



## RESEARCH

## Skin lesions of children and adolescents in process of physiotherapeutic rehabilitation

Lesões dermatológicas de crianças e adolescentes em processo de reabilitação fisioterapêutico

Lesiones cutáneas niños y adolescentes en proceso de rehabilitación fisioterapêutico

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## ABSTRACT

**Objective:** To evaluate the skin lesions in children and adolescents with neurological diseases in a physical therapy rehabilitation process. **Method:** A retrospective descriptive study with a quantitative approach. The sample consists of 101 medical records of children and adolescents treated at a Rehabilitation Center in Teresina - Piauí, Brazil. The data were collected by means of form, evaluation sheet and the Likert scale and processed in SPSS, presented in tables and a descriptive statistical analysis performed. **Results:** The major lesions which affected patients were pityriasis versicolor - 25.7% and pediculosis -21.8%. Data from the Likert scale regarding the injury originated from dermatological lesions with patients undergoing rehabilitation, the option not agree totally accounted for 37.1%, the option indifferent accounted for 3.4%, partially agree representing 24.7% and completely agree 34.8%. **Final Considerations:** The skin lesions cause treatment interruptions harming children and adolescents in physical therapy rehabilitation. **Descriptors:** Dermatology, Lesions, Rehabilitation.

## RESUMO

**Objetivo:** Avaliar as lesões dermatológicas de crianças e adolescentes com doenças neurológicas em processo de reabilitação fisioterapêutico. **Método:** Estudo descritivo, retrospectivo com abordagem quantitativa. A amostra consta de 101 prontuários de crianças e adolescentes atendidas em um Centro de Reabilitação de Teresina - Piauí. Os dados foram coletados por meio de formulário, ficha de avaliação e a escala de Likert e processados no SPSS, apresentados em tabelas e feito análise estatística descritiva. **Resultados:** As principais lesões que acometeram os pacientes foram pitíriase versicolor - 25,7% e pediculose -21,8%. Os dados da escala de Likert em relação ao prejuízo originado das lesões dermatológicas à pacientes em reabilitação, a opção não concordo totalmente representou 37,1%, a opção indiferente representou 3,4%, concordo parcialmente representou 24,7% e concordo totalmente 34,8%. **Considerações finais:** As lesões dermatológicas causam interrupções no tratamento prejudicando as crianças e adolescentes na reabilitação fisioterapêutica. **Descritores:** Dermatologia, Lesões, Reabilitação.

## RESUMEN

**Objetivo:** Evaluar las lesiones cutáneas en niños y adolescentes con enfermedades neurológicas en el proceso de rehabilitación de fisioterapia. **Método:** Estudio descriptivo retrospectivo, con abordaje cuantitativo. La muestra se compone de 101 registros de niños y adolescentes atendidos en un centro de rehabilitación en Teresina - Piauí. Los datos fueron recolectados a través de formulario, forma de evaluación y la escala Likert y procesado en SPSS, presentados en tablas y hecho un análisis estadístico descriptivo. **Resultados:** Las principales lesiones que afectaron a los pacientes estaban pitiriasis varicolor - 25,7% y pediculosis -21,8%. Los datos de la escala Likert a el perjuicio se originó a partir de las lesiones cutáneas de los pacientes en rehabilitación, la opción no está de acuerdo totalmente representó el 37,1%, la opción indiferente representó el 3,4%, en parte de acuerdo representó el 24,7%, y totalmente de acuerdo el 34,8%. **Consideraciones finales:** Las lesiones cutáneas causan interrupciones en el tratamiento del perjudicando los niños y adolescentes en la rehabilitación de fisioterapia. **Descritores:** Dermatología, Lesiones, Rehabilitación.

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## INTRODUCTION

In Brazil, dermatology began in 1882, with the installation of the first Clinical Service for Skin Diseases in the General Polyclinic of Rio de Janeiro. From the discoveries of microbiology, in the late 19th century and early 20th century induced by dynamic teaching of dermatology as a specialty, the studies in this area have evolved reaching its current level of excellence.<sup>1</sup>

Dermato-functional physiotherapy arose when the physiotherapists found the resources used in the aesthetic practice, both in the theoretical and at the practical aspect. This new area operates with the goal of providing physical and functional recovery of endocrine-metabolic, dermatological and musculoskeletal disorders.<sup>2</sup>

Care models (Rehabilitation Centers) for persons with physical disabilities were introduced in Brazil, to perform actions, aiming care coverage low cost, using simplification of procedures and training of local human resources, such as a healthcare model for the with physically needy.

