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Implementing Evidence-Based Practice in Nursing: Bridging the Gap between Research and Patient Care

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Abstract:

Evidence-based practice (EBP) in nursing has evolved as a critical framework to enhance patient outcomes and ensure high-quality care. Rooted in integrating the best available research, clinical expertise, and patient values, EBP aligns nursing interventions with current scientific evidence while considering individual patient needs. The application of nursing theories within EBP provides a structured approach to understanding patient care, fostering a holistic and patient-centered model that respects cultural and personal preferences. This synergy between theory and practice encourages continuous improvement in clinical decision-making and patient satisfaction. However, implementing EBP in nursing faces numerous challenges, including resource constraints, time limitations, lack of organizational support, and variability in evidence quality. Facilitating EBP adoption requires a supportive environment, effective training, interdisciplinary collaboration, and embracing technology to streamline access to research. Nurse educators, researchers, and clinicians play vital roles in bridging the gap between theoretical knowledge and practical application. EBP has transformed nursing into a proactive, evidence-driven profession, emphasizing patient-centered care, professional development, and ethical responsibility. This paper explores the foundational components, benefits, implementation strategies, and barriers of EBP in nursing, underscoring the significance of integrating theory into practice to advance healthcare quality.

Keywords: Evidence-based practice, Nursing theory, Patient-centered care, Clinical decision-making, Nursing education, Interdisciplinary collaboration, Healthcare quality, Implementation barriers.

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Chapter 1: Introduction to Evidence-Based Practice in Nursing

Nursing, as a holistic discipline, is rooted in a combination of knowledge, compassion, and patient-centered care. Over time, various nursing theories have been developed as guiding frameworks that influence practice, education, and research within the field (Tamli & Sain, 2023). In the rapidly changing healthcare environment, aligning these theoretical frameworks with evidence-based practices is essential to delivering the highest quality of care (Abu-Baker et al., 2021). Nursing theories provide a conceptual structure that outlines the principles and philosophies of nursing, helping nurses to better understand the human experience of health, illness, and the interactions between patients, families, and healthcare providers (Bhatarasakoon & Chiaranai, 2024).

By addressing various aspects like communication, care delivery, and patient advocacy, nursing theories offer a well-rounded framework for meeting both the physical and emotional needs of patients. When nursing interventions are aligned with theoretical concepts, they become more focused and tailored, which can lead to improved patient outcomes (Shaban et al., 2024). Evidence-based practice (EBP) has become a core approach in nursing, integrating established clinical best practices, recent research findings, and patient preferences (Melnyk & Fineout-Overholt, 2022).

Despite the broad acceptance of EBP as a cornerstone of healthcare, a notable gap persists between research evidence and current practices (Melchert et al., 2024). EBP combines the best available evidence, patient values, and clinical experience (Engle et al., 2021). It is defined as a problem-solving approach to clinical practice, involving a systematic search and critical appraisal of the latest evidence to answer clinical questions while considering practitioners' expertise and patient values (Law & MacDermid, 2024).

A widely accepted definition by Sackett, Rosenberg, Gray, Haynes, and Richardson (1996) describes EBP as "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients by integrating individual clinical expertise with the best available external clinical evidence" (Bennett, 2024). EBP in nursing represents an ongoing effort for quality improvement, ensuring that care provided to patients is grounded in the latest research findings (Engle et al., 2021). Furthermore, EBP's integration in nursing considers established clinical practices, current research, and patient preferences (Degu et al., 2022).

The International Council of Nurses (ICN) defines EBP as a problem-solving approach to clinical decision-making that involves seeking the best and latest evidence, clinical expertise, assessment, and patient preferences and values, all within a caring context (Kerr & Rainey, 2021). EBP's nature is based on the integration of the best available research evidence, clinical expertise, and patient values (Nussbaumer-Streit et al., 2022).

Evidence-Based Practice (EBP) serves as the foundation of contemporary healthcare by integrating the highest quality research evidence with clinical expertise and patient values to guide decision-making (Almutlak et al., 2023). EBP ensures nursing interventions are rooted in scientific evidence, thereby enhancing patient outcomes and supporting effective and efficient care practices. It encourages nurses to critically assess research literature, consider its relevance to individual patients, and adjust their care plans accordingly (Naz & Ganaie, 2023).

