

Primary Monosymptomatic Nocturnal Enuresis in Singapore— Parental Perspectives in an Asian Community

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Abstract

Primary monosymptomatic nocturnal enuresis (PMNE) is often not openly discussed in Asian societies. We report the parental view of PMNE in Singapore, its impact on patients and their families and the traditional beliefs and its influence on subsequent management. A screening questionnaire was used in evaluating 30 children enrolled in a clinical trial on the use of oral Desmopressin for the treatment of PMNE. Primary monosymptomatic nocturnal enuresis was familial in 56.7% of patients. Fifty per cent of them were previously unevaluated. Earlier remedial attempts included bedtime fluid restriction and voiding (100%), incentive measures (43.3%), traditional practices (26.7%), punishment (20%), drugs (16.7%), psychotherapy (100%) and bladder training (3.3%). Perceived causes of PMNE were maturational delay (50%), deep sleep (50%), familial (43.3%), behavioural problems (43.3%) and excessive fluid intake (26.7%). Reasons for seeking treatment included restricted outdoor activities (90%), parental fatigue (86.7%), disrupted sleep for the household (46.7%) and fear of underlying pathology (26.7%). Perceived adverse effects on patients included social stigma (83.3%), disrupted sleep (33.3%) and impaired school performance (13.3%). Primary monosymptomatic nocturnal enuresis can thus be a chronic distressing problem in Asian communities.

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Introduction

Primary monosymptomatic nocturnal enuresis (PMNE) is an age-old problem that has been described for more than 3000 years,¹ affecting millions of people worldwide. The reported incidence in Western Europe was 10% among the paediatric population and 1% among adults.²⁻⁴ Similarly, fairly high prevalence has been reported in Japan.⁵ In Singapore, although no epidemiological data is available, there is no reason to believe that the extent of this problem would be any different from the other developed countries. A recent public forum held in this country on PMNE revealed that enuresis was a problem that was generally under evaluated. Up to 75% of sufferers did not seek medical advice or treatment (Fig. 1), although more than 60% of the 175 people who admitted having enuresis were older than

seven years of age; an age group where active treatment is usually recommended. This study was therefore aimed at determining the parental perspectives of PMNE, especially with regard to traditional beliefs and its influence on subsequent management.

Patients and Methods

This study constituted part of a multi-centre clinical trial on the use of oral Desmopressin for the treatment of PMNE in children which was conducted at the Departments of Paediatrics, Singapore General Hospital, National University Hospital and Tan Tock Seng Hospital. Thirty patients in the clinical trial were studied. The inclusion criteria for the study included an age range of 7 to 16 years, frequent bedwetting of at least 6 nights out of 2 weeks prior to the study, absence of

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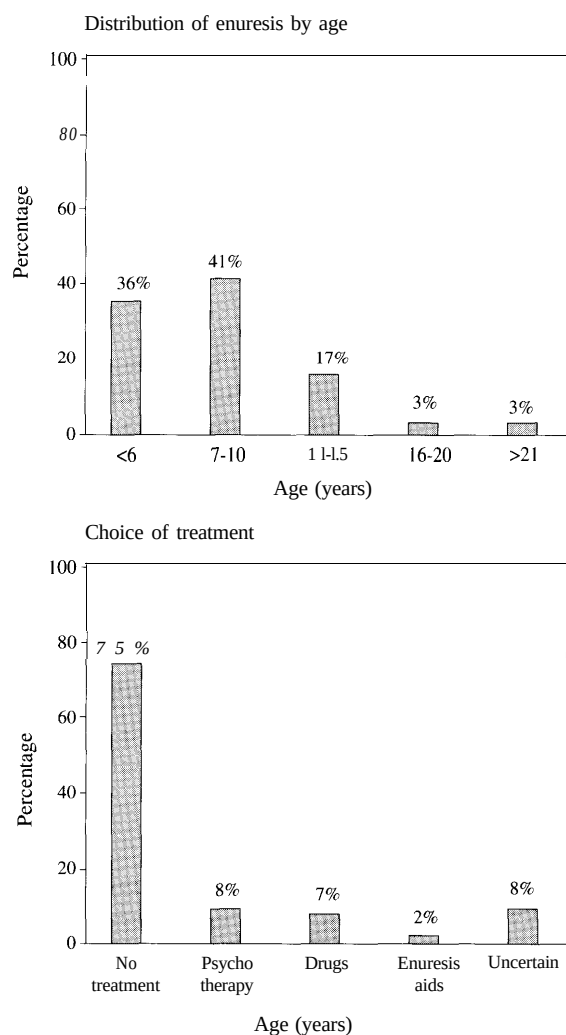


