

Risks in the Work Of Nurses in the SAMU and the Lack of Adherence to Basic Protocols in Pre-Hospital Care (APH)

Riscos na Atuação de Enfermeiros no SAMU e a Falta de Adesão a Protocolos Básicos no Atendimento Pré-Hospitalar (APH)
Riesgos en la Actuación de los Enfermeros en el SAMU y la Falta de Adhesión a los Protocolos Básicos en la Atención Prehospitalaria (APH)

RESUMO

O Serviço de Atendimento Móvel de Urgência (SAMU) representa um componente essencial da atenção pré-hospitalar no Brasil, sendo frequentemente o primeiro contato do paciente com o sistema de saúde em situações críticas. Neste contexto, a atuação do enfermeiro se configura como indispensável, porém marcada por riscos ocupacionais multifatoriais e por falhas na adesão a protocolos assistenciais e de biossegurança. Este estudo, de abordagem qualitativa, baseou-se em uma revisão bibliográfica de caráter exploratório, com o objetivo de analisar os riscos enfrentados por enfermeiros no SAMU e compreender as implicações da não adesão a protocolos básicos no cuidado prestado. Os resultados revelaram uma realidade de vulnerabilidades relacionadas a fatores físicos, biológicos, ergonômicos e psicossociais, intensificadas por condições de trabalho adversas, sobrecarga emocional e ausência de suporte institucional. Verificou-se que a baixa adesão aos protocolos está atrelada à precariedade das estruturas móveis, à insuficiência de treinamentos e à cultura organizacional tolerante à improvisação. Conclui-se que a promoção de um ambiente seguro e eficiente no SAMU demanda investimentos em formação contínua, fortalecimento da cultura de segurança e reformulação das políticas públicas voltadas ao cuidado emergencial. O reconhecimento das fragilidades e a valorização do trabalho dos enfermeiros são fundamentais para garantir qualidade, ética e resolutividade no atendimento de urgência.

DESCRIPTORES: Atendimento pré-hospitalar; SAMU; Riscos ocupacionais; Enfermagem de urgência; Protocolos assistenciais; Segurança do paciente.

ABSTRACT

The Mobile Emergency Care Service (SAMU) is an essential component of pre-hospital care in Brazil, and is often the patient's first point of contact with the health system in critical situations. In this context, the role of nurses is indispensable, but marked by multifactorial occupational risks and failures in adherence to care and biosafety protocols. This qualitative study was based on an exploratory literature review, with the aim of analyzing the risks faced by nurses in SAMU and understanding the implications of non-adherence to basic protocols in the care provided. The results revealed a reality of vulnerabilities related to physical, biological, ergonomic and psychosocial factors, intensified by adverse working conditions, emotional overload and lack of institutional support. It was found that low adherence to protocols is linked to the precariousness of mobile structures, insufficient training and an organizational culture that tolerates improvisation. It is concluded that promoting a safe and efficient environment in SAMU requires investments in ongoing training, strengthening the safety culture and reformulation of public policies aimed at emergency care. Recognizing weaknesses and valuing the work of nurses are essential to ensure quality, ethics and resolution in emergency care.

DESCRIPTORS: Pre-hospital care; SAMU; Occupational risks; Emergency nursing; Care protocols; Patient safety.

RESUMEN

El Servicio de Atención Móvil de Urgencias (SAMU) representa un componente esencial de la atención prehospitalaria en Brasil, siendo con frecuencia el primer contacto del paciente con el sistema de salud en situaciones críticas. En este contexto, la actuación del enfermero se configura como indispensable, aunque marcada por riesgos ocupacionales multifactoriales y por fallas en la adhesión a protocolos asistenciales y de bioseguridad. Este estudio, de enfoque cualitativo, se basó en una revisión bibliográfica de carácter exploratorio, con el objetivo de analizar los riesgos enfrentados por los enfermeros en el SAMU y comprender las implicaciones de la

Literature Review

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no adhesión a protocolos básicos en el cuidado prestado. Los resultados revelaron una realidad de vulnerabilidades relacionadas con factores físicos, biológicos, ergonómicos y psicosociales, intensificadas por condiciones de trabajo adversas, sobrecarga emocional y ausencia de apoyo institucional. Se verificó que la baja adhesión a los protocolos está vinculada a la precariedad de las estructuras móviles, a la insuficiencia de capacitaciones y a una cultura organizacional tolerante a la improvisación. Se concluye que la promoción de un entorno seguro y eficiente en el SAMU requiere inversiones en formación continua, fortalecimiento de la cultura de seguridad y reformulación de las políticas públicas orientadas a la atención de emergencias. El reconocimiento de las fragilidades y la valorización del trabajo de los enfermeros son fundamentales para garantizar calidad, ética y resolutividad en la atención de urgencias.

