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BRIEF REPORT

Communication of needs in laryngectomized patients: Pictorrino©

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KEYWORDS
Laryngectomized;
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Non verbal communication

Abstract
Objective: To design, create, and validate a pictogram, called Pictorrino®, as a tool to obtain direct and simple communication with laryngectomized patients.
Patients and methods: In a prospective sample of 10 laryngectomized patients within the first postoperative week, their principal needs and demands were evaluated, and were confirmed in a retrospective second sample of 10 laryngectomized patients who attended reviews in the outpatient clinic. Thereafter, pictograms were created to state such needs in a way as clear as possible.
Results: A pictogram was designed and validated, named and registered as Pictorrino®, consisting of a board, which showed these pictograms on one of its sides, and a visual analogue scale of pain, with the aim of enabling the patient to express the demand or need at every moment.
Conclusions: With Pictorrino® we have achieved a multicultural tool that allows a more direct communication with laryngectomized patients.

PALABRAS CLAVE
Laringectomizado;
Necesidades básicas;
Pictogramas;
Comunicación no verbal

Comunicación de necesidades en el paciente laringectomizado: Pictorrino®

Resumen
Objetivo: Diseñar, elaborar y validar un pictograma, llamado Pictorrino®, como herramienta de comunicación directa y sencilla con el paciente laringectomizado.
Pacientes y métodos: En una muestra prospectiva de 10 laringectomizados durante la primera semana posquirúrgica, se evaluaron las principales necesidades y demandas del paciente, que se confirmaron de forma retrospectiva con otra muestra de 10 pacientes laringectomizados que acu-

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dían a revisión en consultas. A continuación, se procedió a la elaboración de unos pictogramas que plasmaran lo más gráficamente posible dichas necesidades.
Resultados: Se diseñó y validó un pictograma, denominado y registrado como Pictorrino®, consistente en una pizarra en la que en una de sus caras muestra dichos pictogramas y una escala visual analógica de dolor, con el fin de que el paciente señale la demanda o necesidad que presente en cada momento.
Conclusiones: Con el Pictorrino® hemos conseguido una herramienta multicultural que nos permite una comunicación más directa con el paciente laringectomizado.

Introduction

Laryngectomized patients suffer a mutilation that marks a major change in their life, especially due to the degree of isolation perceived in the early postoperative stages.[1] There are numerous publications on voice and swallowing rehabilitation of the laryngectomized patients,[2] and on their quality of life,[3,4] but there is little information about these difficulties in the initial communication of the patient.[5]

This study arises from the confluence of 3 main factors: first, the usual difficulty that the hospitalized laryngectomized patient finds in communicating needs, both to family and health staff[6,7]; second, the low cultural level of the general population of certain health areas, which such makes this communication even more difficult,[8] and, third, the significant increase in the area of the immigrant population who can not speak Spanish correctly.[8]

It is for all these reasons that we set three main objectives at the beginning of the study: first, to assess which were the main demands from laryngectomized patients in hospital care; second, to design and develop a practical tool of communication between the patient and health staff, and third, to assess the degree of satisfaction with that tool.

In this sense, the specific objective of this work was the development and validation of a pictogram called Pictorrino® as a tool of direct and simple communication with the laryngectomized patient.

Methods

The study was divided into 3 phases; an initial one of development and delivery of a survey that reflected the needs of laryngectomized patients, both for those hospitalized during the study period and for patients at home, intervened at our hospital, and who were in ENT follow-up consultations. These surveys should reflect a range of basic needs, both general and specific to the laryngectomized patient.

In the hospital survey, data collection was performed during the first 7 days post-surgery for each patient, and was carried out in a total of 10 patients prospectively; it consisted in scoring, bedside, all requests to nursing staff. The unit staff noted in the chart, which was on the wall of the room, the cause for which the patient had used the calling bell (the need for suctioning, feeling cold, etc), so the main demands of the patient could be clearly observed (Figure 1).

The consultation survey consisted of the same items as above, on a sample of 10 other patients; but, due to its retrospective nature, it was the patient who noted the frequency with which they had made each request (never, occasionally, often and many times). At the same time, during this stage of development, the surveys were continuously reviewed and extended, including new demands and needs which the patients added.

In a second phase, we conducted a series of pictograms which reflected, as clearly as possible, the needs arising from the surveys. Thanks to the unselfish collaboration of the Mexican artist Raul Medina, a character was created specifically for this, characterized as a laryngectomized patient who demanded attention. Once the pictograms were developed, we proceeded to their validation by a reconnaissance survey of the drawings done in 40 people chosen randomly among the population. To this end, we designed a file which, using *tablet* PC, allowed each pictogram to be matched to its corresponding meaning.