EBP draws from three core components: the best available external evidence from healthcare research, clinical expertise, and patient values and preferences (Connor et al., 2023). This evidence may come from randomized controlled trials, other scientific studies, qualitative research, and case studies. Clinical expertise encompasses the skills and knowledge gained through education and experience. Notably, "external evidence can inform, but not replace, individual clinical experience, as it is the expertise that determines the applicability of external evidence to each patient" (Bench et al., 2024).

Patient values are also central, ensuring a person-centered approach that holds great importance in modern nursing (Dusin et al., 2023). Integrating research evidence with clinical expertise is fundamental to EBP, vital for enhancing patient care across various healthcare settings. Together, these components provide a robust framework that tailors care to individual needs while maintaining scientific integrity. This approach not only improves decision-making but also enhances patient outcomes from hospitals to community health settings (Nilsen et al., 2024).

The benefits of EBP come with the need for investment in time, personnel, and training. However, these investments yield significant rewards. In hospitals, clinics, and other healthcare environments, EBP supports clinicians in managing complex cases, promotes cost-effective treatments, and results in more consistent, reliable, and improved health outcomes. Adopting this holistic approach keeps nursing practices relevant, responsive, and committed to the highest care standards (O'Connell, 2024). Improved patient outcomes were observed in a scoping review that found various implemented evidence-based practices led to better patient outcomes and a positive return on investment (ROI) for healthcare systems (Clarke et al., 2021).

EBP also reduces healthcare costs by focusing on proven interventions and removing unnecessary or outdated practices. This not only optimizes resource allocation but also boosts the efficiency of patient care without compromising service quality (Nwosu, 2024). By applying the latest research systematically, nurses can reduce practice variations and provide patients with the best possible care, aligned with recent scientific advancements (Wang et al., 2023).

EBP safeguards patients by ensuring all receive the same high-standard care protocols, continuously refined and updated (Alqahtani, 2024). Additionally, EBP empowers nurses to lead in clinical decision-making, advocating for practices grounded in both research insights and their clinical expertise. This empowerment can boost job satisfaction and encourage ongoing education, helping nurses remain current with best practices. By fostering empowerment and lifelong learning, EBP encourages nurses to innovate in healthcare, elevating their roles and the quality of care they deliver (George et al., 2023).

Chapter 2: The core components of evidence-based practice

A key objective of evidence-based practice (EBP) is to provide nurses with the best available research findings to enhance quality healthcare delivery. This approach supports the development of nurses' problem-solving and decision-making abilities, helps keep them current with new knowledge, and strengthens clinical judgment and patient engagement in decision-making (Alqahtani et al., 2020). EBP can also positively impact the quality of nursing care by reducing uncertainty between patients and providers and promoting accountability among healthcare professionals (Kwame & Petrucka, 2021).

Furthermore, nurses who base their practice on evidence make efficient use of resources, increase patient satisfaction, and reduce ineffective or unnecessary interventions, leading to more cost-effective care for patients and organizations (Alqahtani et al., 2022). EBP is founded on three essential components that together create a comprehensive approach to delivering high-quality, evidence-based care (Talbott et al., 2023). These core elements are:

- 1. Best Available Evidence At the core of EBP is the use of the most current and relevant research. Peer-reviewed studies, systematic reviews, clinical guidelines, and well-designed trials all serve as valid sources to inform patient care decisions (Slavin, 2020).
- Clinical Expertise While EBP emphasizes using current research, clinicians must interpret this evidence
 through their clinical experience and understanding of patient needs. Nurses apply critical thinking to
 decide when and how to incorporate evidence, adapting it to individual patient circumstances (Cheung et
 al., 2025).
- 3. Patient Preferences and Values In EBP, patients are active participants in the care process rather than passive recipients. EBP respects and incorporates patient values, preferences, and beliefs, ensuring that

clinical decisions align with what is personally meaningful to each patient. This shared decision-making creates care that resonates on an individual level (Van Overbeeke et al., 2020).

Together, relevant evidence, clinical expertise, and patient preferences form the foundation for effective evidence-based healthcare (Zadvinskis et al., 2022).