DESCRIPTORES: Atención prehospitalaria; SAMU; Riesgos ocupacionales; Enfermería de urgencias; Protocolos

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INTRODUCTION

The Mobile Emergency Care Service (SAMU) represents one of the fundamental pillars of pre-hospital care in Brazil, playing a strategic role in rapid response to clinical, traumatic, and obstetric emergencies, as well as in situations of public calamity. The work of

nursing professionals in this context involves a multitude of technical, emotional, and logistical demands, requiring specific training, the ability to make decisions under pressure, and the ability to work in inhospitable and unpredictable environments. Amidst this dynamic, occupational risks become frequent and often invisible, compromising the physical

and mental health of these workers, in addition to impacting the safety of the patients they care for⁽¹⁾.

Although pre-hospital care (PHC) is structured around standardized clinical protocols that aim to ensure safety, effectiveness, and agility, in daily practice there is a worrying gap in the nursing team's strict adherence to these guidelines. Working in

unpredictable environments, work overload, and lack of ongoing training contribute to non-compliance with basic procedures, such as proper hand hygiene, adequate use of personal protective equipment (PPE), and systematization of care in critical situations^(2,3).

The overall objective of this study is to analyze the occupational risks faced by nurses in SAMU and to assess the impacts of low adherence to basic protocols in pre-hospital care. The specific objectives are: (1) to identify the main types of occupational risks to which nurses in SAMU are exposed; (2) to verify the factors that hinder adherence to basic protocols in PHC; and (3) to propose strategies that contribute to improving the safety of professionals and patients.

This study is justified by the need for critical analysis of the working conditions of nurses in the pre-hospital environment, highlighting the repercussions of precarious occupational health and institutional fragility on the care provided. The literature indicates that the risks faced by nursing professionals in SAMU have been addressed in a sporadic and fragmented manner, which compromises the creation of effective public policies aimed at protecting and valuing this category. Thus, a systematic and interdisciplinary approach is necessary to understand the complexity of these professionals' work and the consequences of non-compliance with protocols, both for workers and for service users^(4,5).

Furthermore, the topic is extremely relevant in the current context, in which the discussion on biosafety, worker mental health, and quality of care has gained momentum in light of the impacts of the pandemic. The absence of effective protocols and the lack of adherence to safe practices by PHA teams are reflections of a system that still fails to recognize

the specificities and needs of mobile emergency services. Thus, this research contributes to broadening the debate and proposing actions that promote humanization, safety, and efficiency in prehospital care^(6,1).

METHODOLOGY

This study is characterized as qualitative research of an exploratory nature, developed through a literature review. The qualitative approach was chosen because it allows for a deeper understanding of the social and professional phenomena involved in the work of nurses in the Mobile Emergency Care Service (SAMU), especially with regard to occupational risks and adherence to basic protocols in Pre-Hospital Care (APH). According to Gil (2010), qualitative research is suitable for exploring complex realities involving subjectivities, values, beliefs, and social practices, and is essential for capturing the nuances and meanings attributed by subjects to their professional practice. Thus, through this approach, we seek to analyze the work contexts, reported experiences, and practices adopted by nurses, based on the evidence and discussions present in the scientific literature. Publications in scientific journals, theses, dissertations, and institutional documents were selected, prioritizing materials published in the last ten years to ensure the timeliness and relevance of the information. However, older studies that contribute significantly to the theoretical foundation were also included. The research was conducted in scientific databases such as SciELO, LILACS, BVS, PubMed, and Google Scholar.

Controlled descriptors were used and combined to select the sources, such as "occupational risks," "nurses," "SAMU," "pre-hospital care," "care protocols," and "biosafety." The search was performed using Boolean

operators (AND, OR) to refine the results and achieve greater precision in the findings. Articles were included based on criteria such as: (1) being related to the proposed theme; (2) containing empirical data or relevant analyses on the risks faced by nurses in pre-hospital care; (3) presenting discussions on adherence or non-adherence to clinical and safety protocols; and (4) being available in full in Portuguese, English, or Spanish. Exclusion was applied to duplicate articles, publications with divergent scope, and texts without apparent methodological rigor.

