EMERGENCE ROOM ASSISTANCE: PROFILE OF PATIENTS WITH SEQUELAE AFTER HOSPITAL DISCHARGE

ATENDIMENTO EM PRONTO-SOCORRO: PERFIL DOS PACIENTES COM SEQUELAS APÓS ALTA HOSPITALAR

LA ATENCIÓN EN PRIMEROS AUXILIOS: PERFIL DE LOS PACIENTES CON SECUELAS TRAS EL ALTA HOSPITALAR

ABSTRACT

This study aimed to assess the prevalence of patients discharged from the hospital into the community with sequelae or special needs requiring follow-up care after the discharge. This was a retrospective prevalence study conducted in an emergency hospital focused on the records of 1,794 hospital discharges occurred between January and March of 2014. The sample consisted of 19 discharge records of patients who presented sequelae or disability, representing 1.6% of the 1,180 discharges that took place in the community. Results showed 84.2% of male patients; mean age of 37.6 years and with diverse sequelae such as: motor 68.3% (n = 13); motor and neurological 5.3% (n = 1); neurological 15.8% (n = 8); pulmonary 5.3% (n = 1); and metabolic 5.3% (n = 1). Although the identified prevalence of patients with sequelae or special needs in the sample was low, this number is significant when it is verified that 73.9% of patients were aged between 10 and 49 years representing young people at their potential productive ages.

Keywords: Patients; Hospital Discharge; Statistics on Sequelae and Disability; Prevalence.

RESUMO

Esta pesquisa teve como objetivo conhecer a prevalência dos pacientes que recebem alta hospitalar para a comunidade com sequelas ou necessidades especiais, necessitando de acompanhamento à saúde após alta. Trata-se de estudo retrospectivo de prevalência realizado em um hospital de pronto-socorro, direcionado para os registros de 1.794 altas hospitalares ocorridas entre janeiro e março de 2014. A amostra constituí-se de 19 registros de altas dos pacientes que ficaram com sequelas ou deficiências, representando 1,6% das 1.180 altas que ocorreram para a comunidade. Resultados evidenciaram 84,2% de pacientes do sexo masculino; média de faixa etária 37,6 anos, com sequelas diversificadas, tais como: motora 68,3% (n = 13); motora e neurológica 5,3% (n = 1); neurológica 15,8% (n = 8); pulmonar 5,3% (n = 1); e metabólica 5,3% (n = 1). Embora a prevalência de pacientes com sequelas ou necessidades especiais identificados na amostra tenha sido baixa, esse número é significativo quando se verifica que 73,9% dos pacientes tinham idade entre 10 anos e 49 anos, ou seja, jovens com todo o potencial produtivo.

Palavras-chave: Pacientes; Alta Hospitalar; Estatísticas de Secuelas e Discapacidade; Prevalência.

RESUMEN

Esta investigación tuvo como objetivo conocer la prevalencia de los pacientes que reciben el alta hospitalaria con secuelas o necesidades especiales y que precisaron seguimiento de salud tras el alta. Se trata de un estudio retrospectivo de prevalencia, realizado en un hospital de primeros auxilios que evalúan los registros de 1.794 altas hospitalarias ocurridas entre enero y marzo de 2014. La muestra consistió de 19 registros de altas de pacientes que quedaron con secuelas o deficiencias, representando el 1,6% de las 1.180 altas en la comunidad. Los resultados evidenciaron 84,2% pacientes del sexo masculino, con edad promedio de 37,6 años, con secuelas diversas como: motora 68,3% (n = 13); motora y neurológica 5,3% (n = 1); neurológica 15,8% (n = 8); pulmonar 5,3% (n = 1); y metabólica 5,3% (n = 1). Aunque la prevalencia de pacientes con secuelas o necesidades especiales identificados en la muestra fue baja, este número es significativo cuando se verifica que 73,9% de los pacientes tenían edades entre 10 y 49 años, o sea, jóvenes con todo el potencial productivo.

