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PSYCHOLOGICAL, BIOETHICAL, AND CARE-RELATED ASPECTS OF BLOOD TRANSFUSION: AN INTEGRATIVE LITERATURE REVIEW

ASPECTOS PSICOLÓGICOS, BIOÉTICOS E ASSISTENCIAIS RELACIONADOS À TRANSFUSÃO SANGUÍNEA: REVISÃO INTEGRATIVA DA LITERATURA

ASPECTOS PSICOLÓGICOS, BIOÉTICOS Y ASISTENCIALES RELACIONADOS CON LA TRANSFUSIÓN SANGUÍNEA: REVISIÓN INTEGRATIVA DE LA LITERATURA

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ABSTRACT: This integrative literature review examines the interdependent psychological, bioethical, and care-related dimensions that shape transfusion experiences and influence patient adherence, perceived safety, and clinical effectiveness. The analysis highlights emotional responses such as fear, hopelessness, and cumulative distress, demonstrating how these factors modulate threat appraisal, coping strategies, and willingness to engage with transfusion procedures. It further explores ethical tensions arising from compromised autonomy, treatment refusal, and conflicts between personal values and clinical recommendations, emphasizing that transfusion decisions unfold within morally complex settings that require continuous ethical mediation and clear communication between healthcare teams and patients. Within the care dimension, the study identifies strengths and weaknesses in hemovigilance systems, risk-management practices, and institutional protocols, showing how these elements affect both objective safety and subjective patient experience. The findings reveal that transfusion effectiveness cannot be reduced to technical execution, as it emerges from dynamic interactions between emotional regulation, ethical deliberation, and structured care environments. By integrating these perspectives, the study demonstrates that transfusion is a multidimensional process where subjective experiences, normative frameworks, and organizational structures intersect, creating conditions that either support or hinder treatment adherence and perceived security. The review concludes that comprehensive and interdisciplinary approaches are necessary to address these interconnected dimensions, advocating for emotionally attuned communication, ethically grounded decision-making, and systematically reinforced care practices that together enhance the quality and safety of transfusion therapy. These insights contribute to strengthening clinical protocols and guiding future research on the interface between psychology, bioethics, and healthcare delivery.

Keywords: Adherence. Bioethics. Health Psychology. Hemovigilance. Transfusion.

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RESUMO: Este estudo analisa, a partir de uma revisão integrativa da literatura, as interações entre fatores psicológicos, dilemas bioéticos e práticas assistenciais que estruturam a experiência transfusional e influenciam a adesão, a segurança percebida e a efetividade clínica. A investigação articula evidências provenientes de pesquisas que abordam manifestações emocionais associadas ao medo, à desesperança e à sobrecarga subjetiva, destacando como esses elementos modulam o enfrentamento e reorganizam a percepção do risco no contexto hospitalar. Simultaneamente, explora tensões éticas que emergem de situações marcadas por autonomia vulnerabilizada, recusas terapêuticas e conflitos entre valores pessoais e orientações clínicas, revelando como a tomada de decisão transfusional se constitui em ambiente moralmente complexo que exige mediação contínua e comunicação qualificada. No eixo assistencial, identifica fragilidades e avanços relacionados à hemovigilância, ao gerenciamento de riscos e à padronização de práticas, demonstrando que tais elementos influenciam tanto a segurança objetiva quanto a experiência subjetiva do paciente, reforçando a centralidade das relações entre equipe, tecnologia e protocolos institucionais. A articulação desses três eixos evidencia que a transfusão sanguínea não é um ato técnico isolado, mas um processo multifacetado que integra subjetividade, normatividade e estrutura organizacional. Os achados revelam que a efetividade transfusional depende da convergência entre acolhimento emocional, diálogo ético e rigor assistencial, indicando a necessidade de abordagens interdisciplinares que reconheçam a complexidade da experiência transfusional e ampliem a compreensão sobre os mecanismos que sustentam o cuidado seguro e integral. O estudo contribui para qualificar práticas clínicas e orientar investigações futuras voltadas à interface entre psicologia, bioética e assistência em saúde.

Palavras-chave: Adesão. Bioética. Hemovigilância. Psicologia da Saúde. Transfusão.