PERFORMANCE OF NURSING PROFESSIONALS IN THE MOBILE EMERGENCY CARE SERVICE (SAMU)

The work of nursing professionals in the Mobile Emergency Care Service (SAMU) involves a series of challenges, risks, and vulnerabilities that directly impact both the occupational health of workers and the quality of care provided to patients in urgent and emergency situations. This chapter is dedicated to an in-depth analysis of the occupational risks that affect SAMU nurses, adherence (or lack thereof) to basic care protocols, and the consequences of this reality for patient safety, based on a careful selection of up-to-date and relevant academic studies.

Occupational Risks for Nurses in SAMU

The work of nursing professionals in SAMU is permeated by various occupational risks that manifest themselves in a multifactorial manner, involving physical, biological, chemical, ergonomic, and psychosocial factors. The physical space where care is provided, often in open, unsafe, and unpredictable locations, coupled with the need to act quickly under intense emotional pressure, ex-

poses nurses to a series of situations that compromise their health and well-being. According to Andrade et al.⁽⁷⁾, SAMU nurses face a daily work routine marked by unpredictability, urban violence, accidents with sharp objects, and excessive physical loads due to the movement of patients in hard-to-reach places, which significantly aggravates occupational health risks.

Biological risks are considered among the most concerning in the daily routine of SAMU, since direct contact with bodily fluids and the handling of patients without prior diagnosis exponentially increase the possibility of occupational infections. Carvalho et al.⁽⁸⁾ report that, even with the recommendation to use Personal Protective Equipment (PPE), many professionals neglect to use it due to the urgency of care, lack of materials, or physical discomfort, highlighting a structural and institutional vulnerability. The risk of exposure to biological agents becomes even more critical when associated with precarious biosafety protocols, especially in regions with limited infrastructure or overcrowded services.

In addition, ergonomic risks are also highly prevalent among SAMU nursing professionals. These risks relate to repetitive movements, poor posture, and extreme physical effort to remove patients from hard-to-reach locations, such as slums, rural areas, or regions with heavy traffic. Studies indicate that these conditions favor the onset of musculoskeletal disorders, chronic low back pain, and repetitive strain injuries (RSI/WMSD), directly affecting workers' productivity and quality of life⁽⁴⁾. Ergonomics, although a recognized factor in the prevention of occupational diseases, is still rarely applied in the routine of SAMU due to the impossibility of ergonomic adaptation of external and improvised environments.

With regard to psychological and emotional risks, there is evidence that chronic stress, pressure to make quick decisions, and constant exposure to traumatic situations, such as fatal accidents and violence, contribute to the development of disorders such as burnout syndrome, anxiety, and depression. Costa et al.⁽⁵⁾ describe how time pressure, combined with work overload and the emotional instability of patients and family members, transforms the work environment into a highly stressful space. The lack of institutional psychological support and coping strategies aggravates this scenario, leaving nurses vulnerable to mental illness.

Chemical risks, although less discussed, are also present in the routine of SAMU nurses, especially when handling potentially toxic drugs in mobile environments with inadequate lighting and ventilation. Chiratto Filho et al.⁽⁹⁾ highlight that the safe administration of medications in ambulances faces challenges such as vibrations, vehicle instability, lack of appropriate work surfaces, and inadequate temperature, which can lead to errors in the preparation and administration of drugs, posing a risk to both the patient and the professional.

The COVID-19 pandemic has brought a new and intense set of risks, dramatically increasing the exposure of SAMU health professionals to infectious agents. Dal Pai et al.⁽¹⁰⁾ point out that the onset of the pandemic represented a structural collapse in the protection of APH workers, evidenced by the shortage of PPE, logistical disorganization, and the absence of protocols adapted to the new health reality. Nurses working in the service reported constant fear of contamination, work overload, and lack of emotional support, conditions that contributed to an increase in absences due to physical and mental health problems.

