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Original articles

Profile of users receiving Speech-Language Therapy service at a Critical Patient Unit

Manuel del Campo Rivas[1]
https://orcid.org/0000-0001-6076-2734
Pamela Estay Jorquera[1]
https://orcid.org/0000-0002-4635-5910
Gabriela Valencia Rojas[1]
https://orcid.org/0000-0003-4190-7971
Paula Muñoz Ramos[1]
https://orcid.org/0000-0002-2795-9532
Karen Arce Rossel[1]
https://orcid.org/0000-0003-2906-5118
Angélica Silva-Ríos[1]
https://orcid.org/0000-0002-2116-1087

[1] Universidad Santo Tomás, Facultad de Salud, Escuela de Fonoaudiología, Viña del Mar, Valparaíso, Chile.

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ABSTRACT

Objective: to describe the profile of patients treated by Speech-Language therapists in a Critical Patient Unit.

Methods: an ex post facto, observational and descriptive study was carried out. Monthly statistical data of patients hospitalized in the period January-December 2018 were analyzed, in the Intensive Care Unit at a public hospital. Data were described from the analysis of frequency and measures of central tendency. The distribution of the variables was determined through the skewness-kurtosis test, considering a significance level of $p<0.05$.

Results: 217 individuals got 868 speech-language therapy services. Men (57.26%), older than 65 years old, required a more frequent intervention. The main medical diagnosis of admission to the unit corresponded to non-specific pathologies (57.14%), respiratory disease (15.21%) and cerebrovascular disease (12.79%). The speech-language therapy functions were related to the evaluation of swallowing (54.31%) and voice (32.4%). In relation to the intervention, the treatment of dysphagia (25.82%) and oral motor functions (25.04%) was predominant in the duties. Functions associated with language, speech and cognition were secondary.

Conclusion: the profile of the critical patient and the speech-language therapy work in this field represent a first step to characterize the role of the speech-language therapist in Intensive Medicine teams.

Keywords: Critical Care; Speech-Language Pathology; Professional Practice

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Corresponding address:
Manuel del Campo Rivas
Escuela de Fonoaudiología
Avenida Uno norte 3041, 5º piso
Código Postal: 2561694 - Viña del Mar, Valparaíso, Chile
E-mail: mdelcampo2@santotomas.cl

INTRODUCTION

Speech-Language Therapy, as a discipline focused in communication and human swallowing[1], has recently been incorporated into the Chilean Society of Intensive Medicine, recognizing their work as part of the professional team in the care of critical patients[2].

The Critical Patient Units (CPU) comprehend a clinical structure of low and medium stay, which include the Intensive Care Unit (ICU) and the Intermediate Care Unit (IMCU)[3].

This hospital service has mainly medical and nursing professionals, for the advanced treatment and to support people in life risk[4,5]. Speech-language therapy has been incorporated in the swallowing therapy[6-8], linguistic-communicative therapy[9,10] and cognitive therapy[11,12] of critical patients, developing a role specifically as a rehabilitator in this context[13].

The critical patient has been defined as a physiologically unstable person who requires an advance life support[14]. The population admitted at the adult CPU is usually elderly and can present alterations in areas of relevance to speech-language therapy[15].

Internationally, Speech-Language Therapy at CPU has been described and defined for pediatric[16] and adult[13] population, considering the rehabilitation of swallowing as the most relevant responsibilities[7,17] and the handling of tracheostomized patients[18].

Even though the patients hospitalized at the CPU can receive an early intervention from the rehabilitators[19], the effect of those interventions still seems to be heterogeneous[20,21], which makes it necessary to develop some research in the area. In Colombia, for example, the speech-language therapy services[22] are focused mainly to treat problems related to swallowing and communication disorders[23]; in Brazil, on the other hand, the literature refers to therapy focused more on the swallowing treatment[24,25]; and in Chile, the research in this area is still beginning[26], which is why there is no literature describing neither the characteristics of patients nor the type of speech-language therapy in this area.

This research aimed to describe the profile of users treated by speech-language therapists in a Critical Patient Unit.

METHODS

This study was approved by the Scientific Ethics Committee belonging to the University Santo Tomás, in Chile, code 53.19, and was sponsored by the Direction of the Hospital San Martín, in Quillota, Valparaíso Region, Chile. A quantitative study of observational design, descriptive, and ex post facto was carried out. Monthly Statistical Data (MSD) from the CPU were analyzed, related to patients who received speech-language therapy service during the year 2018.

The sample consisted of all the people who received speech-language therapy during 2018 in the adult CPU in the Hospital San Martín, in Quillota, Valparaíso Region, Chile. Since it was a study of secondary sources, all the patients treated in the service and in the period mentioned earlier were included. As inclusion criteria, the following information associated to the process of treatment was considered: service, month of treatment, gender, age, diagnosis, type and area of treatment. The exclusion criterion was the lack of complete information in the MSD.

The clinical profile of patients was described through the characterization of: gender, age, medical diagnosis, frequency, time and area of the speech-language therapy service. The frequency analysis was applied in the case of categorical variables and measures of central tendency for continuous variables. Aiming to determine the distribution of the variables, the skewness-kurtosis test was used, considering a significance level of $p<0.05$. Software's were used, Microsoft Excel to tabulate data, and Stata 14, to analyze those data.