Chapter 3: The basic steps to implement evidence-based practice in nursing

The implementation of Evidence-Based Interventions (EBIs) is a dynamic, multi-stage process, often described as progressing through four key phases: **Exploration**, **Preparation**, **Implementation**, and **Sustainment**. During **Exploration**, the potential for implementing an EBI is assessed, considering factors like its relevance and feasibility. **Preparation** involves detailed planning to execute the EBI effectively. In the **Implementation** phase, training and resources are provided to support the EBI's delivery. Finally, **Sustainment** ensures that the EBI is maintained consistently and accurately over time (Jaramillo et al., 2023). Each phase is shaped by numerous factors within both the internal and external environments.

In terms of **inner-context factors**, elements such as provider attitudes toward EBIs, the perceived fit and appropriateness of the intervention, and support from leadership are critical. The organizational climate and culture also play a significant role in whether new practices are readily adopted. **Outer-context factors** include funding arrangements, policies, and external influences that affect implementation outcomes (Neta et al., 2024). For nurses, applying research findings requires a thorough, critical appraisal of the evidence, taking into account its reliability, validity, and suitability for specific clinical settings. This process culminates in the integration of research findings into clinical guidelines and protocols, ultimately enhancing patient care and outcomes (LoBiondo-Wood & Haber, 2021).

According to the **American Nurses Association**, delivering quality patient care through evidence-based nursing practice follows a series of carefully structured steps. First, a clear and focused question about the patient's problem is formulated to establish a treatment goal (Dagne & Beshah, 2021). Next, relevant evidence is gathered by consulting reputable sources, including clinical articles, nursing research studies, and scholarly journals. The third step, analysis, involves evaluating the gathered studies to ensure their validity, quality, and relevance to the patient's needs (D. Paul Batalden, 2023).

In the **implementation phase**, evidence is applied in clinical settings where decisions are based on both nursing expertise and the newly acquired knowledge. The process concludes with an **evaluation** step, where outcomes are assessed to determine treatment effectiveness and its applicability to other patients. Research and evidence-based practice are thus inextricably linked in the pursuit of excellence in nursing, with ongoing assessments of EBP outcomes contributing to advances in patient care and adherence to high standards within the healthcare industry (Speroni et al., 2020; Spoon et al., 2020).

Evidence-based medicine implementation similarly involves structured steps, beginning with asking a clinical question. These questions are often categorized as **background** or **foreground** questions. Background questions cover broad, general information, such as "What are the side effects of morphine?" In contrast, **foreground questions** are specific and actionable, forming the foundation of EBP. Crafting a query using the **PICOT** format, which defines the patient group (P), intervention (I), comparison (C), outcome (O), and timeframe (T), helps in framing a clear and researchable question (Mohammed et al., 2023; Milner et al., 2024).

Finding the best evidence is essential in EBP, where information is ranked by levels of reliability. Understanding these levels aids practitioners in critically assessing research to make informed decisions for optimal patient care. Evidence is hierarchically ranked, beginning with **Level I** (systematic reviews and meta-analyses), which combine data from multiple studies to provide a comprehensive analysis of a clinical question. This rigorous synthesis of evidence is foundational in guiding healthcare decisions (Jamshidi & Pati, 2023).

Level II evidence consists of **Randomized Controlled Trials (RCTs)**, recognized as the gold standard for evaluating treatment efficacy by randomly assigning participants to intervention or control groups, thereby

minimizing bias (Svantesson et al., 2019). **Level III** includes controlled trials without randomization, which, though valuable, carry a greater risk of allocation bias due to the lack of random assignment (Siegel et al., 2023). **Level IV** evidence comprises cohort and case-control studies, where researchers observe groups with common characteristics over time or compare individuals with a specific condition to those without, exploring potential causal factors (Desai et al., 2019).

Level V evidence includes case reports, case series, and qualitative studies, which provide insights into unique cases and phenomena through detailed descriptions and qualitative methods like interviews (Paras et al., 2022). **Level VI**, the lowest evidence level, includes expert opinions and consensus statements, valued for insights when limited research is available but considered the least rigorous due to their subjective nature (Landes, 2020).

After gathering and critically appraising the evidence, it is integrated into clinical practice, where both clinical expertise and patient values are essential. As emphasized in the article "Critical appraisal skills are essential to informed decision-making," this integration requires balancing research findings with practitioners' clinical experience and patient preferences to tailor interventions to individual needs (Stone et al., 2023).