RESUMEN: Este estudio analiza, a partir de una revisión integrativa de la literatura, las interacciones entre factores psicológicos, dilemas bioéticos y prácticas asistenciales que estructuran la experiencia transfusional e influyen en la adherencia, la seguridad percibida y la efectividad clínica. La investigación articula evidencias provenientes de estudios que abordan manifestaciones emocionales asociadas al miedo, la desesperanza y la sobrecarga subjetiva, destacando cómo estos elementos modulan el afrontamiento y reorganizan la percepción del riesgo en el contexto hospitalario. Simultáneamente, explora tensiones éticas que emergen de situaciones marcadas por autonomía vulnerabilizada, rechazos terapéuticos y conflictos entre valores personales y orientaciones clínicas, revelando cómo la toma de decisiones transfusionales se constituye en un ambiente moralmente complejo que exige mediación continua y comunicación cualificada. En el eje asistencial, identifica fragilidades y avances relacionados con la hemovigilancia, la gestión de riesgos y la estandarización de prácticas, demostrando que tales elementos influyen tanto en la seguridad objetiva como en la experiencia subjetiva del paciente, reforzando la centralidad de las relaciones entre equipo de salud, tecnología y protocolos institucionales. La articulación de estos tres ejes evidencia que la transfusión sanguínea no es un acto técnico aislado, sino un proceso multifacético que integra subjetividad, normatividad y estructura organizacional. Los hallazgos revelan que la efectividad transfusional depende de la convergencia entre acogida emocional, diálogo ético y rigor asistencial, indicando la necesidad de enfoques interdisciplinarios que reconozcan la complejidad de la experiencia transfusional y amplíen la comprensión sobre los mecanismos que sustentan una atención segura e integral. El estudio contribuye a cualificar las prácticas clínicas y a orientar investigaciones futuras dirigidas a la interfaz entre psicología, bioética y asistencia en salud.

Palabras clave: Adherencia. Bioética. Hemovigilancia. Psicología de la Salud. Transfusión.

INTRODUCTION

Blood transfusion is situated within a clinical field where rigorous biomedical practices coexist with intense subjective experiences that reorganize vulnerabilities, creating complex interpretative demands within contemporary hospital institutions. These interactions reveal a research object shaped by the interdependence between psychological, bioethical, and care-related dimensions that modulate perceptions of risk, trust, and therapeutic agency. The study seeks to examine how these layers operate simultaneously, producing expanded meanings that go beyond strictly technical approaches and highlight deeper relational dynamics.

The academic justification arises from the need to deepen interdisciplinary analyses capable of understanding tensions between subjectivity, ethical normativity, and clinical responsibility that permeate highly sensitive transfusion decisions. The scientific relevance lies in mapping evidence that describes moral conflicts, emotional impacts, and care practices that influence decision-making behaviors and shape complex care scenarios. Its social importance is expressed in the urgency of improving professional interactions and strengthening therapeutic communication that recognizes human fragilities without reducing patients to procedural objects.

The general objective is to analyze scientific evidence on psychological, bioethical, and care-related factors involved in blood transfusion, investigating their impacts on clinical decision-making and the overall quality of care. The specific objectives include understanding emotional manifestations related to the procedure, examining emerging ethical dilemmas, investigating care practices that shape perceived safety, and interpreting the articulation among these interdependent dimensions. The proposed path aims to reveal complex configurations that sustain the transfusion experience within hospital environments marked by multiple vulnerabilities.

The research problem is formulated as follows: how do psychological, bioethical, and care-related aspects influence clinical decisions and the quality of care during blood transfusion in highly sensitive contemporary hospital contexts? The hypothesis assumes that subjective factors, ethical conflicts, and care practices exert significant influence on adherence, safety, and effectiveness of the procedure, forming complex networks of interdependence. These elements appear to continuously reorganize therapeutic relationships, generating interpretative fields that require rigorous and integrated analysis.

The article is structured into an introduction, a theoretical framework organized around psychological, bioethical, and care dimensions, followed by a conclusion and references that ensure overall argumentative coherence. Its academic contribution lies in developing an interdisciplinary perspective capable of identifying often invisible tensions that permeate transfusion experiences and reshape clinical, emotional, and institutional expectations. The text proposes an expanded reading that shifts conventional interpretations and highlights complexities that rarely emerge in traditionally biomedical analyses.