Palabras clave: Pacientes; Alta Hospitalaria; Estadísticas de Secuelas y Discapacidad; Prevalencia.
INTRODUCTION

The Unified Health System (SUS) is formed by a set of actions and health services provided by agencies and public federal, state, and local institutions, from the direct and indirect administration, maintained by the government. The SUS can be considered one of the greatest social achievements enshrined in the Constitution of 1988 because its principles identify democratization in the actions and health services becoming of universal access, and the administrative and financial management as no longer centralized and guided by decentralization.1

Because SUS advocates principles of universality and comprehensiveness of care, it is necessary to preview and endeavor efforts to ensure the proper and articulate functioning of units providing health services to meet the health needs of populations at their local level.1 However, although the reference and counter-reference system is recommended, it is still little developed.2

The Ministry of Health3 understands the hospital as the reference for more complex services, and basic health units as the counter-reference for less complex services. The reference and counter-reference system are the managerial, administrative mechanism that aims to adapt the SUS operation. Prioritizing the units that make up the system is necessary for its implementation and structuring, i.e., to classify by type of services, equipment and professional experts, and the ability for resoluteness.4

This scenario requires a commitment to the multidisciplinary practice and health education actions as producing elements of a collective knowledge providing autonomy and empowerment to the individual to care for themselves, their families, and acquaintances.5

Because of the importance of the reference and counter-reference system, its effective implementation offering patients a complete care within the health services is necessary.

The interest in verifying the need to create a reference and counter-reference system for patients with sequelae or special needs at the time of hospital discharge came up from empirical observation through the identification that many patients with previous normal life were hospitalized in the Emergency Hospital in the city of Canoas/RS as a result of a traumatic event or disease process and were discharged with health problems. Faced with this problem, the following guiding research question was defined: what is the prevalence of patients with sequelae or special needs at the time of hospital discharge requiring health follow-up after this discharge?

OBJECTIVE

To determine the prevalence of patients discharged from hospital into the community with sequelae or special needs and requiring health follow-up after this discharge.

METHODOLOGY

This was a prevalence retrospective study conducted in a hospital that performs urgent and emergency care. The studied site was the Canoas Emergency Room Hospital (HPSC) established in 2005 and located in the municipality of Canoas, Rio Grande do Sul (RS). Since September of 2010, this hospital is administered by a private health system, delivering services exclusively to SUS patients, mostly of low-income, presenting acute cases of urgencies or emergencies and coming from the same municipality or the metropolitan area of Porto Alegre-RS. It provides care in the specialties of neurosurgery, traumatology, orthopedics, general medicine (adult and pediatric), trauma, and bucofacial and plastic surgery performing consultations, exams, surgeries, and hospitalizations.

Table 1 shows the number of hospital discharges occurred during the study period and patients selected for the sample.

The population of this study consisted of patients who had been admitted to HPSC and were discharged. The inclusion criteria were:

- patients with more than 72 hours of admission;
- with sequelae or disability at the time of hospital discharge;
- requiring counter-reference follow-up;
- not being patients with chronic or psychiatric illness.

The exclusion criteria were:

- administrative hospital discharge;
- deaths;
- transference to another hospital.

Initially, a spreadsheet with hospital discharges between January and March of 2014 were built totaling 1,794 patients. After performing the analysis using the exclusion criteria, 1,180 discharges into the community (65.8%) were identified. Of these, based on the inclusion criteria, 19 (1.6%) were selected for the study; the electronic medical records, reading of discharge summaries and social profiles consisting of identification data were accessed, and discharge conditions were detected. Sample losses might have occurred in cases where sequelae at discharge were not registered. The data of interest were analyzed and organized for the research tool.
Data collection took place from the analysis of documents by accessing the Magnus Vieira system (MV), Health Management System, which is a developed software that standardizes and integrates all patients’ processes and information data. The variables investigated in the developed instrument were surveyed in the electronic patient record. The Google Drive storage service and synchronizing files service were used to collect data through the elaboration of a spreadsheet with the following variables:

- patient’s name;
- contact telephone number;
- date of birth;
- age;
- address, street;
- neighborhood;
- city;
- reason for hospitalization;
- admission to ICU (yes or no);
- surgery performed (yes or no);
- type of surgery performed;
- medical diagnosis;
- history of problems;
- sequelae;
- residence time;
- hospital discharge date.

