

Management of Nocturnal Enuresis; which is the best option

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ABSTRACT

Aim: To find out the involuntary discharge of urine at night in a child aged 5 years or older in the absence of congenital or acquired defects of the central nervous system or urinary tract.

Methods: We conducted a study on 180 consecutive patients reporting to the out-patient department of Shalamar Medical and Dental College with the complaint of nocturnal enuresis. All patients were advised bladder conditioning in terms of: 1. Alarm timed voiding 2. Reducing fluid intake in evening. And medical therapy where required 1. Inhaled desmopressin 2. Tricyclic antidepressants

Results: We found that 139 out of 180 patients (77%) improved on bladder conditioning. 32 (18%) improved when desmopressin was added to the conditioning and 9 (5%) had to be switched to tricyclic antidepressants.

Conclusions: In this study we found that most (77%) of the patients bladder conditioning instructions were beneficial and a low proportion of patients actually required pharmacotherapy.

Keywords: Nocturnal enuresis, management, discharge of urine

INTRODUCTION

Nocturnal enuresis (bed wetting) among children is one of the most common urological problems facing primary care providers today¹. The incidence rate of enuresis in 5-year-old children is estimated at approximately 15.1%, although underreporting makes the true incidence unknown. Fifteen percent of affected children will usually experience spontaneous resolution yearly, while 5% continue to experience nocturnal enuresis by the age of 10 years and 1% remains unimproved into adulthood².

There is no definite and unambiguous etiology for nocturnal enuresis among children, and the disorder is probably multifactorial. Many potential causes have been suggested and investigated, such as dysfunction of sleep arousal, altered diurnal antidiuretic hormone secretion, genetic factors, nocturnal polyuria, psychological factors, delayed maturation, and parental age and education level^{3,4}. A correlation between sleep disorder and nocturnal enuresis among children has been proposed by previous case series and retrospective studies⁵⁻⁷. Recent study has also suggested that combination of behavioural therapy and desmopressin has increased the benefit to control nocturnal enuresis⁸.

MATERIALS AND METHODS

This prospective cohort study was conducted at Shalamar Medical and Dental College, Lahore from April 2010 to April 2013. 180 consecutive children

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aged 3 to 12 years reporting with a history of nocturnal enuresis were registered a complete history documenting the age of onset of the symptoms and severity of incontinence in terms of number of leakage per night and number of nights per week when the patient got wet was recorded. A bladder diary was requested to be maintained by the parents documenting the amount of fluid intake the number of times voided and amount of urine passed. The episodes of enuresis were documented per night.

Initial lines of management was to advise bladder conditioning, which constituted of

1. Reducing fluid intake after 6 p.m.
2. Calculating the required alarmed voiding by the following formula

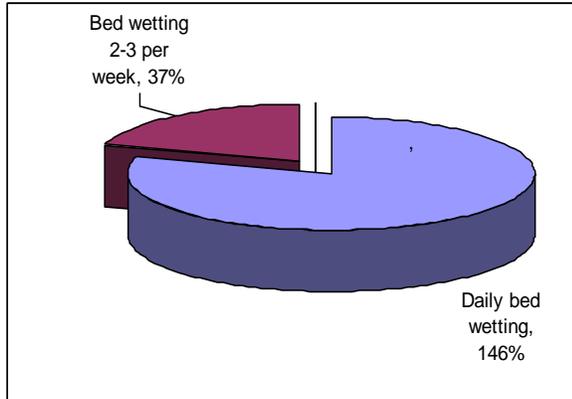
$$N = \frac{\text{Number of hours of sleep}}{\text{No. of episodes of enuresis}}$$

The alarm is set according to this formula and the child is then encouraged to go to the washroom and void there. This was supplemented by words of appreciation and an occasional gift for encouragement. Parents were advised not to scold or punish their children as this is beyond voluntary control and punishments may lead to personality disorders and in some cases even irritable bladder. Failing this the child is then put on nasal desmopressin sprays which are taken under supervision of the parents. The starting dosage for this was 5 mcg at bedtime and according to response could be increased to 30 mcg. If this did not work the patients were advised tricyclic antidepressants. Imipramine was used as the main drug starting at 1.5 mg /kg/day in 3 divided doses and a maximum of 5 mg/kg in three divided doses.

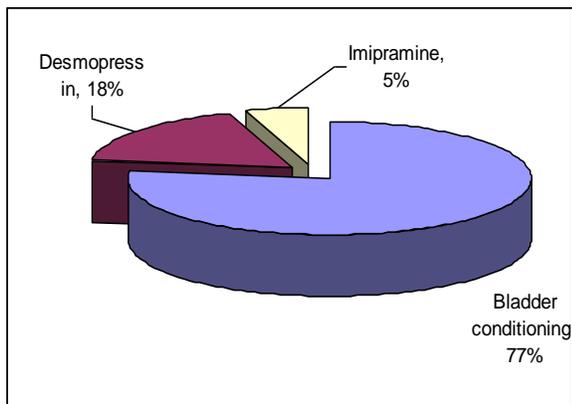
RESULTS

On record of 183 patients, 146 had a complaint of bed wetting on daily basis while 37 had 2 to 3 episode per week. We found that 139 out of 180 patients (77%) improved on bladder conditioning alone. 32(18%) improved when desmopressin was added to the conditioning and 9(5%) had to be switched to tricyclic antidepressants.

Bed wetting (n=180)



Response therapy (n=180)



DISCUSSION

Nocturnal enuresis is a distressing problem both for the parents and the children, initially the parents scold and punish and sometimes even beat up the

child thinking that this is a voluntary act⁹. However when this bedwetting continues the parents are then inclined to take the children to various practitioners which include spiritual healers, hakeems, homeopaths and medical professionals. The whole activity can leave a lifelong distress to the child, sometimes resulting in personality changes and may even lead to irritable bladder. Our study was performed with the belief that if the child is handled with love and affection and encouraged to do some simple tasks like; voiding to the alarm and reducing fluid intake in the evening this would result in improvement in the symptoms of the patient, as well as preserving confidence and better bladder control in adult life. Desmopressin and tricyclic antidepressants have been widely used and the problem identified with this regimen is that the symptoms improve transiently and later recur. If treatment is restarted the desired results are not as desired and the symptoms fail to improve.

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