Based on these foundations, the bibliographic development will deepen discussions on emotional experiences, ethical conflicts, and care practices that structure transfusion care, revealing layers often neglected by technical literature. This deepening will make it possible to understand how these dimensions interact, producing decision-making territories marked by ambivalence, tensions, and specific communicational needs. Thus, a rigorous transition is established toward conceptual analyses that will support subsequent interpretations throughout the review.

METHODOLOGY

The research adopts the integrative literature review method, selected for its ability to gather, compare, and interpret evidence from clinical, psychological, bioethical, and care-related studies associated with blood transfusion. This design enables the integration of heterogeneous findings and the analysis of phenomena that manifest simultaneously across different levels of care, including emotional perceptions, moral conflicts, operational risks, and safety practices. The approach broadens the interpretative scope by considering that the transfusion experience involves both subjective and relational dimensions, as well as normative and technological structures that shape the hospital environment.

The research technique involved a systematic search in recognized scientific literature databases, using descriptors that encompass psychological aspects of the transfusion experience, bioethical principles present in clinical decision-making, and care-related criteria linked to hemovigilance and risk management. The selection process included filtering based on thematic relevance, methodological consistency, alignment with the research problem, and a temporal scope capable of representing both recent publications and established references in the field. Studies restricted solely to the technical dimension of transfusion, without engagement with the emotional, ethical, or care-related spheres structuring the analyzed phenomenon, were excluded.

Data analysis followed a thematic-interpretative approach, allowing the organization of the material into categories corresponding to the three central axes of the research: psychological factors, bioethical dilemmas, and care practices. From this categorization, patterns, conceptual tensions, descriptive recurrences, and gaps that structure the contemporary debate on blood transfusion were identified. The interpretation sought to understand how these dimensions are articulated in clinical practice, influencing perceptions of safety, decision-making processes, emotional management, and care strategies. This analytical stage provided the foundation for the critical discussion developed in the subsequent sections.

RESULTS

The findings revealed that emotional manifestations associated with blood transfusion constitute an essential axis for understanding the patient's subjective experience, particularly when risk perception mobilizes complex cognitive and affective processes. The literature demonstrates that emotions such as fear, anticipatory anxiety, and hypervigilance occur recurrently and directly influence how individuals interpret their bodily vulnerability. It was also identified that the frequency of transfusions and the history of adverse events significantly modulate these responses, creating an emotional context that precedes and permeates the entire procedure.

In this context, the need emerged to categorize these manifestations with greater precision, integrating evidence from different psychological theoretical traditions and clinical studies on transfused patients. For this purpose, Table 1 was developed, synthesizing eight central analyses that articulate emotional manifestations, psychological interpretations, and their clinical relevance, supported by theoretical contributions from authors who have studied stress, coping, and hopelessness.

Table 1 — Emotional manifestations related to blood transfusion

Emotional manifestation	Psychological interpretation	Clinical relevance	Reference
Anticipatory fear	Cognitive appraisal of threat associated with a low perceived sense of control.	Impairs treatment adherence and intensifies emotional distress.	Folkman; Lazarus (1984).
Bodily hypervigilance	Excessive monitoring of physiological signs and bodily sensations.	Increases psychophysiological tension and anxiety.	Cohen; Wills (1985).
Clinical pessimism	Negative expectations regarding therapeutic outcomes.	Reduces engagement in care and adherence to clinical recommendations.	Beck (1974).

Emotional overload	Accumulation of stressful transfusion-related experiences.	Negatively affects quality of life and coping capacity.	(Lima, 2023)
Emotional avoidance	Maladaptive coping strategy characterized by avoidance or suppression of distressing emotions.	Impairs communication with the healthcare team.	Antony; Barlow (2010)
Social withdrawal	Reduced social interaction and emotional support seeking.	Intensifies emotional vulnerability and weakens support networks.	Gouveia (2014).
Traumatic tension	Reactivation of stressful memories associated with health-related experiences.	Heightens alert responses and emotional distress.	Marmar (2004).
Therapeutic mistrust	Fear grounded in previous adverse healthcare experiences.	Affects shared decision-making and continuity of care.	Santos (2023).

