

Presumed and confirmed severity at the Mobile Emergency Care Service

Gravedad presunta y confirmada en el Servicio de Atención Móvil de Urgencias

Gravidade presumida e confirmada no Serviço de Atendimento Móvel de Urgência

Abstract

This study aimed to compare the presumed and confirmed severity of patients diagnosed by SAMU 192. This is a quantitative, cross-sectional, descriptive study conducted at the SAMU 192 Emergency Regulation Center in the interior of São Paulo state. The sample consisted of data from 600 patients aged 18 or older who were treated by SAMU 192. The data were collected by the researcher herself through the SAMU 192 Emergency Regulation Center's information system. It was found that patients classified as high risk in the initial assessment remained that way. There was an increase in the number of patients classified as low risk and a decrease in the number of patients classified as undetermined risk. For patients and their families, this concept can be associated with a disruption in the course of life, with time being the primary factor in recovery. A difference was identified when comparing the presumed severity and the confirmed severity of patients treated by SAMU 192. The role of professionals, initially focused on meeting urgent and emergency demands, now confronts new health problems characterized as low severity.

Descriptors: Ambulances; Pre-Hospital Care; Emergency Nursing; Patient Acuity; Emergency Medical Services.

Resumén

El objetivo de este estudio fue comparar la gravedad presunta y confirmada de los pacientes diagnosticados por el SAMU 192. Se trata de un estudio cuantitativo, transversal y descriptivo, realizado en el Centro de Regulación de Emergencias SAMU 192, en el interior del estado de São Paulo. La muestra consistió en datos de 600 pacientes de 18 años o más que fueron atendidos por el SAMU 192. Los datos fueron recopilados por la propia investigadora a través del sistema de información del Centro de Regulación de Emergencias SAMU 192. Se observó que los pacientes clasificados como de alto riesgo en la evaluación inicial permanecieron así. Hubo un aumento en el número de pacientes clasificados como de bajo riesgo y una disminución en el número de pacientes clasificados como de riesgo indeterminado. Para los pacientes y sus familias, este concepto puede asociarse con una interrupción en el curso de la vida, siendo el tiempo el factor principal en la recuperación. Se identificó una diferencia al comparar la gravedad presunta y la gravedad confirmada de los pacientes atendidos por el SAMU 192. El papel de los profesionales, que inicialmente era atender las demandas urgentes y de emergencia, ahora se enfrenta a nuevos problemas de salud caracterizados como de baja gravedad.

Descritores: Ambulancias; Atención Prehospitalaria; Enfermería de Urgencias; Atención a Pacientes Graves; Servicios Médicos de Urgencia.

Resumo

Objetivou-se comparar a gravidade presumida e a gravidade confirmada no SAMU 192. Estudo quantitativo, transversal e descritivo, realizado na Central de Regulação das Urgências do SAMU 192 no interior de São Paulo. A amostra constou de dados de 600 pacientes com 18 anos ou mais que foram atendidos pelo SAMU 192. Os dados foram coletados pela própria pesquisadora por meio do sistema de informação da Central de Regulação das Urgências do SAMU 192. Verifica-se que os pacientes classificados como risco alto na primeira avaliação permaneceram com essa caracterização. Houve um aumento dos pacientes classificados como baixo risco e redução dos pacientes classificados como risco indeterminado. Para os pacientes e familiares, este conceito pode estar associado a uma ruptura do curso da vida, sendo que o tempo é o fator primordial para sua recuperação. Identificou-se uma diferença na comparação entre a gravidade presumida e a gravidade confirmada dos pacientes atendidos pelo SAMU 192. O papel dos profissionais, que inicialmente eram para atender demandas de urgência e emergências, agora se deparam com novos problemas de saúde caracterizados como de baixa gravidade.

Descritores: Ambulâncias; Assistência Pré-Hospitalar; Enfermagem em Emergência; Gravidade do Paciente; Serviços Médicos de Emergência.

