

# Unraveling the Mind: How Cognitive Biases Shape Nurses' Decision-Making

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## ABSTRACT

Cognitive biases play a significant role in shaping human decision-making processes across various domains. In the healthcare sector, nurses are crucial decision-makers responsible for patient care. This article explores the impact of cognitive biases on nurses' decision-making processes, with a focus on recent research findings and relevant examples from nursing contexts. Understanding these biases is essential for improving patient care, reducing medical errors, and enhancing the overall quality of healthcare delivery.

**KEYWORDS:** Nurses, Decision-making, Cognitive biases, Healthcare, Patient care

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## INTRODUCTION

Nursing is a profession where quick and accurate decision-making is paramount. Nurses are entrusted with making critical decisions that can significantly impact patient outcomes. However, like all humans, nurses are susceptible to cognitive biases, which can lead to errors in judgment. Cognitive biases are systematic patterns of deviation from norm or rationality in judgment, often resulting in perceptual distortion, inaccurate judgment, illogical interpretation, or what is broadly called irrationality (Tversky & Kahneman, 1974).

This article will delve into several cognitive biases that influence nurses' decision-making processes, providing recent research insights and real-world examples from nursing contexts.

## Confirmation Bias:

Confirmation bias occurs when individuals tend to seek, interpret, and remember information that confirms their pre-existing beliefs while ignoring or discounting contradictory evidence (Nickerson, 1998). In nursing, confirmation bias may lead to nurses overlooking symptoms that do not align with their initial diagnosis. For instance, a nurse may prematurely conclude that a patient's chest pain is due to anxiety rather than considering the possibility of a heart condition, leading to delayed treatment.

Confirmation bias is a cognitive bias that can significantly impact nursing care. This bias occurs when individuals seek, interpret, and remember information that confirms their existing beliefs or preconceptions while ignoring or discounting

evidence that contradicts those beliefs. In nursing, confirmation bias can have serious consequences for patient care in various ways:

1. **Diagnostic Errors:** One of the most critical aspects of nursing care is accurate diagnosis. Confirmation bias can lead nurses to prematurely settle on a diagnosis based on their initial impression, overlooking important symptoms or alternative explanations. For example, if a nurse suspects a patient has a particular condition, they might interpret subsequent symptoms in a way that supports that diagnosis, even if there is evidence suggesting a different cause.
2. **Treatment Decisions:** Confirmation bias can influence treatment decisions. Nurses may favour treatments that align with their initial diagnosis, potentially leading to unnecessary interventions or overlooking more appropriate treatments based on new information.
3. **Medication Errors:** Nurses often administer medications to patients. Confirmation bias can influence medication administration if a nurse has a preconceived notion about the medication's effectiveness or safety. This bias can lead to errors in dosage or medication selection.
4. **Patient Assessment:** In nursing assessments, confirmation bias can affect how nurses collect and interpret patient data. If a nurse expects a patient to be in a particular condition, they may inadvertently focus on symptoms that confirm their expectation and overlook critical signs that indicate a different problem.
5. **Infection Control:** Infection control is a vital aspect of nursing care, especially in healthcare settings. Confirmation bias can lead to lapses in infection control practices if nurses believe that a patient is not at risk, even when contrary evidence emerges.

### **Anchoring Bias:**

Anchoring bias occurs when individuals rely too heavily on the first piece of information encountered when making decisions. In nursing, anchoring bias can manifest when nurses fixate on an initial diagnosis without considering alternative possibilities. For instance, if a patient's initial blood pressure reading is high, a nurse may anchor their assessment on hypertension, overlooking other potential causes of elevated blood pressure, such as pain or anxiety.

Anchoring bias is a cognitive bias where individuals rely too heavily on the first piece of

information they encounter (the "anchor") when making decisions, rather than objectively evaluating all available data. In nursing, this bias can manifest when a nurse's initial assessment or diagnosis becomes the dominant reference point, potentially leading to errors in judgment.