In addition to the direct risks to physical and mental health, constant exposure to adverse conditions also compromises clinical judgment and the quality of care provided. Melo et al.⁽¹¹⁾ argue that the pressure to transport patients quickly, combined with the risk of external aggression and traffic accidents, compromises effective communication between team members and generates constant tension. Such conditions directly interfere with the ability to make safe decisions, which can result in omissions of care and serious care failures.

The internal environment of ambulances, despite being a care space, presents invisible risks related to the incorrect storage of supplies and medications. De Araújo Silva et al.⁽¹²⁾ identified that the thermal conditions and vibration of vehicles compromise the stability of various drugs, especially antibiotics, sedatives, and analgesics. The handling of chemicals in confined, poorly lit spaces with poor ventilation poses both toxicological and ergonomic risks to nurses, especially when appropriate PPE is not available.

With regard to occupational diseases, the survey conducted by De Carvalho et al.⁽⁴⁾ points out that the most frequent diseases among APH professionals are low back pain, tendonitis, anxiety disorders, and respiratory diseases. The physical strain caused by manually moving patients, combined with constant contact with infectious agents and chronic stress, creates a worrying pattern of illness. These diseases are aggravated by the absence of prevention policies, adequate breaks, and systematic occupational medical monitoring.

The risk of errors in the administration of medications under inadequate conditions is a factor that compromises the safety of both the professional and the patient. Chiratto Filho et al.⁽⁹⁾ describe that

ambulances sometimes lack stable supports for the preparation and administration of drugs, which increases the risk of bottle falls, erroneous dosage administration, or cross-contamination. These failures can trigger adverse events with serious clinical consequences and, as a result, expose professionals to lawsuits, ethical liability, and psychological distress.

Another important risk is related to work overload. Data from Ilha et al. ⁽⁶⁾ indicate that many professionals accumulate successive shifts and work in reduced teams, which compromises the safe execution of procedures and favors human error. Extreme fatigue reduces attention, impairs working memory, and affects clinical judgment. In an environment where decisions must be made in seconds, fatigue can be fatal—both for those providing care and those receiving it.

Working during the COVID-19 pandemic has highlighted an intensification of all existing risks. Gonçalves et al. ⁽¹³⁾ report that many nurses expressed insecurity about the quality of PPE, uncertainty about care flows, and constant fear of contamination and viral transmission to their families. The lack of specific training on the management of COVID-19 patients in the mobile environment exposed these workers to additional risks, adding to the psychological stress caused by high mortality and scientific uncertainties at the time.

The absence of specific public policies focused on the health and safety of SAMU workers constitutes a structural risk that directly affects the continuity of services. Andrade et al. ⁽⁷⁾ point out that the invisibility of occupational risks experienced by professionals in the pre-hospital environment is still an obstacle to the development of technical standards and legal provisions that ensure better working conditions. Without

this institutional recognition, nurses remain exposed to a cycle of illness, precariousness, and systemic negligence.

Occupational risks do not only manifest themselves in acute events or specific accidents, but accumulate over time, generating a progressive impact on the health of professionals. The accumulation of small failures, institutional negligence, and constant overload contributes to continuous physical and psychological wear and tear, posing a chronic and systemic risk. The lack of recognition of these conditions and of specific public policies for mobile emergency care contributes to the perpetuation of this scenario, requiring immediate structural interventions and investments in training, valuing, and protecting nurses working in SAMU.

Failure to Adhere to Basic Protocols

Adherence to care and biosafety protocols is one of the fundamental pillars for patient safety and the preservation of the health of nursing professionals in the context of pre-hospital care. However, in SAMU, the operational reality often hinders the strict application of these standards, resulting in failures that expose both the professional and the service user to considerable risks. According to Pereira et al. ⁽²⁾, failure to observe simple measures such as proper hand hygiene or the systematic use of PPE reveals not only a technical problem, but also a structural one, linked to institutional culture, scarcity of resources, and poor training of workers in pre-hospital care routines.

Working conditions in ambulances and mobile units are often inadequate for the full implementation of established protocols. Vehicle instability, limited space, lack of appropriate work surfaces, and lack of environmental control hinder basic

actions such as the safe administration of medications or the proper disposal of sharps. Chiaratto Filho et al. ⁽⁹⁾ emphasize that non-compliance with medication protocols, such as triple checking, verification of validity, and route of administration, is often associated with the practical impossibility of execution in contexts of extreme urgency and reduced space, even when the professional is aware of the guidelines.