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Introduction

With the increase in the number of accidents and urban violence, along with a rapidly aging population, which means a relative increase in chronic conditions and their risk factors, such as smoking, overweight, physical inactivity, stress and inadequate nutrition, there has been an overload on health services in general, especially emergency services throughout the country¹.

The Mobile Emergency Care Service (SAMU 192) unfolds in a chain of responsibilities: telephone operators who receive the call for help and trigger access to the health service, doctors who respond to demands by telephone and seek the best response for each request, nursing professionals who assist the patient, based on medical prescriptions remotely, emergency vehicle drivers who, in addition to driving the ambulance, participate in health interventions, and radio operators who are decisive for the agile and adequate movement of the team².

However, simply making the service available to the population does not guarantee its effectiveness and efficiency. Success depends on the community's core needs, adequately trained professionals for first aid in emergencies, essential material resources for the nature of the treatment, education and consent of the population, and other health services regarding the appropriate use of SAMU 192³.

When faced with a perceived emergency, patients sometimes misuse the service, calling SAMU 192 out of insecurity and unsure how to respond. They can also use it as a means of facilitating access to the healthcare system, not based on the technical criteria of what constitutes an emergency for professionals⁴.

Some authors have cited that pain, stress, and anxiety are factors that trigger people to seek emergency services when symptoms of a given event become more intense. For this reason, in many situations, and because they don't understand the service's rules, they complain about this, aggravated by having to provide essential information over the phone at that moment of anxiety⁴.

The choice of service will be made according to the patient's perception of what is simple or serious, as well as the possibility of access and the ability to resolve their health problem⁵.

In recent years, there has been a growing demand for mobile pre-hospital services, particularly for non-urgent requests, which can pose challenges for both management and patients seeking alternative entry points to the health system, a task that is not always straightforward.

A study conducted in the adult emergency department of a general hospital in Northeast Brazil found that 74.5% of visits were for typical primary care complaints, not considered urgent. This demand hinders care for severe and acute cases, as it leads to an accumulation of tasks, increases care costs, and creates a burden on healthcare professionals⁷.

It should be noted that care begins when the person calls SAMU 192, and medical regulations seek to provide a response based on prior triage, which is often viewed as unnecessary by the caller. Based on the information, a

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syndromic diagnosis is established, which, even before a diagnostic hypothesis is formulated, allows the severity of the situation to be determined and may justify the response, which may include advice, guidance, or dispatch of an ambulance⁴. The patient will then be treated and, if necessary, referred to a specialized care unit with appropriate resources, as decided by the regulating physician.

Therefore, situations that jeopardize hemodynamic or ventilatory conditions or functional disability are considered emergencies, requiring intervention by a healthcare professional. The attending physician determines the best response for each situation, depending on the severity of the situation^{8,9}.

Given the above, the objective of the study was to compare the presumed severity and the confirmed severity in SAMU 192.

Methodology

This is a quantitative, cross-sectional, descriptive study conducted at the SAMU 192 Emergency Regulation Center in the interior of São Paulo. The sample consisted of data from 600 patients aged 18 or older who were treated by SAMU 192. Data collection was performed in a sequence of 12 cross-sectional studies, one each month of 2015, with 25 patients per month per vehicle type (USA and USB). The city has one Advanced Life Support Unit (USA) and one Basic Life Support Unit (USB).

The data were collected by the researcher herself through the SAMU 192 Emergency Regulation Center information system. The data were transferred to an Excel[®] spreadsheet, constituting the researcher's database, and statistical reanalysis was performed using SPSS 21.0[®] software. Patient severity was considered in the assessment performed by the regulating physician. Presumed severity was classified before the team arrived at the scene, and confirmed severity was determined after the patient was assessed by the prehospital care team. This severity can be classified as low risk, undetermined, or high risk. The exclusion criteria were patients treated by SAMU 192 and released at the scene, and those who died during prehospital care (i.e., those who were not referred to another health service). A $p < 0.05$ level of significance was considered.