The incidence of skin lesions in children and adolescents aged 7 to 14 years is significant, as well as the lack of treatment. Among the dermatoses most affecting children and adolescents is molluscum contagiosum, which is a disease of viral origin, caused by poxvirus, and its condition is characterized by a benign rash and self-limiting of one or multiple spherical and shiny papules. Transmission generally occurs by direct contact with infected individuals.<sup>3</sup>

Among the manifestations of cutaneous lesions is highlighted the emergence of several lesions that change the appearance of the skin, with the observation of the fundamental steps for the diagnosis of these dermatoses where the diseases are distinguished according to the characteristics of the lesions. Thus, by identifying J. res.: fundam. care. online 2013. dec. 5(6):115-121

*Skin lesions of children and adolescents...* the incidence of skin lesions it is possible to give continuity to the treatment of these patients' rehabilitation, providing conduits for prevention and treatment of these skin diseases arising from pathologies.

This study aims to evaluate the skin lesions in children and adolescents with neurological diseases in the physiotherapeutic rehabilitation process in the Integrated Center for Rehabilitation in Teresina - Piauí, Brazil, in the period from 2009 to 2012, taking into account the importance of the prevention of dermatological lesions for children's health.

## METHODOLOGY

Descriptive retrospective study with a quantitative approach to investigate skin lesions in children and adolescents undergoing a physical therapy process. An analysis of the records at Rehabilitation Center, from 2009 until 2012 was performed.

Data collection took place by means of a form, in which were recorded information on: gender, age, socioeconomic class, clinical condition of the skin lesion and the neurological diseases in children and adolescents who need rehabilitation.

The study population consisted of children treated at the dermatology clinic of the Integrated Center for Rehabilitation in Teresina - Piauí, Brazil. Thus, the sample was comprised of 101 children and adolescents, aged 0 year years up to 17 years and 11 months, in physiotherapy rehabilitation treatment and diagnosed with skin lesions for various etiology-pathogens.

To verify if there was loss to children and adolescents in the physical therapy rehabilitation process arising from lesions, the graphical Likert scale was used. It is the conversion of one of the most popular psychometric techniques used by

Lima IBD, Brito JNPO, Rocha ESB *et al.* economists, sociologists and psychologists in the development of questionnaires. This method is relatively fast and allows the subject to establish a qualitative estimate of the magnitude of an attribute.<sup>4</sup>

According to the Likert scale, the perception of the professional responder covers their opinion in favor or against the harm of the skin lesions originating in the patients in rehabilitation, on a scale of 1 to 4 points that goes from: do not entirely agree, corresponds to the child or adolescent does not have any loss in rehabilitation (1); indifferent, matches cannot measure if there was loss from the physiotherapeutic rehabilitation by the absence of return for the query (2); partially agree, corresponds that there was partial loss in physiotherapeutic rehabilitation (3) and I agree completely, matches that there was total injury in physiotherapeutic rehabilitation (4).

After collecting the sample data, we resorted to a detailed investigation of the data collected, using descriptive and inferential statistics using the Statistical Package for Social Sciences for Windows (SPSS for Windows), version 18.0.

The univariate analysis raised information referring to Frequencies - absolute (no.) and relative (%); measures of central tendency - mean; measures of dispersion or variability - standard deviation, minimum and maximum values and confidence Interval, depending on the data in question.

The contingency table for achievement of bivariate analysis (non-parametric test Chi-Square) was used for verification of statistical significance level ( $p \leq 0.05$ ). The Chi-square Test ( $\chi^2$ ) was also

used to verify the association between the dependent variable and explanatory variable of the study.

