ABSTRACT

It is estimated that one person in ten has a deficiency, which is 10% of the world’s population. The most common causes of physical disability are amputation, stroke, head trauma, spinal cord injury, fibromyalgia, and neurodegenerative diseases. **Objective:** This study sought to describe the profile of patients served by the nutrition service at the Instituto de Medicina Física e Reabilitação (IMREA) - Vila Mariana Unit, São Paulo, between February 2012 and September 2015. **Method:** This is a descriptive study whose data were obtained from medical records of visits where the following data were collected: gender, age, service personnel, associated diseases, initial and final body mass index, and initial and final bowel habits. **Results:** The studied population was predominantly female; young adult; main etiology of brain damage; diagnosed hypertension associated in most cases; and mostly overweight. **Conclusion:** Observed significant improvement in bowel habits after nutrition education program.

**Keywords:** Rehabilitation Services, Nutrition Programs, Constipation, Body Mass Index

Nutrition service in physical rehabilitation: epidemiological profile of patients in outpatient care

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Received on April 20, 2016.
Accepted on June 20, 2016.

DOI: 10.5835/0104-7795.20160013
INTRODUCTION

It is estimated that one person in ten has some kind of disability, which is 10% of the world’s population, as determined by the World Health Organization (WHO) from studies in the 1970s; this corroborates with the proportion found by the Rehabilitation International organization.1,2

In Brazil, the 1998 estimate was 16.5 million persons with disability,3 but more current data has it at either 17 million4 or 24.5 million,5 depending on the source, with 48.1% having visual disabilities, 22.9% having motor disabilities, 16.7% having impaired hearing, 8.3% having some mental disability, and 4.1% some physical disability.6 We can see that the increase is proportional to the increase in the general population.

In relation to these disabilities, there are few studies in Brazil that present an epidemiological profile, especially concerning what etiological agents were involved in its determination.7 These studies are essential to reducing the costs and complications, improving the quality of life of these patients, launching educational campaigns for the prevention of these health systems whenever possible, and improving the health care system.

Physical or motor function disability is defined in Art. 4 of Decree No. 3.298/99, modified by Decree No. 5.296/2004 as “alterations in whole or in part of one or more segments of the human body, resulting in the impairment of physical function”.7

The most common causes of physical disability are: amputation - 13.9:100,000 inhabitants per year in Brazil; stroke (CVA) - 1.6 in the world;6 traumatic brain injury (TBI) - annually in Brazil half a million people require hospitalization;8 spinal cord injury (SCI) - 40 new cases per year per one million inhabitants in Brazil, which is approximately 6 to 8 thousand new cases per year, 80% of which are males and 60% are between 10 and 30 years of age;9 fibromyalgia - studies have reported its prevalence in some 10% of the population in Brazil, being more common among females (80%);10 Neurodegenerative Diseases - their incidence varies according to the etiology from 1:2500 (peripheral neuropathy) up to 1 to 2.5:100 000 (amyotrophic lateral sclerosis);10 and cerebral palsy - 7-1,000 live births in developing countries.11

Some of these incapacitating diseases are increasingly linked to chronic non-communicable diseases (NCDs) such as diabetes, cardiovascular diseases, chronic respiratory diseases, renal failure, cerebrovascular disease, and cancer. There are also intermediate risk factors in conditions such as hypertension, dyslipidemia, being overweight, as characterized by a body mass index (BMI) ≥ 25 kg/m², obesity (BMI > 30 kg/m²), and glucose intolerance.5,35 However, the risk factors common to all are smoking, physical inactivity, alcohol abuse, and an inadequate diet.35

Further contributing to the NCDs and their risk factors are poor eating habits: the excessive intake of fats - especially saturated fat - and refined foods - those rich in sugar and poor in fiber. Nutritional therapy is thus essential in the treatment and prevention of these diseases.16

Nutrition, in addition to nutritional therapy, also has the function of assisting the gastrointestinal system in patients with physical disabilities, since reduced mobility or immobility can compromise intake, digestion, and elimination. As a result, these very common alterations may lead to clinical constipation, which can be related to improper food and fluid intake, decreased peristalsis, atrophy of the intestinal mucosa, use of medications, and social factors.17

It is worth mentioning that the nutritionist in these situations has nutritional education as one of the alternatives for the promotion of health, which, by itself, using only the biological point of view, does not promote desired changes. This needs to happen in a comprehensive manner taking into account the needs felt by the public, considering the psychological, socio-cultural, and economic characteristics of society and/or the individual.18,19

It is seen that to achieve its goal, nutritional education should promote the knowledge of appropriate and healthy habits, not forgetting the pleasure of feeding ourselves, of preparing food, and enjoying its flavors, always encouraging the autonomy of the individual, valuing and respecting the cultural and regional particularities. The expected outcome of this intervention is that every human being may develop the ability to better select and use available food resources to meet their nutritional needs, as well as the capacity to analyze and search for alternatives when there are food inadequacies.18,19

Due to this entire nutritional and socio-cultural context, with the scarcity of studies in nutrition in rehabilitation, the present study is based on the need to have a perception of the population treated within a rehabilitation center.