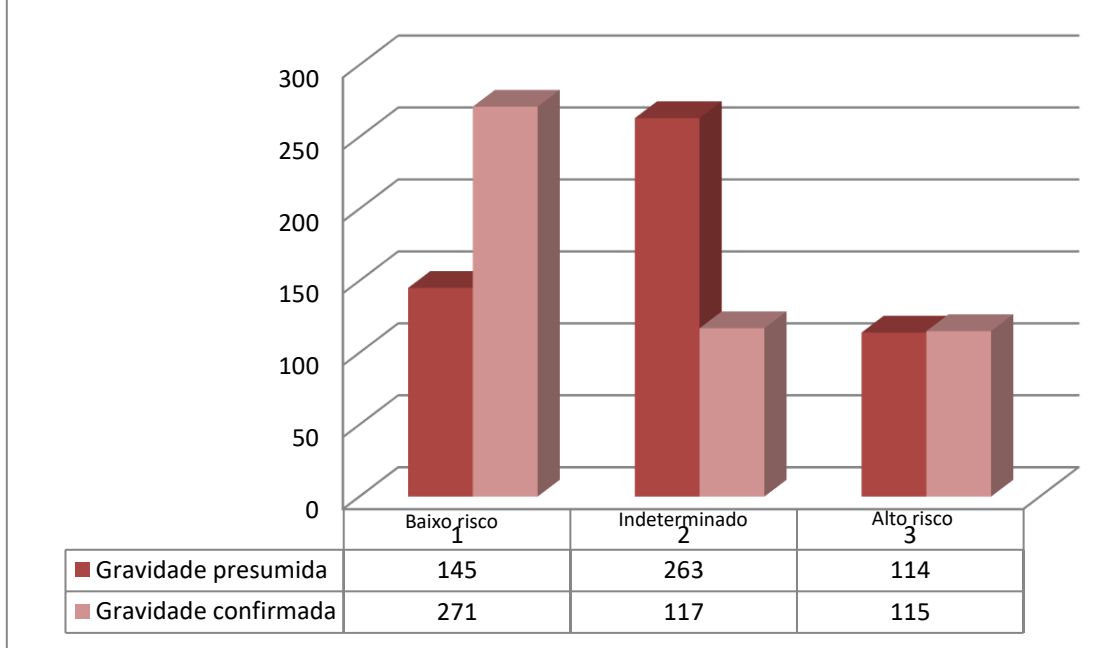
The work was approved by the Ethics and Research Committee of the Faculty of Medicine of Botucatu, UNESP No. 857,392 and CAAE: 37496314.4.0000.5411 and developed under the Resolution of the National Health Council No. 466/2012.

Results

This study aimed to analyze the severity attributed to each patient during the evaluation by the Regulatory Physician to verify whether what was reported over the telephone matched what the assistance team on site observed and evaluated upon arriving at the incident, that is, the comparison between the "presumed severity" and the "confirmed severity".



Graph 1. Comparison of presumed and confirmed severity of cases in patients treated by SAMU 192 in 2015. Botucatu, SP, Brazil, 2022