Evaluating clinical outcomes is crucial for assessing the real-world impact of evidence-based interventions. Systematic observation and measurement of indicators, such as pain scores, recovery times, and patient satisfaction, provide insights into the effectiveness of new protocols. For instance, when introducing a new pain management protocol for postoperative patients, outcome evaluation would involve analyzing changes in pain management metrics to assess its effectiveness (Geerts, 2024). This ongoing evaluation highlights areas for refining both the clinical question and the intervention approach, ensuring continuous improvement in patient care (Dziruni et al., 2024).

The final phase in the EBP cycle, **dissemination of results**, is pivotal for fostering the adoption of effective practices across the healthcare sector. Sharing outcomes and insights from EBP interventions through conferences, professional networks, and publications enables a broader reach, promoting the integration of successful strategies in diverse settings (Walker et al., 2024).

Chapter 3: strategies to implementing evidence-based practice in nursing

Implementing evidence-based practice (EBP) in nursing involves a transformative shift in routines, mindsets, and collaborative approaches among healthcare professionals or even within an entire healthcare organization. Transitioning to an EBP model may require a comprehensive review of operational processes to ensure alignment with evidence-based standards. To facilitate this transition, strategic approaches are essential to establish a sustainable foundation for evidence-based research within nursing (Zhao et al., 2022).

Creating a Supportive Environment – A supportive work environment is crucial to encourage engagement in EBP. This involves providing administrative support for research activities, allocating time for nurses to pursue educational opportunities related to EBP, and recognizing the efforts and achievements when EBP is successfully applied in clinical settings (O'Hara et al., 2022). Fostering a culture that values inquiry, curiosity, and continuous improvement encourages all healthcare staff to participate in and contribute to EBP initiatives, ultimately enhancing patient care quality.

Developing Proper Education and Training – For EBP to thrive, nurses need to be equipped with the skills to interpret and apply research findings effectively. Comprehensive training programs, including workshops, seminars, degree programs, and continuing education courses, are essential to cultivate these skills. Training in critical appraisal, statistical analysis, and the EBP process provides nurses with the competence needed to assess and implement evidence-based interventions confidently (Mabona et al., 2022; Clavijo-Chamorro et al., 2022).

Fostering Interdisciplinary Collaboration – Healthcare is inherently collaborative, and EBP projects benefit from the diverse expertise of professionals from various disciplines, including physicians,

pharmacists, and therapists. Interdisciplinary collaboration enables a well-rounded perspective on patient care and improves the design and implementation of EBP interventions. This shared responsibility fosters a sense of community and teamwork in improving patient outcomes (Combrinck et al., 2022).

Embracing Technology – Technological resources are indispensable for accessing and applying the latest research. User-friendly databases, mobile applications, and digital tools, supported by subscriptions and licenses, simplify the process of retrieving and using research evidence. Technology also facilitates the ongoing evaluation of EBP interventions, as it enables the monitoring of outcomes and collection of feedback, which is vital for assessing the effectiveness of evidence-based approaches (Weston, 2022; Raj et al., 2022).

By combining these strategies, EBP can become ingrained as a standard of care within healthcare organizations, enhancing both patient care quality and the professional development of nurses. Transitioning to EBP can be transformative, leading to improved patient care and outcomes (Weissfeld et al., 2024). While the success of EBP heavily depends on the organization's culture, nurses can take specific steps to contribute to its successful implementation.

Communicating Readily – Encouraging open communication among staff about research findings, best practices, and patient experiences helps demystify EBP and demonstrates its relevance to day-to-day nursing tasks. This dialogue fosters a shared understanding of EBP's importance and supports a collaborative approach to applying research insights (Rutten et al., 2021).

Investing in Training and Ongoing Education – Continuous education is vital to staying current with the latest evidence and clinical decision-making methodologies. Regular workshops, seminars, and e-learning platforms are effective ways to enhance nurses' skills and confidence in EBP. Pursuing advanced degrees, including online nursing programs, can significantly boost nurses' proficiency in understanding and applying evidence-based methods, further enriching patient care (Melnyk et al., 2021).