Source: Authors (2026).

The analyses presented in Table 1 reveal that the emotional domain functions as a structuring element of the transfusion experience, shaping expectations, modulating behaviors, and directly influencing the therapeutic relationship. Patients with a history of adverse reactions exhibit more intense emotional patterns, whereas those with effective social support demonstrate lower psychological burden. It was also observed that adaptive coping strategies emerge when professional communication is clear and when patients perceive that the healthcare team acknowledges their vulnerability.

Alongside the emotional dimensions, the literature identified ethical dilemmas that arise consistently, particularly in situations involving treatment refusal, religious restrictions, family conflicts, or informational asymmetry. The analysis of these dilemmas required their organization into categories that highlighted moral tensions, conflicts between principles, and critical areas of clinical communication. To synthesize this body of evidence, Table 2 was developed, containing eight analyses that reflect recurrent ethical dilemmas documented in the bioethics and transfusion literature.

Table 2 — Emerging ethical dilemmas in transfusion care

Ethical dilemma	Moral conflict	Implication for care	Reference
Treatment refusal	Autonomy × beneficence	Requires specialized ethical mediation.	Azambuja; Garrafa (2010).
Insufficient informed consent	Limited information × self-determination	Generates uncertainty and partial refusal.	Junqueira (2009).
Family conflict	Patient's will × social pressure	Increases moral distress.	Bussinguer (2020).
Religious restriction	Religious doctrine × life-saving intervention	Requires sensitive clinical negotiation.	Azambuja; Garrafa (2010).
Poorly understood risk	Technical complexity × lay understanding	Compromises informed decision-making.	Caetano (2022).

Social vulnerability	Structural fragility × therapeutic need	Expands inequalities in care.	Bussinguer (2020).
Infantilized refusal	Vulnerable adult × heteronomous decision-making	Limits genuine autonomy.	Caetano (2022).
Excessive paternalism	Protection × suppression of autonomy	Distances the patient from the decision-making process.	Junqueira (2009).

Source: Authors (2026).

The analysis of Table 2 indicates that ethical dilemmas do not arise as exceptions, but rather as intrinsic elements of transfusion practice, extending from initial communication to risk management. Tensions between autonomy and beneficence emerged as the dominant axis, particularly in scenarios involving refusal based on religious beliefs or previous adverse experiences. It also became evident that communication failures constitute one of the main factors amplifying ethical dilemmas, creating decision-making environments marked by uncertainty and moral distress.

Within the sphere of care delivery, the reviewed studies point to significant challenges in maintaining transfusion safety, especially in contexts of high clinical demand, structural vulnerabilities, and the absence of strengthened hemovigilance policies. The heterogeneity of services, inadequate protocols, and variability in the management of adverse events reveal systemic weaknesses. To systematize this evidence, Table 3 was organized, presenting eight fundamental analyses articulated with the literature on transfusion safety.

Table 3 — Care practices and safety in transfusion care.

Care-related finding	Associated risk	Operational implication	Reference
Failures in hemovigilance	Underreporting	Increases the occurrence of adverse events.	Nobre (2025).
Inconsistent protocols	Technical variability	Reduces clinical safety.	Ribeiro (2023).
Inadequate training	Procedural errors	Worsens transfusion reactions.	Botelho (2024).
Inefficient risk management	Monitoring failures	Expands the potential for harm.	Figueiroa (2024).
Deficient technical communication	Failure in information transmission	Undermines safe care delivery.	Shander & Goodnough (2022).
Inadequate physical infrastructure	Operational inadequacy	Hinders active surveillance.	Vitorino (2022).
Underestimated complex cases	Alloimmunization	Increases treatment-related mortality.	Leite (2024).
Insufficient integration among teams	Fragmentation of care	Increases the margin for error.	Gramposa (2018).

Source: Authors (2026).

The data presented in Table 3 demonstrate that transfusion safety remains dependent on multiple care-related factors, including structural quality, protocol consistency, continuous staff training, and the robustness of hemovigilance systems. The analysis of the findings reveals a convergence between operational failures and a higher incidence of adverse events, indicating the urgent need for improvements in risk management. Furthermore, the literature indicates that services with greater interprofissional integration and effective communication protocols present lower complication rates.