### **Implications for Nursing Care**

1. **Delayed or Missed Diagnoses:** When nurses anchor their assessments to an initial diagnosis or impression, they may overlook crucial information that contradicts this anchor. This can result in delays in diagnosing critical conditions or completely missing alternative diagnoses.

*Example:* A nurse who anchors on the assumption that a patient's chest pain is due to anxiety might overlook symptoms of a heart attack, delaying life-saving interventions.

2. **Ineffective Treatment Plans:** Anchoring can lead to the development of treatment plans based on the initial anchor, even if it's not the most appropriate course of action. This may result in ineffective or potentially harmful treatments.

*Example:* A nurse who anchors on a misdiagnosis of pneumonia might administer antibiotics unnecessarily, exposing the patient to unnecessary risks.

3. **Failure to Reassess:** Anchoring bias can deter nurses from re-evaluating a patient's condition as new information becomes available, as they remain anchored to their initial assessment.

*Example:* Despite worsening vital signs, a nurse may not consider alternative diagnoses because they are anchored on their initial assessment, leading to delayed interventions.

### **Availability Heuristic:**

The availability heuristic is the tendency to overestimate the likelihood of events based on their immediate availability in memory. In a nursing context, this bias can lead nurses to make decisions based on memorable or recent cases rather than objectively assessing the current patient's condition. For example, a nurse who recently encountered a rare allergic reaction may overestimate the likelihood of encountering similar cases, potentially overlooking more common medical issues.

The availability heuristic is a cognitive bias that influences decision-making, and it can also have a notable impact in the field of nursing care. This bias occurs when individuals make judgments or decisions based on the ease with which information comes to mind or is readily available, rather than relying on more systematic and comprehensive analysis of data.

In the context of nursing care, the availability heuristic can manifest in several ways:

1. **Overemphasis on Recent Cases:** Nurses may give more weight to cases or patient experiences that are fresh in their memory. For example, if a nurse has recently cared for a patient with a rare condition, they may become more vigilant about that condition, potentially leading to overdiagnosis or unnecessary testing in subsequent patients.
2. **Neglect of Less Memorable Cases:** Conversely, cases that are less memorable or less emotionally charged may receive less attention. Nurses might underestimate the prevalence or significance of certain conditions or symptoms because they haven't encountered them recently.
3. **Influence of Media and News:** News reports or high-profile cases can also impact nurses' perceptions. If a particular medical issue has received significant media attention, nurses may overestimate its occurrence or importance in their patient population.
4. **Peer Influence:** Discussions with colleagues and peers can reinforce the availability heuristic. If nurses frequently share stories of challenging cases or unique patient experiences, it can influence the perceptions of others and lead to biases in decision-making.

The availability heuristic can have both positive and negative effects on nursing care. On the positive side, it can make nurses more attuned to recent developments or emerging healthcare issues, potentially leading to improved patient care. However, on the negative side, it can lead to overdiagnosis, unnecessary testing, or biased clinical judgments if not tempered with evidence-based practice.

### **Sunk Cost Fallacy:**

The sunk cost fallacy occurs when individuals continue to invest resources (time, effort, or money) into a decision based on the cumulative costs incurred, rather than evaluating the decision's current merits. In nursing, this bias can lead to persisting with a treatment plan even when it is no longer in the patient's best interest. For instance, if a patient has been on a specific medication for an extended period, a nurse may be reluctant to discontinue it, even if it is causing adverse effects.

Nursing care is often characterized by complex decision-making processes, where healthcare professionals must weigh various factors to provide the best possible care for patients. One cognitive bias that can influence nurses' decisions is the Sunk Cost

Fallacy. This fallacy occurs when individuals persist with a decision or course of action based on the cumulative costs already incurred, rather than objectively evaluating the current situation. In nursing, the Sunk Cost Fallacy can have significant implications for patient care and safety.