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It is highlighted that the study in question was initiated after approval by the Research Ethics Committee of the University Center UNINOVAFAPI (CEP / UNINOVAFAPI) with CAAE of No. 0499.0.043.000-11. Thus, it imperatively respected Resolution 196/96 of the National Health Council, which guides the ethics in research involving humans.

## RESULTS AND DISCUSSION

As far As the characterization of the children and adolescents with skin lesions in the rehabilitation process, the results indicated that 29.7% of the study subjects were 1 month to 5 years, 31.7% were from 06 to 10 years, and thus it was observed that the highest percentage of subjects of research has an average age of 7.4 years. Regarding gender, 51.5% are female and the majority are students, with 69.3%.

The results were presented in four tables. Table 1 shows the types of skin lesions that suffered by the children and adolescents in the physiotherapeutic rehabilitation process.

**Table 1** - Types of skin lesions suffered by the children and adolescents. Teresina-PI, 2012. (n=101)

Variables	n	%(of cases)
Type of injury (*)		
Pitiriasis versicolor	26	25.7
Pediculosis	22	21.8
Wart	12	11.9
Tinea corporis	06	5.9
Molluscum contagiosum	08	7.9
Furunculosis	09	8.9
Impetigo	09	8.9
Ulcer	11	10.9
Callosity	12	11.9
Scabies	04	4.0
Larva migrans	05	5.0

Source: Integrated Center for Rehabilitation  
(\*) Multiple response.

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It can be perceived that the main types of lesions which affected children and adolescents were Pitiriasis Versicolor (25.7%), pediculosis (21.8%), Warts and Callosity (11.9%). The lesions of less impairment were Larva migrans (5.0%) and Scabies (4.0%).

In Table 2, it is observed that 88.1% of children and adolescents had interruptions in the physiotherapeutic rehabilitation process.

**Table 2** - Distribution of the number and percentage of interruptions in the physiotherapeutic rehabilitation process. Teresina - PI, 2012. (n=101)

Variables	n	%
Treatment Interruption		
Yes	89	88.1
no	12	11.9

Source: Integrated Center for Rehabilitation

In relation to time of interruption on the part of patients, 34.8% did not exceed 15 days (Table 3). The majority of patients who suffered interruption of rehabilitation 65.2% presented in a period greater than 15 days. We consider it important to emphasize that the Center has as rule that patients with more than 15 days of absence from the therapies, are suspended from rehabilitation until the resolution of the

dermatological clinical condition. This retards the rehabilitation treatment of these patients, since they must pass through a comprehensive new evaluation in order to redo the entire workload in relation to the therapies.

**Table 3** - Period of the physiotherapy rehabilitation process interruption (n = 89)

Variables	n	%
Duration of interruption		
Up to 15 days	31	34.8
More than 15 days	58	65.2

Source: Integrated Center for Rehabilitation

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Table 4 shows the losses of the physiotherapy rehabilitation process resulting from lesions, according to the Likert scale. It is perceived that the option, do not entirely agree, represents 37.1%. The option indifferent represents 3.4%, partially agree, represents 24.7% and totally agree 34.8%.

**Table 4** - Distribution of the number and percentage of losses of physiotherapeutic rehabilitation process, according to the Likert scale. Teresina - PI, 2012. (n=89)

Variables	n	%
Loss in rehabilitation with treatment discontinuation, according to the Likert scale		
Does not totally agree *	33	37.1
Indifferent **	03	3.4
Partially agree ***	22	24.7
Totally agree ****	31	34.8

Source: Integrated Center for Rehabilitation (CEIR)

\* No loss in rehabilitation (1)

\*\* Cannot measure if there was loss to the physiotherapeutic rehabilitation (2)

\*\*\* There was partial loss in physiotherapeutic rehabilitation (3)

\*\*\*\* There was total loss in physiotherapeutic rehabilitation (4).

Research conducted at the Dermatology Department of the Federal University of the Health Sciences of Porto Alegre, Brazil, between July 2010 and February 2011, on evaluation of the quality of life of pediatric patients, showed that the main dermatoses presented by children were verruca vulgaris (13%) and molluscum contagiosum (7.5%) between 5 and 16 years.<sup>5</sup> In this study, we

observed that the lesions of verruca vulgaris had a significant representation, while the lesions of molluscum contagiosum were presented in smaller percentages. Comparing these results with the data presented in table 01, it is observed that the results of both studies showed similarity.