De Carvalho et al. ⁽⁴⁾ argue that the absence of continuous supervision and internal audits directly contributes to negligence in the application of protocols, since there are no mechanisms for accountability or encouragement for continuous improvement. In many services, there are no clear routines for monitoring adherence, and the lack of feedback to the team weakens the collective commitment to safety. Adherence then depends exclusively on individual awareness, which, in contexts of overload, stress, or fatigue, can be easily suppressed in favor of speed in care.

Lack of adherence to protocols is also associated with the precarious nature of continuing education for nursing professionals. Ilha et al. ⁽⁶⁾ show that the gap between academic training and prehospital care practice creates a deficit in specific skills, especially with regard to compliance with clinical protocols and rapid evidence-based decision-making. The absence of regular training, realistic simulations, and field-oriented training contributes to professionals developing empirical practices, sometimes based on repeating mistakes observed in more experienced colleagues.

The COVID-19 pandemic was a milestone that starkly revealed the fragility of protocols in the context of pre-hospital care. Dal Pai et al. ⁽¹⁰⁾ reported that the speed with which the disease spread, combined with

the shortage of PPE and the absence of clear standards adapted to care in public places, led to the adoption of improvised and risky measures by SAMU professionals. In many cases, ambulances became sites of cross-contamination due to lack of time for proper disinfection, compromising not only subsequent care but also the physical integrity of the nurses themselves.

Another determining factor for low adherence to protocols at SAMU is the constant overload of professionals, who often work with reduced staff, accumulating functions and without enough time to follow all the steps established in the care standards. Júnior et al.⁽¹⁴⁾ point out that, in practice, the implementation of a complete care protocol becomes unfeasible when there are multiple simultaneous calls, pressure for quick responses, and a shortage of human resources. Under these conditions, nurses are forced to prioritize emergency actions, often at the expense of routines such as filling out records, standardized assessment, and applying clinical scales.

The absence of standards adapted to the mobile reality of SAMU also hinders practical adherence. According to De Jesus Veras et al.⁽¹⁵⁾, many of the protocols used are derived from hospital environments with controlled structures, which hinders their application in dynamic contexts with high turnover and where there are difficulties with hygiene, lighting, and stability. This incompatibility between normative theory and actual practice generates disbelief in the standards and reinforces a culture of improvisation among professionals. Thus, protocols cease to be safety references and often become documents that are far removed from everyday reality.

During the COVID-19 pandemic, the failure to adapt protocols to field conditions became even more

evident. Morais et al.⁽¹⁶⁾ report that, even with continuous updates to health recommendations, many professionals were unable to implement measures such as adequate isolation, correct use of PPE, or safe disposal of biological waste. In improvised settings, such as sidewalks, slums, and rural areas, physical distancing between staff and patients was unfeasible. This shows that, without considering environmental and logistical factors, protocols become bureaucratic pieces of paper with no practical effectiveness.

Technical training also appears to be one of the most significant obstacles to the application of protocols. According to Ilha et al.⁽⁶⁾, nursing training course curricula still place little emphasis on the specificities of mobile pre-hospital care. Many professionals join SAMU without specific training to deal with emergencies in transit, the use of mobile devices, conduct in outdoor environments, and the handling of equipment in the confined space of ambulances. The lack of robust training hinders the internalization of protocols and favors empirical action based on past experiences, which do not always correspond to best practices.

In addition, the lack of continuous supervision and the scarcity of audit mechanisms make it difficult to monitor compliance with standards. According to De Carvalho et al.⁽⁴⁾, many services do not have updated institutional protocols or even an internal quality committee to monitor the implementation of clinical guidelines. Without monitoring and accountability, the application of standards depends on the initiative and individual ethical awareness of professionals, which becomes fragile in environments marked by overload and turnover.

Low adherence to protocols is also linked to informality in labor relations, especially in units in the inte-

rior and regions far from large centers. According to Monteiro, Reis, and Viana⁽³⁾, temporary contracts, lack of stable employment, and high turnover make it difficult to build a solid, evidence-based organizational culture. In these situations, each team acts according to its own practices, which makes standardization unfeasible and prevents the development of a safe and efficient emergency service.