Table 3 shows the variables: reasons for hospitalizations, diagnoses, specialties of surgeries conducted, and types of sequelae presented by patients at the time of hospital discharge.

As for reasons for admission, the results showed that the profile of patients treated at the emergency care hospital where 89.60% (n = 17) were hospitalized due to accidents whether related to transit, work, electrical shock, injury with knives (FAB), injury by firearms (FAF), burns or other accidents.

At the time of hospital discharge, the 19 studied patients presented sequelae requiring follow-up care by health professionals. The sequelae identified were: motor 68.3% (n = 13); motor and neurological 5.3% (n = 1); neurological 15.8% (n = 8); pulmonary 5.3% (n = 1); and metabolic and 5.3% (n = 1).

Only 26.3% (n = 5) of the studied sample needed admission in the Intensive Care Unit (ICU) and 94.7% (n = 18) underwent surgery at some point in the hospitalization as shown in Table 4.
Importantly, in the occurrence of 1,794 hospital discharges between January and March of 2014 identified in the study, 524 were transferred to other hospitals, mostly to the Canoas University Hospital, which is administrated by the same HPSC health system and to other hospitals close to the patient’s place of residency.

In addition, 69 hospital discharges were related to deaths, 14 to flight, 6 to voluntary discharge, and one to administrative discharge. The remaining were due to patients with psychiatric and chronic problems, admission for less than three days, and discharge without sequelae. Therefore, considering only the 1,180 hospital discharges into the community, 19 were from patients with sequelae or special needs representing 1.6% of the sample.

### Table 3 - Distribution of reasons for admissions, diagnostics, specialty, and identified sequelae in patients at the time of hospital discharge. Canoas HPS, Jan to March of 2014

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number of cases</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasons for admission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traffic accident</td>
<td>4</td>
<td>21,1</td>
</tr>
<tr>
<td>Injury by firearm</td>
<td>3</td>
<td>15,6</td>
</tr>
<tr>
<td>Work accident</td>
<td>2</td>
<td>10,5</td>
</tr>
<tr>
<td>Aphasia, dysarthria, facial paralysis, and hemiplegia</td>
<td>1</td>
<td>5,3</td>
</tr>
<tr>
<td>Electric shock</td>
<td>1</td>
<td>5,3</td>
</tr>
<tr>
<td>Coma</td>
<td>1</td>
<td>5,3</td>
</tr>
<tr>
<td>Stab wound</td>
<td>1</td>
<td>5,3</td>
</tr>
<tr>
<td>Second degree burn</td>
<td>1</td>
<td>5,3</td>
</tr>
<tr>
<td>Other accidents</td>
<td>5</td>
<td>26,3</td>
</tr>
<tr>
<td>Patient’s medical diagnosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trauma</td>
<td>10</td>
<td>52,6</td>
</tr>
<tr>
<td>Intracranial hemorrhage</td>
<td>3</td>
<td>15,8</td>
</tr>
<tr>
<td>Burns</td>
<td>2</td>
<td>10,5</td>
</tr>
<tr>
<td>Diffuse brain injury</td>
<td>2</td>
<td>10,5</td>
</tr>
<tr>
<td>Vascular trauma</td>
<td>2</td>
<td>10,5</td>
</tr>
<tr>
<td>Specialty surgeries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trauma surgery</td>
<td>5</td>
<td>26,3</td>
</tr>
<tr>
<td>Reconstructive surgery</td>
<td>4</td>
<td>21,1</td>
</tr>
<tr>
<td>Amputation surgery</td>
<td>2</td>
<td>10,5</td>
</tr>
<tr>
<td>Neurological surgery</td>
<td>2</td>
<td>10,5</td>
</tr>
<tr>
<td>Thoracic surgery</td>
<td>2</td>
<td>10,5</td>
</tr>
<tr>
<td>Vascular surgery</td>
<td>1</td>
<td>5,3</td>
</tr>
<tr>
<td>Neurological surgery: tracheotomy; debridement of devitalized tissue</td>
<td>1</td>
<td>5,3</td>
</tr>
<tr>
<td>NR</td>
<td>2</td>
<td>10,5</td>
</tr>
<tr>
<td>Sequelae</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor</td>
<td>13</td>
<td>68,3</td>
</tr>
<tr>
<td>Neurological</td>
<td>3</td>
<td>15,8</td>
</tr>
<tr>
<td>Motor and neurological</td>
<td>1</td>
<td>5,3</td>
</tr>
<tr>
<td>Metabolic</td>
<td>1</td>
<td>5,3</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>1</td>
<td>5,3</td>
</tr>
</tbody>
</table>