Fig. 1. Results of questionnaires submitted by 175 attendees of a public forum on "Childhood Enuresis", showing the age distribution and choice of treatment of the bedwetters known to the attendees

diurnal incontinence and urinary tract infection which was excluded by urine culture.

Screening questionnaires were used during history taking in the initial clinic visits from parents and answers were immediately recorded by the participating paediatricians on a one-to-one interview basis.

Screening questionnaires covered four main areas: previous treatment if any; perception of the cause(s) of PMNE among parents; parental concerns and reasons for seeking medical treatment and perceived impact of PMNE on patients (Table I).

Results

Patients Profile

There were 17 male and 13 female patients, whose ages ranged from 7 to 14 years with a mean of 10.1 years. Racial distribution showed a predominance of Chinese with 21 (70%) patients, followed by 6 (20%) Indians, 2 (6.7%) Malays and one (3.3%) Eurasian. Seventeen

TABLE I: QUESTIONS USED TO EVALUATE PARENTAL PERSPECTIVES OF PMNE

1 Any previous medical treatment? If no, why?			
. Social stigma			
. Will outgrow problem			
. Others _____			
2 Previous remedial attempts			
2.1 Parental measures			
. Fluid restriction at bedtime	Yes	No	
. Pre-sleep voiding	Yes	No	
. Awakened to void	Yes	No	
. Incentive measures e.g. star chart	Yes	No	
. Others _____			
2.2 Traditional/folk remedies	Yes	No	
Type: _____			
Response: _____	Good	Partial	Poor
2.3 Behavioural modification	Yes	No	
● Psychotherapy/Counselling			
. Punishment			
Response: _____	Good	Partial	Poor
2.4 Medications			
Name: _____			
Response: _____	Good	Partial	Poor
2.5 Bladder training		Yes	No
Response: _____	Good	Partial	Poor
3 Perceptions of cause(s) of PMNE			
Do you know what causes PMNE?	Yes	No	
. Maturation delay	Yes	No	
. Deep sleep	Yes	No	
. Behavioural/psychological	Yes	No	
e.g. bad habit, lazy			
. Familial/inherited	Yes	No	
. Unrestricted fluid	Yes	No	
. Others _____			
4 Reasons for seeking medical treatment			
*Social inconvenience e.g. outdoor activities, travel	Yes	No	
. Disturbed nights for household	Yes	No	
. Parental fatigue e.g. doing laundry of soiled linens, extra chores	Yes	No	
• Fear of underlying renal disease	Yes	No	
. Others _____			
5 Perceived ill-effects of PMNE on patients			
. Tired in the morning	Yes	No	
. Affects school performance adversely	Yes	No	
*Embarrassment/social stigma	Yes	No	
. Others _____			

PMNE: primary monosymptomatic nocturnal enuresis

(56.7%) patients had a family history of PMNE with 6 (35.5%) of them having 2 or more family members being affected. Ten parents had a past history of childhood enuresis with fathers (23%) being more affected than mothers (10%).