RESULTS

During 2018, the adult CPU in the Hospital San Martín, Quillota, performed 868 speech-language therapy services to 217 individuals, coming from varied clinical services and/or derived from other centers. The medical diagnosis of critical patients was organized into related groups for statistical purpose. From these data, a 99.77% could be validated, 57.26% of the patients treated being males, and 42.74% females. The people admitted at the adult CPU were between 16 and 89 years old, this variable is not following a normal distribution ($p<0.001$), therefore the median of 53 years was used for its characterization, being the age group between 65 and 69 the one who received the more proportion of treatment (19.82%) (Figure 1).

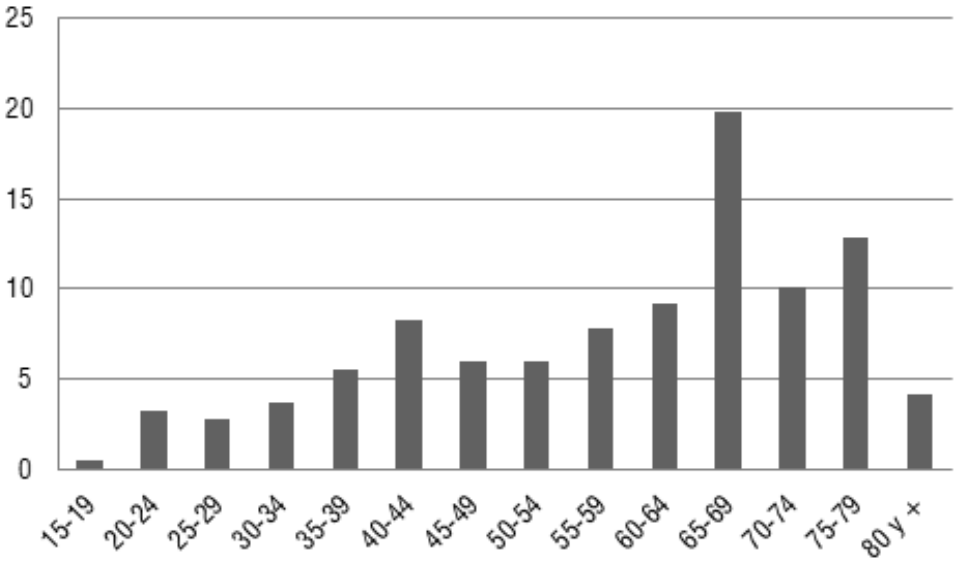

Figure 1. Proportion of patients treated, according to age

Likewise, the number of speech-language therapy services did not follow a normal distribution ($p<0.001$), presenting a median of 71 therapy service per month, with a minimum of 48, and a maximum of 96. Added to that, each individual was visited four times by a speech-language therapist during his/her stay at the CPU. The time of these sessions was different, depending on the characteristics and needs of the treated patient, with a minimum of 30 minutes. The months of January, May, and October presented a higher frequency of therapies (Figure 2).

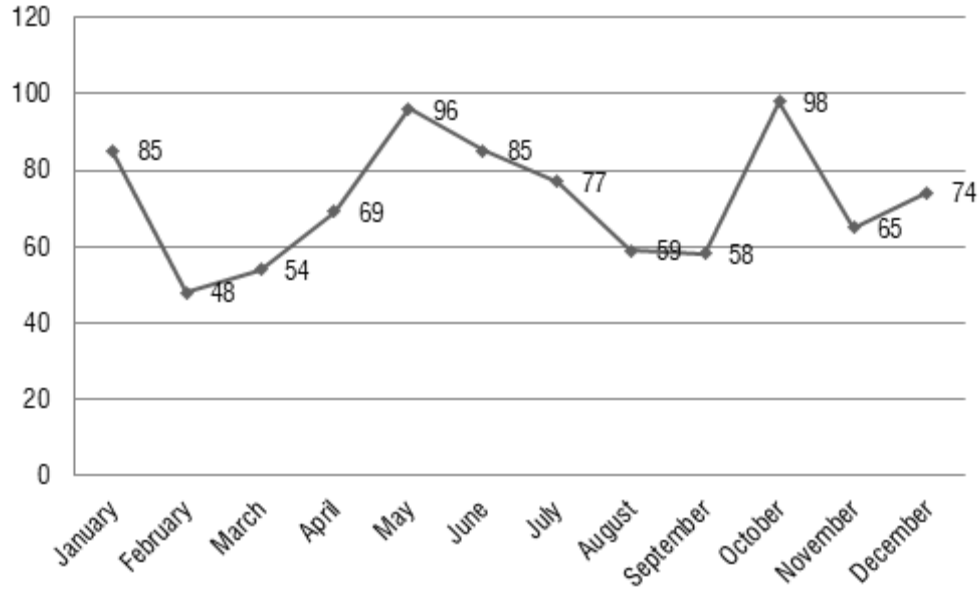

Figura 2. Frecuencia mensual de atención fonoaudiológica

Regarding the type of MSD diagnosis, 57.14% of cases were considered as non-specified diagnosis (which were associated to abrupt infectious process or sepsis). On the other hand, 15.21% of the patients treated were admitted because of a respiratory pathology, followed by 12.79% of cerebrovascular accidents (Table 1).