Cultivating a Culture of Lifelong Learning – Creating an organizational culture that prioritizes learning and professional growth is essential to foster a commitment to EBP. Actively promoting participation in research, rewarding innovative contributions, and supporting advanced studies are all ways to nurture a love for continuous learning. This environment inspires nurses to remain curious, challenge conventional practices, and embrace new evidence that can enhance patient outcomes (Unsworth et al., 2024; Zajac et al., 2021).

Through focusing on these elements, nurses can lead the way in navigating the complexities of EBP with confidence and skill, embodying the highest standards of care envisioned by the nursing profession (Duff et al., 2020). EBP not only elevates nursing practice but also drives significant improvements in healthcare quality and effectiveness, reinforcing the commitment to excellence in patient care.

Chapter 4: Barriers of implementation of evidence-based interventions

The practicality of innovations in nursing, such as ease of use, cost-effectiveness, and time efficiency, is crucial for community nurses when considering evidence-based practices. Innovations that save clinical time, are affordable, and are simple to implement are more readily adopted within healthcare settings (McArthur et al., 2021). However, despite the multiple benefits associated with evidence-based care, nurses often face a range of challenges in implementing this approach in practice. Common barriers include time limitations, inadequate staffing, budgetary constraints, lack of resources, knowledge gaps, and a lack of organizational support. Key facilitators, on the other hand, are supportive leadership, presence of dedicated EBP champions, well-structured strategies and protocols, and access to sufficient resources and time (Peters-Corbett et al., 2024).

Resource Constraints – A significant limitation in implementing EBP is the availability of time and financial resources. Nursing practice, like most healthcare fields, requires substantial resources, and time is particularly valuable. Many healthcare organizations already struggle with staffing issues, which limits their ability to allocate time for nurses to engage in the research necessary to support EBP. Budgetary constraints

further hinder implementation, as the cost of resources required to enact research findings can exceed available funding, even if the findings are well-supported (Le et al., 2022; Melnyk et al., 2021).

Necessary Experience Level – EBP is inherently limited by its focus on clinical research, which may not always be directly applicable to individual cases. Integrating clinical judgment and patient preferences with external research evidence can be challenging, especially for nurses with less experience in a clinical setting. Newer nurses, or those without extensive practice experience, may find it difficult to balance research-based knowledge with the nuances of clinical judgment and patient-centered care (Cowie et al., 2020).

Availability and Quality of Evidence – The quantity and quality of available evidence to support EBP guidelines vary widely depending on the topic, population, setting, and intervention. Sometimes, the evidence may be outdated, biased, or conflicting, which can limit its practical application. Discrepancies in evidence quality can create significant barriers for nurses attempting to apply EBP in specific cases, as they must critically assess the relevance of available research (Milam et al., 2024).

Organizational and Personal Readiness – Implementation of EBP also depends heavily on both the organization's and individual nurse's readiness to embrace it. Factors such as awareness of EBP's importance, a documented knowledge base, resource accessibility, and a supportive organizational culture influence EBP adoption. Additionally, the time needed for full implementation is a consideration, as healthcare professionals must balance other duties with learning and applying new practices (Furuki et al., 2023). Studies indicate that limitations in EBP implementation include knowledge deficits, limited time to locate research reports, difficulties in interpreting research findings, resource shortages, lack of support, and inadequate financial and material resources (Xia et al., 2023).

Impact of Nurse Characteristics – The education and experience level of nurses also play a role in their perception of EBP implementation barriers. Senior nurses, especially those in leadership roles or with prior EBP training, are often more inclined to apply evidence-based practices. This suggests that nurses' background, including their level of education and professional development, influences their willingness and ability to adopt EBP (Schetaki et al., 2023).

Challenges in Guideline Implementation – Incorporating EBP guidelines into routine healthcare can be unpredictable and may require a trial-and-error approach, which can be costly and ineffective. These strategies have often resulted in variable outcomes in terms of guideline dissemination and implementation. As such, healthcare organizations must carefully plan and evaluate the processes for introducing EBP guidelines to ensure consistency and efficacy in patient care (Megersa et al., 2023).

Overall, while EBP offers a robust framework for improving patient outcomes, the obstacles to its full adoption remain substantial. Addressing these barriers through resource allocation, enhanced training, and supportive organizational policies can help bridge the gap between research and practice in nursing.