Previous Remedial Attempts

Fifteen or half of all patients did not previously seek

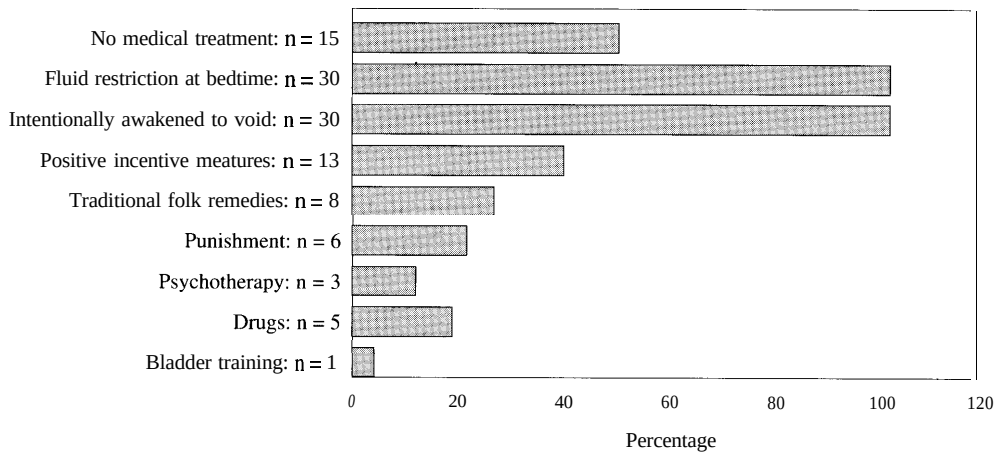


Fig. 2. Previous remedial attempts for primary monosymptomatic nocturnal enuresis.

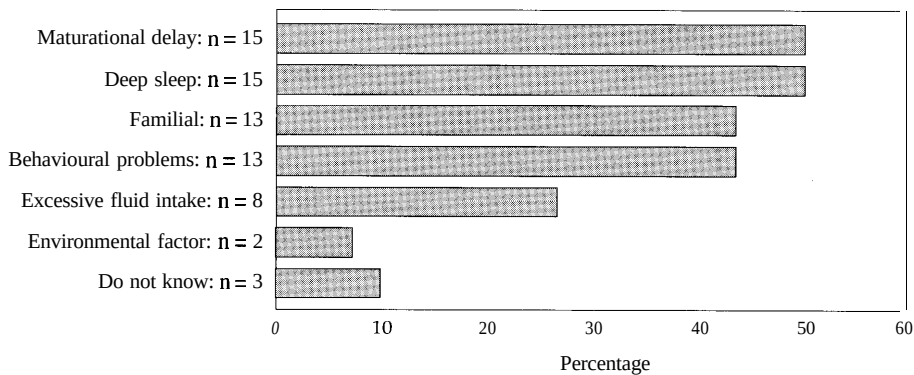


Fig. 3. Parental perceptions as to the cause of primary monosymptomatic nocturnal enuresis.

medical treatment in the belief that nothing could be done (Fig. 2). Simple measures like fluid restriction and voiding at bedtime, deliberate awakening of patients from sleep by parents were practised by all families with varying consistency. Positive reinforcements using incentives (for example, star charts) and rewards for dry nights were used by 13 (43.3%) parents. Eight (26.7%) parents resorted to a variety of traditional folk remedies, ranging from homeopathy to special rites and rituals. A disturbing 20% used punishment including corporal punishment as treatment while 5 (16.7%) had drug therapy from doctors. Three (10%) patients underwent psychotherapy while one (3.3%) patient underwent bladder training.

Response to these various attempts were poor except for drug treatment using Desmopressin. Three of the 5 patients using drugs had unspecified medications while the remaining 2 patients treated with intranasal Desmopressin showed improvement.

Parental Perceptions as to the Cause (s) of PMNE

The commonly held beliefs as to the cause(s) of PMNE among parents are shown in Figure 3. Fifteen (50%) parents felt it was due to maturational delay and an

equal 50% of them thought that it was caused by deep sleep in the child who was unable to wake up to void. Thirteen (43.3%) parents felt that the problem was familial and 43.3% of them felt it was due to behavioural problems in the child- being lazy, difficult or defiant. Eight (26.7%) parents attributed it to excessive fluid intake at night while 2 (6.7%) felt it was due to coldness. Three (10%) parents could not pinpoint the cause.