It is worth noting that failure to adhere to protocols cannot be analyzed in a reductionist or blame-oriented manner. As Dal Pai et al.⁽¹⁰⁾ observe, adherence to standards depends on a health system that offers real conditions for their application. Exhausted, poorly paid professionals who are exposed to violence and lack access to up-to-date training cannot be held individually responsible for failures that are, in fact, the result of structural omissions. Overcoming this scenario requires a systemic approach that combines technical support, professional recognition, and an adequate structure for the application of good practices in prehospital care.

Failure to adhere to protocols directly impacts clinical outcomes and patient safety. Da Silva Oliveira et al.⁽¹⁷⁾ show that negligence in following care routines increases the rate of adverse incidents, such as medication errors, falls during transport, and contamination. In addition to compromising the quality of care, these failures reduce the population's confidence in the mobile emergency service and overload the hospital system with patients whose conditions have been aggravated by preventable errors in the pre-hospital setting. Overcoming this scenario requires structural changes, investments in continuing education, and the construction of an organizational culture centered on safety and respect for protocols as an instrument of

ethical and efficient care.

Implications for Patient Safety and Effectiveness of Pre-Hospital Care (PHC)

Patient safety in the context of Pre-Hospital Care (PHC), especially in SAMU, is closely linked to the quality of care practices, adherence to established protocols, and the protection of the health of the professionals involved. When nurses work in adverse conditions, facing intense occupational risks and disregarding care guidelines due to contextual impositions or institutional failures, care becomes vulnerable to errors and adverse events. As Pereira et al.⁽²⁾ point out, the risk of infection in mobile care is directly related to non-compliance with basic standard precautions, such as proper hand hygiene and the use of protective barriers. Such failures compromise not only the integrity of the professional, but also that of the patient, who may be exposed to cross-contamination and avoidable complications.

The dynamics of emergency care often require clinical decisions to be made in a matter of seconds, in highly stressful contexts, which further emphasizes the need for well-trained and internalized protocols. According to Andrade et al.⁽⁷⁾, the absence of well-defined and systematically reinforced routines in daily practice can lead to serious errors during care, especially in situations of cardiopulmonary arrest, medication administration, or orotracheal intubation. The effectiveness of care therefore depends not only on the technical skills of the professional, but also on solid institutional support that provides structure, training, and ongoing guidance.

Failures in the organizational structure of SAMU also compromise the continuity of care and the quality of care provided. Melo et al.⁽¹¹⁾ analyze that the lack of adequate

communication between on-call teams, the absence of care transfer protocols, and incomplete records directly impact the resolution of cases attended. These gaps favor the repetition of procedures, delays in important actions, and, in many cases, the worsening of the patient's clinical condition. The effectiveness of APH, therefore, is not limited to immediate care, but includes adequate connection with other levels of health care, which requires systematization and consistency in the care process.

Analysis of SAMU's operational indicators also reveals that adherence to protocols is a determining factor in the success rate of care. De Araújo Silva et al.⁽¹²⁾ identify that ambulances with higher rates of adherence to good practices perform better in terms of response times, stabilization, and hospital outcomes. In contrast, units with a higher incidence of misconduct had a higher number of readmissions, mortality, and complaints registered with ombudsmen. This demonstrates that there is a direct relationship between protocol practice and indicators of prehospital service effectiveness and efficiency.

Building a safe work environment and effective care in SAMU requires a systemic and integrative approach that recognizes the interdependence between professional safety, adherence to protocols, and patient safety. Monteiro, Reis, and Viana⁽³⁾ argue that addressing occupational risks and failures to comply with care standards should be based not only on the individual training of professionals but also on an organizational transformation based on the value of ethical, safe, and evidence-based care. Only then will it be possible to guarantee truly effective, humanized, and efficient prehospital care.

Patient safety in prehospital care depends directly on the service's

ability to integrate safe practices, adequate infrastructure, and trained professionals. When any of these elements is neglected, the risks of adverse events, failures in continuity of care, and avoidable complications increase significantly. De Carvalho et al.⁽⁴⁾ observe that adverse events in SAMU often occur as a result of communication failures, omissions in records, and improvisation in the handling of equipment and medications. Such failures not only reduce the clinical effectiveness of care but also undermine the population's confidence in the service.