In another study performed in Goiania, Brazil in the years 1998 and 1999, scholars showed prevalence of pitiriasis versicolor in 17.0% of cases investigated. The age range of 0 to 10 years had the lowest number with 9.2% of the cases, being that the adulthood showed higher prevalence of cases, due to the greater presence of lipidic



Lima IBD, Brito JNPO, Rocha ESB *et al.* substances on the skin, due to the production of sexual hormones, after puberty.<sup>6</sup>

Research performed in public and private schools showed that 87.5% of the children presented dermatoses, with a slight prevalence in public schools. The students aged between 8 and 11 years showed a predominance in relation the dermatoses, being that the female presented the majority of cases with 53%. This study has concluded that there is a need for the creation of programs that promote awareness about the importance of health dermatology.<sup>7</sup> It was noted a similarity between the studies in the age range, in women and in occupation of patients, being these the majority students.

Health Education is a social practice that contributes to the formation of critical awareness of people in respect of their health problems, from its reality, stimulating the search for solutions and organization for individual and collective action.<sup>8</sup> education in health is a practice developed with social groups from fields of knowledge that is part of the interdisciplinary areas of health and education.<sup>9</sup>

Given this, we consider it important to emphasize that, during the period of the research, it was observed that the Center does not have

educational and preventative measures for the occurrence of dermatological lesions, thus, continuity in the physiotherapeutic rehabilitation. The need for human resources for the implementation of specific actions of permanent education favors the formation of health professionals and access to learn specific aiding the population with preventive measures.<sup>10</sup>

The professionals of the medical area has been facing many challenges with the rehabilitation of patients with brain problems, requiring rehabilitation strategies. With this, it is clear that the technological advancement and

*Skin lesions of children and adolescents...* medical treatments more perfected comes allowing an improvement in the quality of life of these patients with brain injuries, such as stroke, cerebral palsy, among others.<sup>11</sup>

Hydrotherapy is able to provide a favorable environment for the active participation of children and adolescents in the improvement of functional ability. The aquatic rehabilitation affects positively on the problems associated with ataxia and weakness of proximal muscle groups. The benefits include reduction of the tonus, prevention of contractures, assistance to the static and dynamic balance, strengthening earlier and more effective, cardiovascular benefits, motivation, recreation and socialization.<sup>12</sup>

With this, it demonstrates the relevance of this research, according to the significant number of disruptions with more than 15 days of physiotherapeutical treatment. According to the rules of the Center, with the period of absence the patient disconnects from therapies for the treatment of skin lesions until the resolution of their clinical conditions, thus impairing the majority of children and adolescents in physical therapy rehabilitation. Patients who had interruption of the rehabilitation process up to 15 days, are not detached from the center, but are

deprived of therapy until the resolution of the clinical condition. These patients have a more rapid return of therapies compared to patients who were disconnected, not having so much loss with physical therapy rehabilitation.

Patients detached from the center are replaced by others who are on the waiting list to start their therapies, reducing anxiety for the start of rehabilitation.

Based on the results presented in table 04, as the Likert scale revealed that 22 children and adolescents (24.7%), had partial damage in its rehabilitation caused by skin lesions and 31 (34.8)

Lima IBD, Brito JNPO, Rocha ESB *et al.* had total loss. This means that 59.5% of the study subjects were at a loss in physiotherapeutic rehabilitation.

It shows the importance of the presence of dermatologist in any physiotherapeutic rehabilitation center for the care in the prevention, diagnosis and treatment of skin lesions. For such preventive measures they can enhance the non-interruption of the physiotherapeutic rehabilitation.

## CONCLUSION

As the results of the study, the skin lesions were most frequent pityriasis versicolor, pediculosis, warts, furunculosis and impetigo. These lesions were causes of interruptions in physical therapy rehabilitation of children and adolescents, in most case, for more than 15 days. This resulted in injury rehabilitation arising from lesions, whereas, according to the Likert scale, 24.7% of children and adolescents had partial loss and 34.8% had total loss.

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