinent considerations.

Beyond the theories themselves, the text brings to the forefront the myriad external and internal factors influencing clinical decision-making. Competence, confidence, and experience

emerge as cornerstones, serving as both drivers and reflections of sound clinical judgment. An environment that fosters learning, offers robust support mechanisms, and encourages continuous professional development further augments decision-making prowess. On the flip side, challenges like reduced patient-nurse ratios, poor organizational culture, and gaps in communication can potentially impede the process. Thus, while the theories offer the framework, it's these influencing factors that modulate the practical application of decision-making in clinical settings.

Conclusion

The act of clinical decision-making, as painted by the article, is both an art and a science. It demands a seamless integration of empirical data, intuition, experience, and a deep understanding of the unique circumstances surrounding each patient. While the three presented theories offer valuable insights into the potential pathways of decision-making, real-world scenarios often necessitate a blended approach. As healthcare professionals navigate this intricate maze, recognizing the strengths and limitations of each theory and the influencing factors becomes paramount. Such an understanding ensures that patient care remains holistic, informed, and, above all, patient-centric.

References

- [1] Shaban R. Theories of clinical judgment and decision-making: A review of the theoretical literature. *Australas J Paramed* [Internet]. 2015 [cited 2019 May 25];3. Available from: <https://ajp.paramedics.org/index.php/ajp/article/view/308>.
- [2] Evans C. Clinical decision making theories: patient assessment in A&E. *Emerg Nurse*. 2005;13.
- [3] Thompson C, Cullum N, McCaughan D, et al. Nurses, information use, and clinical decision making—the real world potential for evidence-based decisions in nursing. *Evid Based Nurs*. 2004;7:68–72.
- [4] Wolfs CAG, de Vugt ME, Verkaaik M, et al. Rational decision-making about treatment and care in dementia: A contradiction in terms? *Patient Educ Couns*. 2012;87:43–48.
- [5] Lanier WL, Rajkumar SV. Empiricism and Rationalism in Medicine: Can 2 Competing Philosophies Coexist to Improve the Quality of Medical Care? *Mayo Clin Proc*. 2013;88:1042–1045.
- [6] Bjørk IT, Hamilton GA. Clinical Decision Making of Nurses Working in Hospital Settings. *Nurs Res Pract*. 2011;2011:8.
- [7] Stinson KJ. Benner's Framework and Clinical Decision-Making in the Critical Care Environment. *Nurs Sci Q*. 2017;30:52–57.
- [8] Banning M. A review of clinical decision making: models and current research. *J Clin Nurs*. 2007;0:070621074500075-???
- [9] Hagbaghery MA, Salsali M, Ahmadi F. The factors facilitating and inhibiting effective clinical decision-making in nursing: a qualitative study. *BMC Nurs*. 2004;3:2.
- [10] Wu M, Yang J, Liu L, et al. An Investigation of Factors Influencing Nurses' Clinical Decision-Making Skills. *West J Nurs Res*. 2016;38:974–991.
- [11] Gizaw A. Factors Affecting Clinical Decision- Making Practice among Nurses Working in Jimma University Medical Center; Jimma Southwest Ethiopia. 2018;5:7.