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Original article

Health-related quality of life evaluated by Pediatric Quality of Life Inventory 4.0 in pediatric leprosy patients with musculoskeletal manifestations



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ABSTRACT

Objective: To evaluate the health-related quality of life (HRQL) in pediatric leprosy patients. **Methods:** A cross-sectional study included 47 leprosy patients and 45 healthy subjects. The HRQL was measured by Pediatric Quality of Life Inventory 4.0 (PedsQL 4.0), and evaluated physical, emotional, social and school domains. The leprosy patients were classified by Ridley and Jopling classification criteria and assessed according to clinical musculoskeletal manifestations, laboratory and radiographic examinations.

Results: The median of current age was similar in leprosy patients and controls [12 (6–18) vs. 15 (5–18) years, $p=0.384$], likewise the frequencies of female gender ($p=0.835$) and middle/lower Brazilian socio-economic classes ($p=1.0$). The domain school activities according the child-self report was significantly lower in leprosy patients compared to controls in the age group of 13–18 years [75 (45–100) vs. 90 (45–100), $p=0.021$]. The other domains were alike in both groups ($p>0.05$). At least one musculoskeletal manifestation (arthralgia, arthritis and/or myalgia) was observed in 15% of leprosy patients and none in controls ($p=0.012$). Further comparison between all leprosy patients showed that the median of the physical capacity domain [81.25 (50–100) vs. 98.44 (50–100), $p=0.036$] and school activities domain by child-self report [60 (50–85) vs. 80 (45–100), $p=0.042$] were significantly lower in patients with musculoskeletal manifestations compared to patients without these manifestations. No differences were evidenced between the other HRQL parameters in both groups, reported by patients and parents ($p>0.05$).

Conclusions: Reduced physical capacity and school activities domains were observed in pediatric leprosy patients with musculoskeletal manifestations.

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Qualidade de vida relacionada à saúde avaliada pelo Inventário Pediátrico de Qualidade de Vida 4.0 em pacientes pediátricos com hanseníase e manifestações musculoesqueléticas

R E S U M O

Palavras-chave:

Lepra
Criança
Hanseníase
Qualidade de vida relacionada à saúde
Artrite

Objetivo: Avaliar a qualidade de vida relacionada à saúde (QVRS) em pacientes pediátricos com hanseníase.

Métodos: Estudo transversal com 47 pacientes com hanseníase e 45 indivíduos saudáveis. A QVRS foi mensurada pelo Pediatric Quality of Life Inventory 4.0 (PedsQL 4.0) e os domínios físico, emocional, social e escolar foram avaliados. Os pacientes com hanseníase foram classificados pelos critérios de Ridley e Jopling e avaliados de acordo com manifestações clínicas musculoesqueléticas, laboratoriais e exames radiográficos.

Resultados: A média de idade atual foi similar em pacientes com hanseníase e controles [12(6-18) vs. 15(5-18) anos, $p=0,384$], assim como frequências do sexo feminino ($p=0,835$) e classes socioeconômicas brasileiras média/baixa ($p=1,0$). De acordo com a auto-avaliação da criança relacionado com as atividades escolares, este domínio foi significativamente menor nos pacientes com hanseníase em relação aos controles de 13-18 anos [75(45-100) vs. 90(45-100), $p=0,021$]. Os outros domínios foram semelhantes em ambos os grupos ($p>0,05$). Pelo menos uma manifestação musculoesquelética (artralgia, artrite e/ou mialgia) foi observada em 15% dos pacientes com hanseníase e nenhuma nos controles ($p=0,012$). Uma comparação mais detalhada entre pacientes com hanseníase mostrou que a mediana do domínio de capacidade física [81,25(50-100) vs. 98,44(50-100), $p=0,036$] e de atividades escolares pela auto-avaliação da criança [60(50-85) vs. 80(45-100), $p=0,042$] era significativamente menor nos pacientes com manifestações musculoesqueléticas em comparação com a dos pacientes sem essas manifestações. (1) Nenhuma diferença foi evidenciada entre os outros parâmetros de QVRS em ambos os grupos relatados pelos pacientes e pais ($p>0,05$).

Conclusões: Diminuições dos domínios capacidade física e escolar foram observados em pacientes com hanseníase pediátrica e manifestações musculoesqueléticas.

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Introduction

Leprosy, also known as Hansen's disease, is caused by the *Mycobacterium leprae*.¹ This is a relevant infectious disease in developing countries. Recently in Brazil, 6.7% of newly detected leprosy cases were diagnosed in children and adolescents.²

The clinical features of pediatric leprosy include several skin lesions, numbness of the skin, damage of peripheral nerves, arthralgia and arthritis.³⁻¹¹ In this regard, we recently detected that musculoskeletal manifestations were associated with severe leprosy in children and adolescents, especially in patients presenting nerve function impairment and neuropathy.¹²

Furthermore, adult leprosy patients could present reduced scores of health-related quality of life (HRQL), particularly in physical capacity and social participation domains.¹³⁻¹⁷ To our knowledge, HRQL was rarely reported in pediatric leprosy,¹⁷ and the impact of musculoskeletal manifestations on HRQL was not previous investigated.

Therefore, the objectives of our study were to assess HRQL in leprosy patients and healthy controls using a generic instrument for children/adolescents and their legal guardians, and to evaluate the possible influence of presence of musculoskeletal manifestations in decreasing HRQL.

Patients and methods

A cross-sectional study was performed with 56 leprosy patients, which were followed-up at the Dermatology Unit of a tertiary hospital in Brazil. Out of them, the HRQL of 47 leprosy patients was systematically evaluated. All patients fulfilled the leprosy diagnosis according to National Leprosy Program guidelines⁴ and Ridley and Jopling classification criteria.¹⁸ Control group included 45 healthy children and adolescents of local school in Brazil. This study was approved by the Local Ethical Committee. Patients and controls and their legal guardians signed the informed consent form.

Methods

Demographic data

Demographic data included current age and gender. Brazilian socio-economic classes were classified according to the Associação Brasileira dos Institutos de Pesquisa de Mercados.¹⁹

Clinical assessment of leprosy

Clinical assessment of Hansen's disease was performed according to National Leprosy Program guidelines.⁴

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