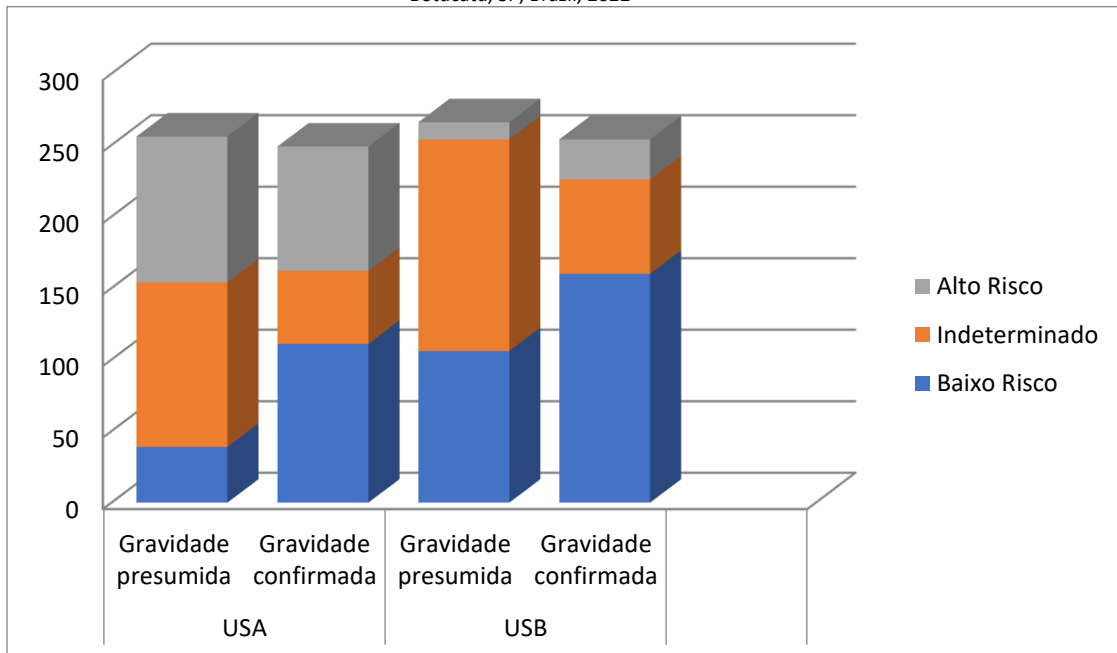


Note: Gravidade presumida: Presumed severity. Gravidade confirmada: Gravity confirmed. Baixo risco: Low risk. Indeterminado: Undetermined. Alto risco: High risk.

It can be seen that patients classified as high risk in the initial assessment remained that way. There was an increase in the number of patients classified as low risk and a decrease in the number of patients classified as

undetermined risk. Graph 2 compares the presumed and confirmed severity levels of the condition stratified by the type of emergency vehicle.

Graph 2. Comparison of presumed and confirmed severity of illness in patients treated by SAMU 192 in 2015, stratified by vehicle type. Botucatu, SP, Brazil, 2022



Note: USA = Advanced Life Support Unit. USB = Basic Life Support Unit. Gravidade presumida: Presumed severity. Gravidade confirmada: Gravity confirmed. Baixo risco: Low risk. Indeterminado: Undetermined. Alto risco: High risk.

The illustration shows an increase in the number of patients classified as low risk in both vehicles and a decrease in the number of patients classified as undetermined risk. There was also an increase in the number of patients classified as high risk treated by the Basic Life Support team.

It is important to note that this information was not included in the patient's records in 14% of cases. However, using Fisher's Exact Test, it was found that "confirmed severity" as low risk was higher in USB (59%) and "confirmed severity" as high risk was higher in AUS (76%), with $p < 0.001$ (Table 1).



Table 1. Confirmed severity of patients treated by SAMU 192 in 2015, stratified by vehicle type. Botucatu, SP, Brazil, 2022

Gravity	VEHICLE		Total
	USB	USA	
0	46 (47%)	51 (53%)	97
Low risk	160 (59%)	111 (41%)	271
Undetermined	66 (56%)	51 (44%)	117
High Risk	28 (24%)	87 (76%)	115

Note: 0: lack of information. USB = Basic Life Support Unit. USA = Advanced Life Support Unit.
Fisher's exact test - $p < 0.001$.

Discussion

Regarding the severity of the patients in this study, a difference was found between presumed and confirmed severity. These results showed that all patients classified as high risk in the initial assessment remained so; these were the most seriously ill. In the other classifications, it was found that not all patients were as severely ill as they appeared in the initial telephone triage conducted by the supervising physician, evidenced by the increase in low-risk classifications and the decrease in undetermined-risk classifications. This can be explained by the different conceptions of urgency among the various actors involved in the care, which differ concerning the setting and the person who assigns it.