In the third and last phase, the Pictorrino® tool was designed, which consists of a blackboard on which, on one side, the patient can communicate through writing, and on the other hand, shows the Pictorrino® itself (Figure 2). This includes the 13 items most demanded in the study: thermal sensation of the patient (I'm hot, I'm cold), rest (I want to get up, I want to lay down), pain (my neck hurts, my head hurts, the probe hurts), nutrition and hydration (I'm thirsty, I'm hungry), removal (I need the wedge, I need to urinate), and aspiration of secretions (I need aspiration, I need a handkerchief), along with 2 more items to assess the mood of the patient (I'm fine, I'm sad) and visual analogue scale of the pain perceived by the patient.

Once prepared, we launched a trial period of the tool with a very satisfactory result, as patients referred they could find all their needs reflected on it.

Results

The results were obtained from a total of 10 laryngectomized patients from whom demands of needs were collected during the first 7 days post-surgery, at the service of DGS and ENT of Hospital Universitario Fuenlabrada, between January, 1 and September 30, 2007.

The first phase consisted in the delivery and subsequent collection of surveys from the room of the patients; the data was statistically analyzed, basically the average and standard deviation of each need obtained (Table). From this

Communication needs of the patients in ENT

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
I can't sleep							
I'm cold							
I'm hot							
The bandage is too tight							
I want to get up							
I want to lie down							
I need the bathroom							
I need to urinate							
I need aspiration							
I'm tired							
I'm thirsty							
My head hurts							
My stomach hurts							
My back hurts							
The probe hurts							
My neck hurts							
I have defecated							
I have urinated							
Could you change my tube?							
I need a handkerchief							
I'm nervous							

Figure 1 Survey which collected needs in the hospital of laryngectomized patients.

data, the needs were selected which subsequently became part of Pictorrino®. The inclusion criteria of the demands were:

- The 10 needs with the highest average.
- Three needs which, although not reported as the most demanded, we estimated as the most important since 2 evaluated temperature comfort in the patient (I'm hot, I'm cold) and the other completed the need for elimination (I need to defecate deposition / I need the wedge).
- Two claims which are not reflected in the survey (I'm sad, I'm fine) to assess the mood of the patient.

Later, we carried out a validation of the pictograms, in a total of 40 people chosen randomly among the population. This survey was conducted through a survey matching pictogram-need. The successes were greater than 90% on all items.

Finally, a total of 5 laryngectomized patients assessed the usefulness of Pictorrino®. The characteristics assessed were:

- Degree of use of the tool.
- Degree of adequacy of the resource to the conditions of patients.
- Degree to which they believed that it facilitated communication with the nursing staff and family.
- Degree of acceptance.

All items were assessed with: very much, somewhat, little, or nothing. Three patients felt that they used the resource very much and 2, somewhat. All respondents felt that the tool was very suitable to their conditions. Two of the 5 patients felt that Pictorrino® favoured communication with nursing staff and family very much, and 3, somewhat. The degree of acceptance of the resource was assessed as very much by 100%of the respondents.

Discussion

Communication with patients is the basis of health care. The search for general communication tools which are adaptable to different languages and cultures has been common in medicine in recent years. This has been especially important in information leaflets for medicines,[9] with explanatory drawings which are internationally and interculturally accepted, after a validation period,[10] or in the field of aphasia or psychiatric disorders.[11]