The articulation between emotions, ethical dilemmas, and care practices shows that these three axes do not operate in isolation, but rather form a dynamic set that reshapes the transfusion experience and defines the quality of care. The findings indicate that altered emotional states intensify ethical dilemmas, whereas care-related weaknesses amplify emotional insecurity and hinder morally informed decision-making. Thus, the evidence reveals that transfusion is not merely a technical procedure, but a complex phenomenon integrating subjectivity, normativity, and clinical practice.

Finally, the integrated analysis of the data confirms that effective interventions must simultaneously address emotional, ethical, and care-related dimensions, recognizing that isolated improvements do not produce structural change. The review demonstrates that effective hemovigilance systems reduce anxiety, bioethically qualified communication mitigates conflicts, and adequate emotional support improves adherence. These findings support the discussions developed in the following section, in which each interpretive axis will be examined in greater depth.

DISCUSSION

The hypothesis guiding this study receives consistent support from the observation that transfusion adherence is profoundly shaped by psychological mechanisms that structure how patients assess risk, vulnerability, and the possibility of control. The literature demonstrates that the cognitive interpretation of the procedure, as described by stress appraisal theories (Folkman & Lazarus, 1984), determines the intensity of emotional responses and directly influences patients' willingness to accept or resist the intervention. In this regard, feelings of apprehension, hopelessness, and anticipatory tension constitute elements that reshape the clinical experience, reinforcing the understanding that affective factors are decisive for therapeutic effectiveness. This perspective is further expanded by findings showing that negative cognitive patterns, such as those described by Beck et al. (1974), not only modulate

emotions but also interfere with coping strategies, consolidating the relevance of the psychological dimension within the hypothesis examined.

In situations involving repeated transfusions, an intensification of emotional burden is observed, characterized by subjective overload, mood fluctuations, and a persistent sense of bodily fragility, a phenomenon widely discussed by Lima et al. (2023). These patients tend to develop adaptive or maladaptive mechanisms that are reflected in adherence, ranging from active cooperation to fear-driven resistance. Clinical literature indicates that interventions capable of modulating anxiety and perceived threat contribute to stabilizing these responses, as suggested by therapeutic assessment models applied in hospital settings (Antony & Barlow, 2010). Thus, emotional processes are confirmed not as peripheral elements, but as central factors that reshape adherence, perceived safety, and quality of care.

Within the field of bioethics, the hypothesis is also strengthened by the observation that transfusion decisions are permeated by moral tensions arising in situations of uncertainty, family disagreement, or conflict between personal values and clinical recommendations. Studies on treatment refusal demonstrate that autonomy, although protected, becomes vulnerable in situations involving emotional pressure or informational asymmetry, as emphasized by Azambuja and Garrafa (2010). When decision-making is marked by moral ambivalence or communicative fragility, adherence becomes an unstable process, distancing patients from the clarity required to understand risks and benefits. Thus, ethical dilemmas become determinants in the construction of clinical safety, confirming the hypothesis by placing subjectivity and normativity at the center of the analysis.

The bioethical literature also emphasizes that autonomy cannot be understood in isolation, but must encompass the real conditions of vulnerability, inequality, and structural fragility that permeate access to healthcare services, as discussed by Bussinguer (2020). Decision-making in transfusion contexts is frequently influenced by external factors, such as community beliefs, family pressure, or insufficient technical information, creating an environment that challenges full self-determination. In such situations, the absence of qualified ethical mediation intensifies emotional insecurity, reinforcing the role of bioethical dilemmas in the effectiveness of the procedure.

The relationship between emotional factors and ethical conflicts also becomes evident when transfusion decisions involve religious beliefs, as analyzed by Caetano, Cornélio, and Laura (2022). In such circumstances, healthcare teams must balance respect for autonomy with therapeutic responsibility, producing interactions marked by emotional and moral tension.

This dynamic demonstrates that ethical choices are not configured merely as rational acts, but are permeated by fear, beliefs, and expectations, confirming that bioethical dilemmas directly affect transfusion adherence and safety. Thus, the hypothesis is supported by integrating dimensions that, rather than operating in parallel, function synergistically.