Source: research data, 2014.

### Table 4 - Distribution of ICU admissions and surgeries conducted in patients hospitalized in the Canoas HPS, Jan to March of 2014

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number of cases</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICU admissions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>73,7</td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>26,3</td>
</tr>
<tr>
<td>Surgeries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>5,3</td>
</tr>
<tr>
<td>Yes</td>
<td>18</td>
<td>94,7</td>
</tr>
</tbody>
</table>

Source: research data, 2014.

**DISCUSSION**

The profile of our sample (n = 19), consisting of 84.2% (n = 16) of male patients, 52.6% (n = 10) aged between 20 and 39 years, confirms the data in the literature revealing a higher frequency of young men and their greater vulnerability in relation to urban violence. In Brazil, over 80% of acts considered violent strike males, of which, young people are the main victims and agents.

Concerning age, epidemiological studies show that trauma is most frequent in the age group between 15 and 44 years; 71% of patients with lower limb trauma in this study were aged between 20 and 45 years, most of them males. The involvement of young men may be influenced by their tendency to be more aggressive in traffic and characteristics of age such as impulsiveness, immaturity, search for intense sensations, little driving experience, motivation, peer influence, and delinquent behavior.

The Canoas Emergency Room Hospital, originally planned to assist only the most serious cases occurred in the city, however, it began to receive patients from neighboring municipalities. It assists 400 patients daily, and it is the reference for 36 municipalities in the metropolitan region of Porto Alegre and the Mobile Emergency Care Service (SAMU) directing patients from anywhere in the state to Canoas.

The decentralization process has increased the SUS contact with the reality of the population’s needs, organizing a regionalized and hierarchical network of health actions and services meeting local demands. What characterizes the city of Canoas is the fact that it is divided longitudinally by a BR, the largest paved country road where accidents occur frequently. Many of those injured are taken to the hospital in study because of its good infrastructure of care. A study evaluating 10 emergency room/hospital emergency services in the network of macro and
brain trauma (2), and vascular trauma (2).

This study revealed 14 admissions with a medical diagnosis of high direct and indirect costs with assistance, amounting to a than the two major health problems related to mortality rates from final sequelae; trauma consumes more years of life in Brazil for the following reasons: 400,000 victims will suffer from fracture, being among the leading causes of death in the age group between five and 40 years, accounting for the loss of the magnitude of sequelae that they produce mainly in young individuals who are potentially productive.

A study based on the Hospital Information System (SIH)/ SUS from the Ministry of Health explored the data, and within its capabilities, estimated the number of sequelae; the study consisted of SUS hospital admissions, in their hospitals and insured hospitals, in 2008, resulting from injuries caused by traffic accidents. Out of all SUS admissions (11,031,870), those corresponding to hospitalizations by injuries in the variable “main diagnosis”, and cases whose injuries had been caused by road accidents in the variable “secondary diagnosis” were selected. The number of admissions that met these requirements was 94,390, allowing the finding of the following results: 2,729 cases of sequelae – sure sequelae, 18,497 cases of TCE (likely sequelae), and 984 cases of burns. Hospitalizations due to injuries to likely lead to sequelae totaled 22,210. It was emphasized that this value refer to the minimum number of cases because only lesions most likely to generate sequelae were classified; others may also occur.