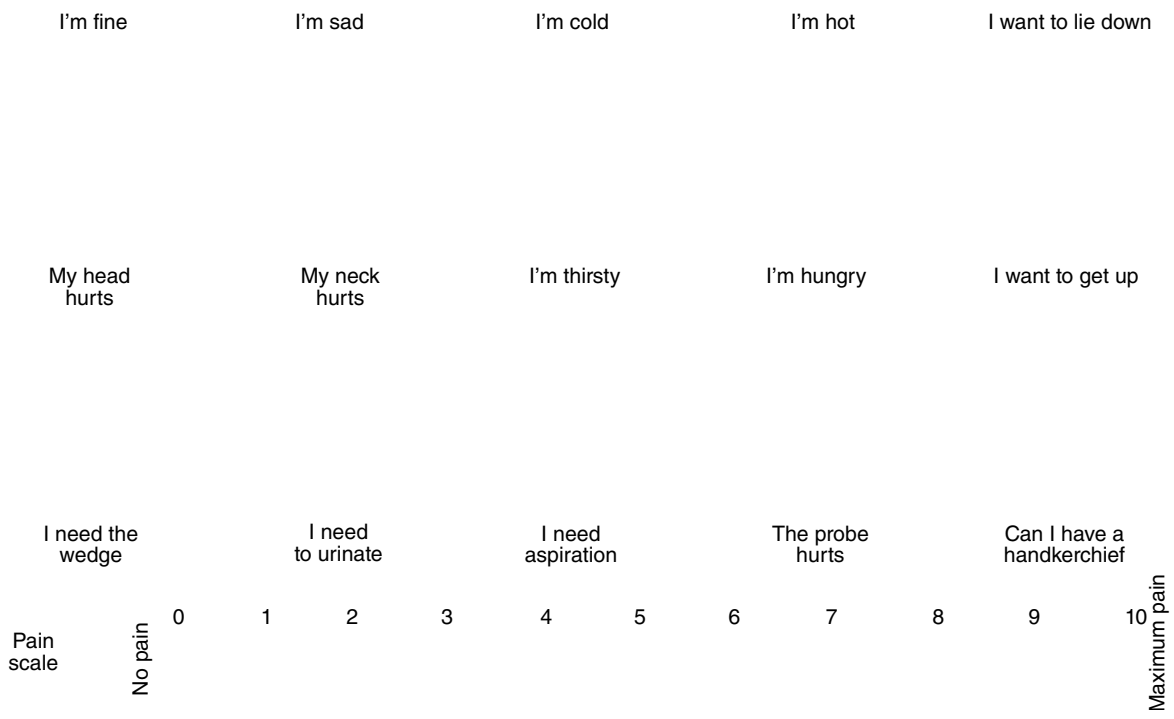

Figure 2 Pictorrino©.

Among the tools of nonverbal communication, the most used is the pictogram,[12] which is a sign that schematically represents a real object. The etymology of the word comes from *pictus*, a Latin word meaning painted, and *graphien*, a Greek word meaning to write: graphic representations of words that indicate beings, objects or actions, and even specific quantities (hundreds, thousands, etc). Widely used in other civilizations, such as Chinese, Egyptian, or Mayan, where the drawings represented in the pyramids are pictographic (for example, the corn cob not only represented itself, but also represented fertility), they were reintroduced in the Western world in the thirties with the concept that a pictogram should be entirely comprehensible with only 3 glances. At present, it is understood as a clear and schematic sign that summarizes a message that goes beyond the language barrier, with the objective of informing and/or signalling. In fact, we are all familiar with the pictograms of the General Traffic Directorate: traffic signals.

In medicine, we are accustomed to pictograms, especially in packaging and leaflets of medicines. In the field of otolaryngology, with Pictorrino© (Figure 2), we have obtained a tool that allows more direct communication with laryngectomized patients, thereby optimizing the time of their care, since the response to their demands is faster and more specific. During the evaluation process, a reduction in the level of anxiety in both patients and

Table Descriptive statistical data of the needs survey (n=10)

	Mean (standard deviation)
I need a handkerchief	44.00 (3.496)
I need aspiration	38.30 (5.458)
I need to urinate	8.50 (2.068)
My neck hurts	7.50 (2.273)
The bandage is too tight	6.60 (1.776)
My head hurts	3.90 (2.514)
I want to lie down	2.20 (1.687)
I want to get up	2.10 (1.449)
The probe hurts	1.90 (1.449)
I am thirsty	1.90 (2.025)
I can't sleep	1.50 (1.780)
I am nervous	1.50 (1.780)
I need to defecate	1.20 (0.632)
I am tired	1.10 (1.449)
I am hot	1.00 (1.247)
I am cold	0.70 (1.059)
My back hurts	0.50 (0.707)
Could you change my tube?	0.20 (.422)
I have urinated	0.10 (.316)
I have defecated	0.10 (.316)
My stomach hurts	0

relatives was observed. Pictorrino© is adaptable in terms of age, gender and culture as well as applicable to other types of hospitalized patients with hearing or language impairments. This multicultural utility is very important in areas with growing immigrant population like ours.

Furthermore, Pictorrino® is not limited to basic needs, but also evaluates pain, a key element in the immediate postoperative period of a patient. It is an easily portable and non bulky instrument. The versatility of this tool allows its adaptation to a computer platform, with the implications this may have for the future.

Conflict of interests

The authors have indicated there is no conflict of interests.

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