Within the care-related axis, the results demonstrate that transfusion effectiveness depends on systematic risk-management practices, technical standardization, and interprofissional communication, elements widely discussed in studies on hemovigilance (Nobre et al., 2025). Transfusion safety becomes compromised when monitoring systems are inconsistent or when adverse events are not properly recorded, expanding the margin for error and increasing patients' sense of insecurity. These findings support the hypothesis by indicating that clinical effectiveness is not limited to the transfusion procedure itself, but also depends on the quality of the care environment that sustains it.

Similar observations appear in studies examining adverse events and inconsistencies in transfusion protocols, as reported by Figueiroa et al. (2024). The absence of standardization increases risks and undermines patient trust, leading individuals to interpret the procedure as potentially unsafe. This perception directly affects adherence, since negative emotions intensify when healthcare teams demonstrate uncertainty or operational disorganization. Within this body of evidence, the hypothesis is reinforced by showing that transfusion safety depends on the interaction between emotional support and robust care practices.

Furthermore, studies on risk management in transfusion services reveal that failures in communication among teams and weaknesses in organizational structures affect not only objective safety but also patients' understanding of the procedure, as demonstrated by Ribeiro, Cardoso, and Diniz (2023). The subjective insecurity arising from these failures may translate into therapeutic resistance, demonstrating that transfusion effectiveness transcends the technical domain and lies in the institutional capacity to provide integrated, clear, and continuous care. Thus, care practices shape emotional responses and support ethical decision-making.

The literature also highlights that technological and educational advances applied to hemovigilance contribute to reducing risks and improving adherence, as argued by Botelho et al. (2024). By providing clear information and more effective monitoring mechanisms, such approaches reduce patient anxiety and reinforce feelings of safety, operating in alignment with the psychological and bioethical components discussed previously. This convergence confirms

that care-related factors exert a significant impact on the transfusion experience, validating the central hypothesis of the study.

Finally, historical analyses of transfusion medicine demonstrate that care-related, ethical, and psychological transformations have always progressed together, as evidenced by Vitorino et al. (2022). The consolidation of good clinical practices becomes effective only when accompanied by ethical communication and competent management of patients' emotions. Thus, the findings of this discussion show that adherence, safety, and effectiveness are not isolated products, but rather outcomes of complex interactions among subjectivity, normativity, and care structures, fully confirming the proposed hypothesis and opening the way for broader reflections in the conclusion.

Final Considerations

The findings demonstrate that the transfusion experience is structured through complex interactions among psychological factors, bioethical dilemmas, and care practices, revealing that patient adherence does not depend exclusively on clinical indication, but also on how individuals understand, experience, and negotiate the meaning of the procedure within their care trajectory. In this process, emotions such as fear, insecurity, and hopelessness reshape risk perception and influence the therapeutic relationship, while moral tensions and communicative asymmetries affect decisional autonomy and reveal the need for continuous ethical mediation. The convergence of these elements supports the understanding that transfusion is not an isolated act, but rather a process that integrates subjectivity, values, and institutional structure.

The analysis also demonstrates that transfusion safety requires care systems capable of integrating rigorous surveillance, qualified communication, and practices aligned with risk-management protocols, since operational weaknesses intensify negative emotional responses and expand ethical conflicts, directly affecting the effectiveness of care. The literature indicates that technological interventions, continuing education, and the standardization of clinical workflows can reduce uncertainty, strengthen therapeutic relationships, and promote greater predictability in treatment. This confirms that the care-related dimension functions as a supporting axis for the psychological and ethical experiences that emerge in transfusion settings. Such interconnection demonstrates that none of these dimensions operates in isolation, confirming the need for integrated approaches.

This synthesis leads to the understanding that transfusion care should be conceived from a broader perspective, capable of recognizing patients' emotional sensitivity, the ethical

complexity of decision-making, and the institutional responsibility to ensure safety and continuity of care. This points to the urgency of strategies that combine psychological support, ethical communication, and the systematic improvement of care processes. Thus, these final considerations do not conclude the discussion, but rather expand the field of reflection by indicating that blood transfusion achieves its full effectiveness only when the three analyzed dimensions operate in an integrated and coherent manner, opening space for future investigations that further examine the interdependencies identified in this study.

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