Most of the time, moderate to severe trauma results in fracture, being among the leading causes of death in the age group between five and 40 years, accounting for the loss of more years of life than any other disease, and resulting in expenses that, directly or indirectly, reach astronomical figures.

This study revealed 14 admissions with a medical diagnosis of trauma, classified in the discharge note as: trauma (10), diffuse brain trauma (2), and vascular trauma (2).

Trauma can be consider as a complex public health problem in Brazil for the following reasons: 400,000 victims will suffer from final sequelae; trauma consumes more years of life than the two major health problems related to mortality rates in the country, cardiovascular diseases, and cancer; it generates high direct and indirect costs with assistance, amounting to a value that is higher than the country's external debt, and it is a health problem that leads to social, economic, and political consequences such as unemployment, marginalization, and automobilistic development.

As for the most frequently performed surgeries related to reasons for admission, the specialty with the highest demand was trauma with 26.3% (n = 5), followed by reconstructive plastic surgery with 21.1% (n = 4). A research conducted in a hospital in the interior of São Paulo with the objective of knowing the quality of patient admission data due to external causes found in transportation accidents and falls, respectively, the first and second leading cause of admission. Accidents cause fractures especially those involving young people in traffic, and falls among the elderly, and can lead patients to undergo surgery, both in traumatology of reconstructive plastic surgery.

Table 3 shows motor sequelae with 68.3% (n = 13), neurological patients with 15.8% (n = 3), motor and neurological with 5.3% (n = 1), and metabolic and pulmonary sequelae with one case in each. Motor sequelae are the most notable resulting disabilities and affect about 80% of patients, impairing movement on at least one side of the body and causing limitation in both performances of daily activities and interpersonal interactions. Motor sequelae are extremely costly to patients, families, and society due to the resulting physical and cognitive limitations and costs involved with rehabilitation.

Patients with neurological sequelae present a number of organic and psychological disorders as a result of the non-acceptance of the disease and hence rejection of the body viewed as representative of their condition.

Because of the disabilities resulting from the disease, to share sequelae and quality of life has been a challenge for both health professionals and people who experience the disease and their families. In recent years, the growing recognition of consequences determined by trauma in mid- and long-term, an increase of special needs, and a decrease in the quality of life of victims has occurred. This impact is not only related to initial anatomical and physiological alterations, but also the psychological and social aspects of acute care and rehabilitation.

Health education is essential for performing care to provide better quality of life for patients with degrees of disability, usually played by family caregivers and sequelae or healthcare professionals, and thus, making it necessary to discuss the assistance provided under the public health policy.

Polytrauma patients are especially young people, most productive members of society, which creates a devastating, destructive, and costly health problem considering hospital treatments and the rehabilitation period, which in some cases, extends over months or throughout life. Featuring a poor prognosis, such patients usually need the reference system for emergency care, and the counter-reference system for follow-
up treatment, however, the results from a recent study show
weaknesses and deficiencies in the reference and counter-ref-
ence system in local places for healthcare with fragmented
and disconnected care practices.25 According to the Prehos-
ital Trauma Life Support Trauma First Response Committee
(PTHTLS) from the National Association of Emergency Medical
Technicians (NAEMT) in the United States, there were about
60 million injuries in each year, 30 million determining health
professional care and 9 million resulting in sequelae; from
these victims, 8.7 million will be temporary with sequelae and
300,000 with irreversible sequelae.21