The effectiveness of APH is also directly affected by the insecurity of the professionals themselves regarding the limits of their legal practice. Junior and Araújo⁽¹⁸⁾ point out that many SAMU nurses report uncertainties regarding the legality of some of their conduct in the field, especially in critical situations where there is a need for expanded action. This insecurity compromises decision-making and can lead to the omission of care for fear of legal sanctions, negatively affecting the effectiveness of care.

From a technical standpoint, the lack of standardization also hinders team training and results monitoring. Ilha et al.⁽⁶⁾ point out that without well-defined and adapted protocols, it is not possible to conduct quality audits or measure the effectiveness of interventions. This limits the service's ability to improve its processes and implement evidence-based improvements, keeping the system in a cycle of improvisation, reaction, and repeated failures.

Lack of knowledge of protocols or their partial application negatively impacts the development of a patient safety culture within public health institutions. Da Silva Oliveira et al.⁽¹⁷⁾ explain that adherence to care standards only becomes a consolidated practice when there is institution-

al support, professional appreciation, and constant reinforcement. However, in many APH services, protocols are seen only as a documentary requirement, with no room for critical reflection or collective involvement of the team in their updating and practical application.

The accumulation of shifts, exhausting workdays, and lack of adequate rest periods significantly affect the performance of professionals, leading to an increase in errors and compromising the safety of care. According to Carvalho et al.⁽⁸⁾, mental and physical fatigue has been identified as one of the main causes of technical failures in APH. Nurses, pressured by long working hours and adverse conditions, are often unable to strictly comply with all the steps outlined in the protocols, which increases the risk of adverse events.

Another critical point is the lack of integration between different levels of health care. The SAMU team often works in isolation, without support from referral services or coordination with primary care. Júnior et al.⁽¹⁴⁾ report that the lack of effective communication between SAMU and destination hospitals impairs continuity of care, which can lead to duplicate tests, delays in treatment, and clinical worsening of the patient. The lack of joint referral and transfer protocols aggravates this scenario, directly affecting the effectiveness of APH.

The lack of institutional recognition and mechanisms for valuing nursing professionals also affects motivation and commitment to adhering to good practices. Monteiro, Reis, and Viana⁽³⁾ point out that, in addition to low salaries, SAMU nurses often do not receive incentives to update their skills, do not have access to periodic training, and work in conditions that normalize improvisation as a tool for survival. This environment contributes to profession-

al stagnation and the maintenance of unsafe behaviors that directly affect patient care.

The culture of improvisation and the distance between administrative management and field teams are also factors that affect safety. Gonçalves et al.⁽¹³⁾ argue that protocols developed without the participation of professionals who work directly in APH become ineffective because they do not take into account the peculiarities of field care. The lack of dialogue between managers, nurses, and technicians leads to the creation of standards that ignore the practical complexity of the street, making adherence difficult and compromising the effectiveness of care.

Patient safety in prehospital care depends on a tripod composed of infrastructure, training, and professional appreciation. When one of these pillars fails, the entire care process becomes vulnerable. Ilha et al.⁽⁶⁾ emphasize that, in order to ensure effective and humane prehospital care, it is necessary to invest in continuing technical training, realistic standardization, and the promotion of a dignified, safe, and welcoming work environment for professionals. Only through this investment will it be possible to ensure efficient care, with less risk of harm and greater public confidence.

FINAL CONSIDERATIONS

This research allowed for critical reflection on the multiple challenges faced by nurses working in the Mobile Emergency Care Service (SAMU), highlighting in particular the occupational risks to which they are exposed and the impacts of non-adherence to basic protocols during pre-hospital care (PHC). The analysis of the studies showed that professional practice in this context is immersed in a scenario of structural, emotional, and technical pre-

cariousness, marked by exhausting workdays, lack of institutional support, and deficiencies in continuing education. The risks faced go beyond the physical sphere and also include psychological, ethical, and moral harms that significantly compromise the health and performance of nurses, as well as the quality and safety of care provided to the population.

Thus, it is concluded that addressing the risks in the work of SAMU nurses and promoting greater adherence to protocols requires a multi-sectoral and strategic approach involving public managers, educational institutions, professional councils, and the workers themselves. Investing in continuing education, reformulating working conditions, standardizing workflows, and strengthening a culture of safety are essential measures to reverse this scenario. Only by recognizing the complexity of pre-hospital work and effectively valuing professionals will it be possible to build a safer, more efficient, and more humanized SAMU—both for those who care and those who are cared for.

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