For medicine¹⁰, urgency is the unforeseen occurrence of a health problem, with or without potential risk of death, requiring immediate medical attention. An emergency is the medical finding of a health problem that poses an imminent risk to life or intense suffering, thus requiring immediate medical intervention. For patients and their families, this concept can be associated with disruption in the course of life, and time is the primary factor in their recovery; in these cases, the social factor cannot be overlooked. For institutions, urgency corresponds to their organization's perception of what cannot be foreseen¹¹.

Anguish, anxiety, and helplessness in the face of suffering result from the need for the patient or a family member to obtain help as quickly as possible, and in such circumstances, obtaining a means of transport, which could be an ambulance, ends up becoming an urgent necessity¹². These issues are difficult to assess for the Regulatory Physician^{13,14}, which may justify the differences found during the diagnosis given by him through telephone assistance and after the assistance offered by a specialized team to the patient.

This "non-urgent" demand, in the biomedical concept, is not only characteristic of the Brazilian reality^{3,5,13,15-16}, but also appears in studies at an international level^{6,12,17-18}. In Sweden, for example, the use of mobile pre-hospital services by patients with significant vital dysfunction is 10% to 20% of total visits¹⁹.

Most patients are transported to an emergency room by a fully equipped ambulance, but they do not require pre-hospital care, either at the scene or during transport. However, for patients, no vehicle is as well-prepared or safe as an ambulance^{5,17,18}.

In SAMU 192 in southern Brazil, 72.3% of patients treated for clinical situations were transported to a health service, and of these cases, only 3.7% of patients were affected by severe emergencies²⁰.

Likewise, a study carried out in Bahia with the objective of characterizing the clinical care provided by SAMU identified inconsistencies in the relationship between the user's health demand, after the team's assessment, and the resources allocated to the care²¹.

Therefore, it can be seen that a smaller percentage of patients treated and transported by mobile pre-hospital units require more complex therapeutic and technological care, and that the patient's need to use the service derives from their perception of the health problem and the safety and reliability of the service. In this regard, a study indicates that care characterized as non-urgent does not represent an irrational consumption of technology, but rather the accommodating of complex demands that emerge as health problems in an unfavorable social environment, such as Brazil. Thus, it maintains the principle of equity and comprehensiveness by valuing individual needs and facilitating access to the network¹¹.

The results also showed an increase in the number of patients classified as high-risk being treated by the Basic Life Support team. The survey results are not current, but they broaden the debate about the working conditions and practices performed by nurses and nursing technicians working in emergency services in our country. Considering this, the Federal Nursing Council recently issued Resolution No. 713²², of 2022, updates the standard of performance of nursing professionals in mobile Pre-hospital Care and, through Resolution No. 718 of 2023²³ recognizes Intermediate Life Support in public and private services. Thus, it seeks to ensure safe care for both patients treated in these services and the professionals involved, aligning professional competencies, duties, and prerogatives with patient needs and applicable legislation. The trust and legitimacy of SAMU 192 will be established if professionals utilize technical criteria effectively to meet demand, but do not limit themselves to these criteria when faced with less typical situations. Embracing suffering, an expression of the primary sense of comprehensiveness, is essential for quality emergency care²⁴. As a limitation of this research, we highlight the number of consultations in which information about the severity of the patient was not included in the system.



Conclusion

A difference was identified when comparing the presumed and confirmed severity of patients treated by SAMU 192. The role of professionals, which initially involved responding to urgent and emergency needs, now faces new health problems characterized as low severity. This area of healthcare has adapted to current realities and demands.

Therefore, given the specific structure of mobile prehospital care and the need to review and update parameters that support the planning, control, regulation, implementation, and evaluation of nursing care activities, this scenario requires continued investigation of this information, especially in the post-pandemic period, when care demands have become unprecedented.

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