Journal of Pediatric Urology (2014) **10**, 1261–1266

ELSEVIER

Journal of Pediatric urology

Impact of enuresis nocturna on health-related quality of life in children and their mothers

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Received 11 November 2013; accepted 11 July 2014
Available online 6 August 2014

KEYWORDS
Children;
Nocturnal enuresis;
Mothers;
Quality of life

Abstract *Objective:* Nocturnal enuresis (NE) is a common childhood disorder. As children age and NE persists, it may become more stressful for both them and their caregivers. The aim of the present study was to assess the impact of NE on the quality of life of children who were diagnosed with NE, and their mothers, and to compare the results with a healthy control group.

Subjects and method: Eighty-two children with NE, and their mothers, and 93 healthy children and their mothers were enrolled in the study. The sociodemographic data were evaluated. The Pediatric Quality of Life Inventory 4.0 Scales (PedsQL 4.0) were used to assess the children's health-related quality of life (HRQoL); and the World Health Organization Quality of Life Instrument; short form (WHOQOL-BREF) was used for the mothers' HRQoL.

Results: The PedsQL 4.0 mean scores for the children with NE group were as follows: total score, 68.74; physical health score, 72.79; psychosocial health score, 66.56. The scores for the children in the control group were as follows: total score, 80.98; physical health score, 81.11; psychosocial health score, 80.88. The WHOQOL-BREF scores for the mothers of the children with NE were as follows: physical health score, 67.90; psychosocial health score, 62.66; social relationships score, 60.90; environmental area score, 61.04. The WHOQOL-BREF scores for the mothers in the control group were as follows: physical health score, 75.96; psychosocial health score, 72.39; social relationships score, 72.18; environmental area score, 67.44.

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http://dx.doi.org/10.1016/j.jpurol.2014.07.005

Conclusions: Nocturnal enuresis negatively affects the quality of life of both children and their mothers. Therefore, when physicians see children with enuresis, they should also be aware of the effect of NE on the mothers' quality of life.

Introduction

Nocturnal enuresis (NE) is a frequently encountered disorder in the clinical practice of child psychiatry, and is thought to substantially influence the lives of the affected children and their families. Primary NE is defined as: unintentional bedwetting for at least two nights in a week, in three successive months, in children who are five years of age or are developmentally five years old. Secondary nocturnal enuresis (SNE) is bedwetting that develops after at least six months of consistent dryness [1,2]. The etiology is likely to be multifactorial [3]. Studies have reported that the prevalence of NE in children at five years of age is 20%; this decreases by 15% for each year of age, and drops to 6% in children of 11 years old [4,5]. However, researchers have found that family expectations regarding taking responsibility and self-control skills increase as the child grows older, and this situation increases the stress on the child [6]. It is thought that increased stress with age leads to unfavorable outcomes for the child's self-image and social development [7]. Moreover, studies have shown that parents might also feel under pressure, may question their parental skills and are at risk in terms of psychiatric problems due to disappointment [8]. Butler believed that additional washing, ridding the room of the smell, setting up alarm clocks and waking up several times during the night may lead the caregiver to feel angry and hostile toward the child and may cause punitive behaviors. The activities of extra waking up and additional washing have negative effects on the caregiver's quality of life (QoL) [9].

Since the second half of the 20th century, a new parameter: health-related quality of life (HRQoL), has arisen in health-related evaluations, along with the observation that individuals with similar clinical characteristics have a distinct perception of satisfaction with their lives and about disease-related wellbeing. Although QoL is generally summarized as how an individual perceives his or her status, within the context of cultural characteristics and values, HRQoL is defined as an individual's perception of the impact of a disease and/or treatment. HRQoL investigates the aspects of QoL influenced by diseases [10,11].

Only a few studies on NE have examined children's and parents' QoL together, and the results show that both QoL are negatively affected [12]. In the present study, the aim was to assess the QoL of children who had been diagnosed with NE, and their mothers. It was hypothesized that NE has negative effects on the Qol of both the children and their mothers.

Materials and methods

This case control study included 87 children between the ages of 8 and 12 years who had been diagnosed with NE, and their mothers, and who presented to the Bakırköy Prof. Dr. Mazhar Osman Research and Training Hospital for Psychiatry, Neurology and Neurosurgery Child and Adolescent Psychiatry outpatient clinic between January 2012 and June 2013.

The children had to meet the DSM-IV-TR diagnostic criteria for NE, which was confirmed with a clinical interview, and should have had no other chronic disease. Only mothers were included as caregivers because in Turkey mothers provide most care given to children. The maternal education level was used as a marker of socioeconomic status. Five children and their mothers were excluded, as they had not completely filled out the forms; therefore, 82 children and their mothers were analyzed in the study group. Participants in the control group were recruited by house visits; approximately 200 houses were visited and all eligible families were informed about the study procedures. Only those who volunteered were enrolled in the study. A total of 93 healthy children who were matched for age, gender, and parents' education level and socioeconomic status were selected as a control group. Children who had any chronic disease or positive NE diagnosis were excluded from the study.

The Pediatric Quality of Life Inventory 4.0 (PedsQL 4.0) self-report form for children aged between 8 and 12 years was used to assess the children's HRQoL [13]. The scale consists of child self-report and parent proxy report forms. The caregiver completes the parent proxy report form, and the child completes the child self-report form at the same time but separately. The scale includes a total of 23 items. The total scale score (TSS), physical health summary score (PHSS), and psychosocial health summary score (PsHSS) were calculated [14]. Items were scored between 0 and 100: 0 (100) = never a problem; 1 = (75) almost never; 2 = (50) sometimes; 3 = (25) almost always; and 4 = (0) always. Higher PedsQL scores indicate better HRQoL. The original PedsQL scale does not have any cut off points. However, Huang et al. proposed cut off points for children with special healthcare needs (CSHCN), moderate and major chronic conditions [15]. The cut off scores proposed by Huang et al. for CSHCN, moderate and major chronic conditions were 83, 79 and 77, respectively. For the Turkish version of PedsQL there are not any established cut off points. In the present study, the Turkish version of the PedsQL was used; the internal consistency of the child self-report was determined as 0.86 and that of parent proxy report as 0.88 [10]. The scale consists of questions such as the following: "My energy is low. I feel angry. I can't do what my peers do. I cannot go to school because I do not feel well." The PedsQL was chosen to evaluate the QoL because there is no enuresis-specific scale in Turkish for evaluating QoL.