### **Understanding the Sunk Cost Fallacy**

The Sunk Cost Fallacy in nursing care can manifest in several ways:

1. **Continuing Ineffective Treatment:** Nurses may persist with a particular treatment plan or intervention even if it's not producing the desired outcomes. This could be due to the time, effort, or resources already invested in the treatment, leading to a reluctance to change course.
2. **Avoiding Necessary Consultations:** Nurses might hesitate to consult with other healthcare professionals or specialists when faced with a challenging case. This reluctance may arise because they want to avoid the perception of wasted time or resources, even if a second opinion is warranted.
3. **Delaying Difficult Conversations:** When a patient's condition deteriorates or a treatment plan is no longer appropriate, nurses may delay difficult conversations with patients and their families. This can result from an emotional attachment to the current course of action and a desire to avoid acknowledging its potential futility.

### **Real-World Example**

Consider a scenario where a patient with a chronic illness is receiving a particular medication that is no longer effective. The nurse responsible for the patient's care may hesitate to discontinue the medication and explore alternative treatment options. This hesitation could be driven by the belief that the time, effort, and resources invested in administering the medication would be wasted if it were discontinued. However, the patient's health deteriorates further, and valuable time for alternative interventions is lost due to the persistence in administering an ineffective treatment.

### **Outcome Bias:**

Outcome bias involves judging the quality of a decision based on the outcome rather than the decision-making process itself. In nursing, this can lead to nurses receiving unwarranted praise or criticism based solely on patient outcomes, rather than evaluating the soundness of their clinical judgment. For example, if a nurse makes a risky decision that leads to a positive outcome, they may be

praised despite the high potential for adverse consequences.

In nursing, decisions are made continuously throughout patient care, ranging from treatment plans to medication administration and discharge planning. These decisions are influenced by a variety of factors, including the nurse's knowledge, experience, clinical judgment, and available information. However, the ultimate measure of success or failure is often the patient's health outcome.

Outcome bias can manifest in nursing care when nurses, patients, or other healthcare stakeholders judge the quality of a nurse's decision based solely on the patient's outcome. This means that if a patient's condition improves, the nurse's decisions leading to that outcome may be seen as excellent, even if the decision-making process was flawed or risky. Conversely, if a patient's condition worsens or an adverse event occurs, the nurse's decisions may be criticized, even if they followed best practices and standards of care.

#### Implications of Outcome Bias in Nursing Care:

1. **Risk Aversion:** Nurses may become risk-averse, fearing criticism or negative consequences for making challenging but necessary decisions. This can lead to a conservative approach that may not always be in the patient's best interest.
2. **Underreporting of Errors:** Nurses might hesitate to report errors or near misses for fear of the potential negative impact on their reputation if the outcome is unfavourable.
3. **Overconfidence:** Positive outcomes might lead nurses to overestimate the effectiveness of their decisions, potentially reinforcing biases and hindering opportunities for learning and improvement.
4. **Patient Satisfaction:** Patient and family satisfaction surveys often focus on outcomes. Nurses may feel pressured to prioritize patient satisfaction over evidence-based care to avoid negative feedback.

#### Mitigating Cognitive Biases in Nursing Practice

Mitigating cognitive biases in nursing practice is imperative for ensuring patient safety and optimal care. Several strategies can be employed:

1. **Education and Training:** Incorporate cognitive bias awareness and mitigation strategies into nursing education and ongoing training programs.
2. **Checklists and Decision Support Tools:** Implement decision support tools and checklists to encourage systematic and evidence-based decision-making, reducing reliance on intuition.

3. **Interprofessional Collaboration:** Foster collaboration with other healthcare professionals, encouraging diverse perspectives that can help identify and rectify biases.
4. **Feedback and Reflection:** Encourage nurses to reflect on their decision-making processes and seek feedback from peers and mentors.
5. **Simulation Training:** Use simulation scenarios to practice decision-making in high-stress situations, helping nurses recognize and address biases in a controlled environment.

#### Conclusion:

Cognitive biases are inherent in human decision-making, including in the crucial field of nursing. Understanding these biases and their potential impact on nurses' decision-making processes is vital for improving patient care, reducing medical errors, and enhancing the quality of healthcare delivery. By recognizing and mitigating these biases, nurses can make more informed and objective decisions, ultimately benefiting both patients and the healthcare system as a whole.

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