Twenty-seven (90%) patients sought medical treatment because of restrictions on outdoor activities like camping and travelling. Twenty-six (86.7%) parents wanted a break from the, fatigue of constant laundry and cleaning of the aftermath-soiled pyjamas, bedlinen, plastic drawsheets and pampers. Fourteen (46.7%) parents sought treatment because of disrupted sleep for the household, including siblings sleeping in close proximity who complained of smell and soiling of the shared bedlinen as well as parents who had to wake up periodically to wake and bring the patient to the toilet to void. Fear of underlying pathology was expressed by 8 (26.7%) parents.

Primary monosymptomatic nocturnal enuresis was perceived as a social stigma in twenty-five (83.3%) patients. Ten (33.3%) patients felt tired the next morn-

ing and 4 of them attributed impaired school performance to interrupted sleep.

Discussion

Primary monosymptomatic nocturnal enuresis is probably not uncommon in Singapore, but remains latent with up to 50% of patients in our study being previously unevaluated. Reasons for not seeking treatment which were largely influenced by parental perceptions of the problem included their view that PMNE represents a maturational delay and hence was part of the process of growing up, rather than a medical problem. Primary monosymptomatic nocturnal enuresis was also regarded by most (83.3%) parents as a social stigma and they may feel embarrassed to openly discuss their problems. Up to 36.7% of parents preferred traditional folk remedies. The different ethnic groups had various interesting remedies. The Chinese perceived PMNE as a problem of "weakness of the bladder" requiring a brew consisting of pig's bladder and hot pepper or soup with ginkgo nuts. The Malays and Indians believed that certain "spirits" can cause nightmares resulting in enuresis, and preventive measures including special prayers to drive away the "spirits", wearing of special bracelets or herbal remedies to "cleanse" the body from all evil.

A strong familial tendency with a male preponderance was seen in our patients which was consistent with previously reported studies,⁶⁻⁸ although the exact mode of inheritance is unknown.⁷ This knowledge could be used to advantage in the management of PMNE as patients and parents would accept the problem more readily knowing that an older family member had been similarly affected previously but had outgrown the problem without physical ill-effects. Thus patients and parents could be reassured that PMNE is largely benign with a hope of spontaneous resolution.^{3,4,9} This perception, however has also resulted in many families not seeking medical treatment but resorting to home remedies.

Perceptions among Singapore parents as to the cause(s) of PMNE were generally similar to that found in other studies. Primary monosymptomatic nocturnal enuresis was believed to be due to a maturational delay in bladder control^{2,4,10} with a familial tendency.^{6,7} However, behavioural problems as a cause were unsubstantiated.^{2,11-13} Indeed, punishment of patients is not only unhelpful but can cause more stress to patients, further eroding their psychosocial well-being.^{12,13} Studies on sleep disorders as a cause of PMNE had shown contradictory results. Previous studies using electroencephalogram (EEG) had been unable to demonstrate any sleep disorder.^{14,15} However, a recent Swedish study had shown that deep sleep with deficient arousal as reported by parents was present in a significant number of enuretics as compared to controls.¹⁶

Observations by parents that excessive drinking at bedtime contributed to enuresis was supported by various studies.¹⁷ Enuretics had stable diurnal anti-diuretic hormones (ADH) secretion, whereas normal children had increased nocturnal secretion. This relative deficiency of nocturnal ADH secretion in enuretics could result in more rapid production of urine, thereby predisposing patients to bedwetting.¹⁷⁻¹⁹ This pathophysiological mechanism of nocturnal enuresis thus forms the basis for the use of Desmopressin at bedtime in the treatment of PMNE.^{6,20-24}

Achievement of each developmental milestone in a child is much celebrated with pride and relief by parents as a mark of progress and independence. Primary monosymptomatic nocturnal enuresis can certainly be a source of chronic distress to patients and their families when urinary continence is not achieved at an expected age. In our study, PMNE limited the lifestyle of 90% of the affected families. Parental fatigue was especially disturbing in 86.7% families, while worry of underlying renal pathology caused further stress in 26.7% of parents. Though physical illness was not seen, one-third of patients in our study reported tiredness with 40% of them believing that this had resulted in impaired school performance, a particularly distressing perception in a rapidly developing and achievement-oriented Asian society.

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