OBJECTIVE

General
To describe, in overview, the profile of the patients seen by the nutrition service at the Institute of Physical Medicine and Rehabilitation (IMREA) - Vila Mariana Unit, São Paulo, between February of 2012 and September of 2015.

RESULTS

In this period 506 patients were treated by the nutrition service, and data from 321 of these patients were analyzed, 158 patients were excluded from the analysis by reason of discharge from hospital before the completion of...
of the treatment, and 27 patients due to incomplete data.

Of these 321 patients, 138 were males (43%) and 183, females (57%). The average of visits was equivalent to 18.07. When divided by age groups, the following classification according to male and female, respectively, was obtained: children (5%) 9 and 8, adolescents (1%) 3 and 1, young adults (17%) 37 and 19, adults (41%) 41 and 90, and elderly (35%) 47 and 66. Ages ranged from 1 to 88 years, with an average of 44.7 years (Table 1).

The patients were treated in groups according to male and female, respectively, was obtained: children (5%) 9 and 8, adolescents (1%) 3 and 1, young adults (17%) 37 and 19, adults (41%) 41 and 90, and elderly (35%) 47 and 66. Ages ranged from 1 to 88 years, with an average of 44.7 years (Table 1).

The patients were treated in groups according to the end of the program. A significant difference at the end of the program, in addition to 108 program was evaluated and found 213 with treatment, and 27 patients due to incomplete data.

Table 1. Classification of gender by age

<table>
<thead>
<tr>
<th>Age Bracket/Gender</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children (0 to 11)</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Adolescents (12 to 18)</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Young adults (19 to 40)</td>
<td>37</td>
<td>19</td>
</tr>
<tr>
<td>Adults (19 to 60)</td>
<td>41</td>
<td>90</td>
</tr>
<tr>
<td>Elderly (&gt;60)</td>
<td>47</td>
<td>66</td>
</tr>
</tbody>
</table>

**DISCUSSION**

In this study, the predominant disease was female (57%), which was also observed by the 2010 Brazilian Census, in the population of persons with physical disabilities, supporting the findings of the WHO report on disability.27

The average age of the patients seen was 44.7 years and that is within the age range found in the literature. In the 2010 Census, the largest contingent of people with at least one disability occurred in the population between 40 and 59 years of age.26 The 2000 Census also reported that the largest number of people with disabilities in the population was between 40 and 49 years of age.26

The predominant etiology in the population studied was that of a brain injury, the highest incident disease among those treated.9 This was also noticed by the Institute Lucy Montoro through the Tasy hospital management software in its indicators from July 1 to December 31, 2015, which treated 67,943 cases of people with physical disabilities, with 28.31% of that population treated for brain injury.

However, the high prevalence of patients found with hypertension (47.7%), proved to be a little high when compared with the data from the World Health Organization (WHO) in 2008, which estimated 30% of hypertensive patients in the European region and 23% in the region of the Americas.29 That agrees with the data of the Brazilian Society of Hypertension that estimated 25% of people to be hypertensive in 2010.30 It is worth emphasizing that in 2006 the Ministry of Health published that there were approximately 17 million people with hypertension, that this number was growing, and it emphasized that due to it being mostly asymptomatic, its diagnosis and treatment are often neglected.31

Dyslipidemia had an incidence of 42.1% in the population studied, it was found at the intermediate level of research made. In the city of São Paulo, in the period of 2008-2009, 59.7% of the population was found with some type of dyslipidemia.32 However, the BREATHE testing held in 51 training centers in different regions found 36.7% with the same comorbidity.33
• Brain injury is the main etiology;
• Hypertension is the prominent associated disease;
• Most are overweight;
• Improvement of the bowel habit after nutritional guidance.

Thus, the overall profile of the population studied was obtained. However, further studies with more detailed data for greater support of the literature and specificity of this public are necessary.

The differences found in relation to the literature, regarding the prevalence of associated diseases reflect the reality of our specific population and should be used to better prepare the programs of prevention and treatment of these patients.

Nevertheless, further studies are required to better elucidate these findings and to identify new targets for the treatment and prevention of pathological disorders in people with physical disabilities.

**ACKNOWLEDGEMENTS**

To my family, to all professionals of the Nutrition Service, to Prof. Dr. Eduardo Massad, to Flavio Cichon, to the Institute of Rehabilitation, and to all the staff for the help, collaboration, and learning.

**REFERENCES**


**CONCLUSION**

The population studied has the following characteristics:

- Predominance of female gender and adults;