Chapter 5: The Gap between Research and Patient Care

Nursing care plays a pivotal role in delivering quality care grounded in the best available evidence, positioning evidence-based practice (EBP) as a transformative shift in nursing care (Livingood et al., 2020). Bridging the gap between scholarly evidence and hands-on patient care is a complex endeavor that demands extensive resources but is essential for advancing nursing and all medical practices. Implementing EBP is not merely a one-time developmental milestone; rather, it is an iterative cycle that involves continuous discovery, integration, and evaluation to sustain and enhance practice effectiveness (McNett et al., 2021).

The incorporation of nursing theory into EBP is more than just a merger of separate components; it creates a powerful synergy that elevates the quality of care provided. Nursing theories serve as frameworks that aid in understanding human responses to illness, which can be instrumental in shaping research questions and interpreting study findings (Joyce et al., 2020). These theories also underscore the importance of each patient's unique experience, fostering a patient-centered approach in EBP that respects individual preferences, values, and cultural contexts (Robinson et al., 2020).

In the evolving healthcare landscape, the integration of nursing theory into EBP is a catalyst for improving patient care and advancing the nursing profession. This synergy not only narrows the divide between empirical research and patient-centered care but also amplifies the impact of nursing interventions (De Geest et al., 2020). Nursing theories provide a conceptual guide for understanding the intricacies of patient care. When integrated with EBP, these theories shape clinical decision-making, aligning interventions with the foundational principles of nursing practice (McCartney & Fu, 2022).

For example, Jean Watson's "Theory of Human Caring" emphasizes creating a compassionate and empathetic nurse-patient relationship. Integrating this theory into EBP encourages nurses to prioritize communication and emotional support, fostering a holistic, patient-centered care model (Brownson et al., 2022). Nursing theories have evolved to be guiding frameworks for practice, education, and research within the nursing field (Cardoso et al., 2021).

Though scientific research has historically guided clinical decisions, interest in an explicit EBP model has surged in recent decades, recognizing it as a pivotal element in healthcare quality and patient outcomes (Halawa et al., 2020). Engaging the community, including stakeholders, as equal partners in developing community-based interventions ensures that scientific evidence is harmonized with community knowledge for effective intervention planning. EBP has thus emerged as a critical approach to enhancing healthcare quality and outcomes (Tucker et al., 2021).

Incorporating nursing theories into EBP highlights the importance of customizing care to each patient, taking into account their preferences, values, and cultural backgrounds. This personalized care approach not only improves patient satisfaction but also fosters collaboration throughout the patient's care journey (Lunden et al., 2021). By embedding the theoretical foundation of holistic nursing care into evidence-based interventions, nurses can address both the physical and emotional aspects of patient well-being. This synergy between nursing theory and EBP is influential in shaping the nursing research agenda (Chen et al., 2021).

For instance, Madeleine Leininger's "Transcultural Nursing Theory" can inspire research on the impact of cultural competence on patient outcomes. Pursuing research aligned with nursing theories advances the profession not only through empirical evidence but also by enriching theoretical frameworks with real-world insights (Breen & Moullin, 2022). Integrating nursing theory into EBP reinforces the professional identity and ethical core of nursing. Theoretical frameworks emphasize empathy, compassion, and patient advocacy. When these values are interwoven with evidence-based care, nurses deliver care that is not only effective but also ethically responsible (Porritt et al., 2023).

Collaboration among nurse educators, researchers, and clinicians is essential for effective integration. Nurse educators can emphasize the relevance of nursing theories during training, researchers can validate and refine these theories in practical settings, and clinicians can offer insights on theory application in patient care (Powers, 2020). This collaboration bridges the gap between research and patient-centered care, advancing nursing to a higher standard of practice. It also emphasizes viewing the patient as a whole and customizing interventions to address individual needs (Finne et al., 2022).

As nursing continues to develop, the collaboration between theory and EBP remains foundational in delivering exceptional, holistic care worldwide. This synergy between nursing theory and EBP is transformative, combining theoretical insights with empirical rigor to provide care that is comprehensive, patient-centered, and ethically grounded (Wood et al., 2020). Fostering this synergy is essential for advancing the nursing profession and, most importantly, for ensuring the well-being of patients entrusted to our care (Ginex, 2021).

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