Table 1. Type of diagnosis when admitted to the Critical Patient Unit

MSD* Diagnosis	%
Non specified	57.14
Respiratory	15.21
Cerebrovascular disease	12.79
Cardiovascular	7.37
Chronical neuromuscular	2.65
Brain skull trauma	2.53
Acute neuromuscular	1.38
Trauma	0.69
Burn care	0.23

*MSD = Monthly Statistical Data

Concerning the speech-language therapy assessment activities, 54.31% corresponded to functions linked to the swallowing area, with few therapy services related specifically to language or speech (7% and 6%, respectively) (Table 2). These activities are referred to actions of integral valorization of the patients who could present dysphagia, of mechanical, neurological and/or post-extubation origins. Additionally, they refer to the study of disorders which compromise the communication considering the base pathology and/or the comorbidities that triggered the aggravation of the subject.

Table 2. Speech-language therapy assessment functions

Assessment according to the area	%
Swallowing	54.31
Voice	32.4
Language	7.01
Speech	6.28

From a therapeutic point of view, the swallowing treatment reached 25.81% of the speech-language therapy services, followed by 25.04% of rehabilitation of oral motor functions. In a lower proportion, appeared the language and/or cognitive stimulation intervention areas (Table 3).

Table 3. Speech-language therapy intervention functions

Treatment according to the area	%
Swallowing	25.82
Oral motor functions	25.04
Phono articulatory organs	24.22
Voice	17.26
Family education	3.14
Speech	2.04
Language	1.54
Cognitive stimulation	0.94

DISCUSSION

The scope of speech-language therapy[27] covers a broad spectrum of professional duties, from the promotion of heath, up to the rehabilitation of disorders which compromise the functionality of communication and swallowing[1]. Knowing the patient's profile from the perspective of speech-language therapy can contribute to the design and implementation of strategies adjusted to the characteristics of that population, which has an impact on the length of hospital stay[13] and the costs associated to that treatment[28]. It is important to highlight that those actions should be framed within coordinated multidisciplinary teams which contribute transversally to the discharge of patients in vital risk[29].

This research reveals a greater number of speech-language therapy services for people aged between 60 and 79 years old (Figure 1), which coincides with the Chilean epidemiological profile, where an increase of older population has been observed in the last decades[30,31]. Even though a high prevalence of non-specified MSD diagnosis was reported, it is possible to note that within this coding there are different types of sepsis, common diagnosis in the critical patient context[32], reporting up to 48.1% of admission for this cause in another study[33].

From a point of view of the duties of speech-language therapists, a concentration of actions in the areas of assessment and intervention in the swallowing field can be seen (table 2 and 3), which is coherent with what has been reported by international literature regarding the rehabilitation of dysphagia and the approach to the tracheostomized patients[34]. Aspects related to voice disorders appear as an area of relevance in this context (Table 2), probably due to the secondary laryngeal abnormalities to orotracheal intubation[35,36] , and/or the use of mechanical ventilation for long periods in the adult patient[37], in consideration of the physiological modifications that these procedures

could generate at a laryngeal level. It should be noted that even though the actions related to the approach to speech, language, and cognition are addressed in the CPU, they are usually performed with more frequency in less complex units and/or at an outpatient level, since they require longer therapeutic periods of time, which can only happen once the patient has passed the critical phase of their illness.

One of the limitations of this research was related to narrowing down the data collection to only one hospital, due to logistical reasons. However, the data reported by this study offer a first approximation to the systematization of the patient's profile treated by speech-language therapists and the professional work in the field of intensive Medicine in Chile. As a perspective for future investigations, the need of assessing the effectiveness of the speech-language therapy, and performing analysis of effectivity cost in the CPU arises, as it is described in the international experience[38-40], considering that speech-language therapy as a discipline in Chile, faces the challenge of validating and substantiating their work in this hospital setting. The clinical-epidemiological research, the economical assessment, and the controlled experimental studies will contribute to the achievement of this goal.

CONCLUSION

The profile of the critical patient who receive treatment at a unit for adults is that of an elderly patient, usually male and with a diagnosis associated to sepsis, respiratory and/or vascular pathologies. From the speech-language therapy practice, the professional who performs in the CPU, contributes to the comprehensive approach of people in vital risk, performing actions towards assessing and intervening in the swallowing process, the oral motor functions, and voice, and even acting with lower frequency in the speech, language and cognitive areas.

The characterization of the patient's profile and the professional duties of the speech-language therapist in the CPU of any complex hospital, offers a starting point for the future configuration of the role. Even though the specificity of the Intensive Medicine may tend to limit the professional act to swallowing rehabilitation, it is necessary to broaden the speech-language therapy task towards prevention and identification of other disorders in this context, to manage comprehensive care of people inside and outside the unit, in areas where professionals of communication and swallowing demonstrate their mastery.

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