The reference system is highly complex in which the user
is routed to receive care in more complex specialization prac-
tice in hospitals and specialized clinics. The counter-reference
system directs patients to care at lower level of complexity
to more modest health services where the patient is “counter
referenced for primary care”22,26 and this location should be
a health center closest to the patient’s residence. In the tertiary
level, there is a logic in service priorities and specialties that are
dissociated from other health care levels, identifying deficien-
cies in the assistance network.23

To gather high and low complexity health systems, “as
a mutual referral mechanism for patients between the dif-
ferent levels of service complexity,”27,28 it is essential to of-
fer continuity in care to patients. For this to happen, it is es-
sential that “a reference and counter-reference system occur
within the health system in which a service informs another
about the state of health, disease, and treatment for the indi-
vidual.”22,29 However, we are still far from this integration be-
tween healthcare networks with an effective reference and
counter-reference system. A study conducted in a developed
municipality in Rio Grande do Sul, which aimed to identify
and analyze the reference system for the referral of patients
diagnosed with tuberculosis, found that “157 (65.7%) had no
reference document or any type of referral, 53 (22.2%) had
medical prescription as the means of referral, and 29 (12.1%)
contained the official document for referral and counter-ref-
erral in 239 assessed clinical histories. [...] No records related
to counter-reference was found”.24

There is a need for a care network consisting of hierar-
chical services and levels of care that support the actions of
teams.25 The Family Health Strategy (ESF) emerged as a way
to reorient the health system from the primary care, however,
this does not mean that the ESF should take all responsibility
and efforts in the three levels of care. Professionals interviewed
in a study25 mentioned the lack of services with different ob-
jectives such as rehabilitation, nursing care, palliative care, care
for people with physical and/or mentally fragmented disabil-
ity and the difficulties providing a longitudinal and caring as-
sistance.25 Therefore, as in hospital services in the primary care,
the reference and counter-reference system is also essential to
other levels of care to achieve comprehensive care, which is a
SUS principle. This sought integrity will only be fully effective
from the monitoring, following-up, and evaluation of reference
and counter-reference systems.2

FINAL CONSIDERATIONS

The main limitation of this study was related to the in-
stitution’s structure, with a sector accommodating a reduced
number of people, without immediate access to the institu-
tion’s file, the need to request medical charts in advance the
for a collaborator to select the desired ones and still provide
a location. As for the records, they were not always adequate
and sufficient.

This research allowed identifying the characteristics of pa-
tients who were discharged from the Canoas Emergency Room
Hospital with sequelae or special needs after the discharge, re-
quiring continued treatment in the community. Nineteen pa-
tients were identified between January and March of 2014 with
sequelae or special needs at the time of hospital discharge. The
age of the studied sample was between 18 and 69 years. The
following reasons led to hospitalization: accident by firearms
and knives, work accident, coma, electric shock, traffic acci-
dent, second-degree burn, and stroke among other accidents
(amputation, fall, sudden illness).

During this study, we realized the importance of the multi-
disciplinary team in patient care in the physical and emotional
aspects. Given the lack of proper care after hospital discharge
with patients returning to the hospital due to the lack of fol-
low-up assistance, it is believed that the counter-reference sys-
tem could facilitate access to health care, preventing the com-
plications arising from the discontinuation of treatment.

Although the prevalence of patients with sequelae or spe-
cial needs in the studied sample was low, representing 1.6% of
1,180 discharges occurred into the community, this figure is
significant considering that 73.7% of patients were aged be-
tween 10 years and 49 years, i.e., young people with strong,
productive potential.

Because this study is a fragment of a larger research, the anal-
ysis of data corresponding to a longer period will be necessary.

REFERENCES

São Caetano Sul, SP: Difusão; Rio de Janeiro: Editora Senac; 2012. v.1
2. Fratini JRG, Sauge R, Massroli A. Referência e contrarreferência: contribuição
Educação em saúde: histórico, conceitos e propostas. Brasilia (DF): Ministério
da Saúde; 2005.
Emergence room assistance: profile of patients with sequelae after hospital discharge


