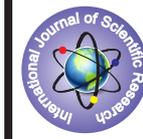


Combined Behavioral, Pharmacological and Traditional Treatment for Nocturnal Enuresis in Children



Medicine

KEYWORDS: Combined Behavioral, Nocturnal Enuresis, Saudi Arabia

Sayed Ibrahim Ali	Assistant Professor, College of Medicine, King Faisal University, Saudi Arabia
Gihan Yousef Ali	Assistant Professor, College of Medicine, King Faisal University, Saudi Arabia
Latifah Khalid Al-Jouf	Medical Intern, College of Medicine, King Faisal University, Saudi Arabia
Abeer Fahid Al Dossari	Medical Intern, College of Medicine, King Faisal University, Saudi Arabia
Marwah Abdullah ALBanyan	Medical Intern, College of Medicine, King Faisal University, Saudi Arabia
Durra Saad AL Awwad	Medical Intern, College of Medicine, King Faisal University, Saudi Arabia

ABSTRACT

Introduction: Nocturnal enuresis can affect child's self-esteem, and can be stressful for the parents; they may feel worried, sad or angry, and even tired. With that, their child may notice these feelings.

Method: A cross-sectional study is conducting over a 6 month period from 1 June to 10 December 2016 at Al-Ahsa, Saudi Arabia. Parent administered urine incontinence questionnaire is distribute in social media

Result: Medical treatments given were the imipramine, which is mostly used, anticholinergics and desmopressin

Conclusion: Nocturnal enuresis is a disturbing problem for both parent and their children and should be taken seriously. Further studies examining different interventions for nocturnal enuresis are also recommended.

Introduction

Does the early morning scene of wet linens, soaked smelly pajamas, and an uncomfortable child sound familiar? This is a picture of nocturnal enuresis. "Enuresis is the loss of bladder control that leads to the release of urine". Nocturnal Enuresis, which also called bed-wetting, happens during the night while the child is sleeping. Many times the child has no control over this, nor is he or she aware that it is happening

Nocturnal enuresis can affect child's self-esteem, and can be stressful for the parents; they may feel worried, sad or angry, and even tired. With that, their child may notice these feelings. Parental attitudes toward a child's bed-wetting can make the difference in how a child feels about their bed-wetting problem. Support and praise will help a child. Shame and punishment will not

The purpose of this study is to determine the most effective treatment for bedwetting in children espicifcly in Al-Ahsa City, going through all lines of treatments; medically, behavioral and alternative medicine. Also, here we aim to investigate parental knowledge and attitudes toward children who suffer from nocturnal enuresis..

Objectives

Because nocturnal enuresis impairs adjustment and well-being for children and adolescents concurrently.. Successful treatment for the disorder can result in improvements in self-concept and self-esteem, attitude and behavior. The literature on the treatment of nocturnal enuresis is establishing , Combination treatments, including medication , behavioral , and traditional treatment will include to find proper management for that disease..

Method

A cross-sectional study is conducting over a 6 month period from 1 June to 10 December 2016 at Al-ahsa, Saudi Arabia. Parent administered urine incontinence questionnaire is distribute in social media.. A self-administrated questionnaire is developing after extensive literature review. The questionnaire is designed in Arabic language containing questions about the causes, frequency, amount and time of urine incontinence, what are the ways used to prevent it and what

are other health problems that children have it and may contribute to the urine incontinence..

The first part was designed to investigate prevalence and associated factors of enuresis, and the second part was planned to identify common methods of its management.

The questions in the first part asked about definition of NE, age , risk factors, frequency of bed-wetting at night,

The questionnaire in the second part asked about Herbal remedies that parent's use it to help their child with NE, behavioral and pharmacological methods that show benefit with NE problem.

Questions		Frequency	Percent
Do you know the meaning of Nocturnal Enuresis?	No	13	4.7
	Yes	261	95.3
Questions		Frequency	Percent
What do you think is the reason?	Mental disorders and domestic violence	77	28.1
	Genetic factor	20	7.3
	Jealousy from younger age Brother	2	0.7
	Child drinks plenty of water, child occupied by playing, watching TV and ignore going to the bathroom	1	0.4
	Child does not urinate before going to sleep	146	53.3
	Child drinks plenty of water,	1	0.4
	Urinary tract problems, Mental disorders and domestic violence	47	17.15
Questions		Frequency	Percent

How old your child was when he began using the toilet?	3 years	122	44.5
	4 years	40	14.6
	Two years	111	40.5
Questions		Frequency	Percent
How much is the frequency of Nocturnal Enuresis in your child?	1-2 month	90	32.8
	1-3 times per week	104	37.6
	Every night	80	29.2
Questions		Frequency	Percent
Circle the method used to stay dry while your child is sleeping at night?	Awakening the child to urinate at night	75	27.37
	introduction of the child to the bathroom before he goes to sleep	1	0.4
	Diapers, Awakening the child to urinate at night	63	23
	Reduce the amount of water at dinner, Awakening the child to urinate at night	111	40.5
	Reward the child if did not urinate	13	4.4
Questions		Frequency	Percent
Did you use any of the drugs for treatment?	No	248	90.5
	Yes	26	9.5
Questions		Frequency	Percent
Did you get a benefit from some herbal medicines to treat your	No	265	96.7
	Yes	9	3.3
Questions		Frequency	Percent
Does your child take a lot of diuretics (tea and coffee) and rich Sugar desserts?	No	156	56.9
	Yes	117	42.7
Questions		Frequency	Percent
*Does your child urinate during the day?	NO	234	85.4
	YES	39	14.2

Results

The study has a total of 274 individuals which were studied. Most of them can identify the meaning of NE term, 95% of our participant

NE enuresis causes given to the individuals and the psychological disorders took the highest percentage while the sleep disorders, genetic factors and diabetes were less in their parentages

Figure 1 shows Percentage of each NE cause and individuals who choose it

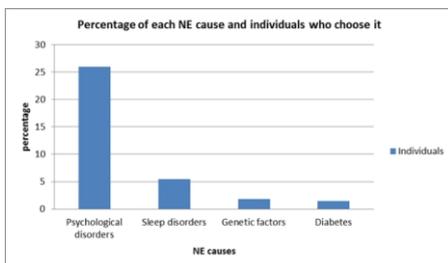


Table (1) : Awareness of the study population about the definition , causes, and different methods for management of NE problem..

Treatments in the study were divided into traditional, behavioral and

pharmacological .

Traditional treatments given to the Individuals and olive oil was the most used after it come the honey and the cranberries.. 11% of participant ignore to use herbal remedies ..

Behavioral intervention techniques were the Bed training, which was the most used, and the bladder distention exercises

Figure 2 shows percentage between each traditional treatment and individuals who choose it

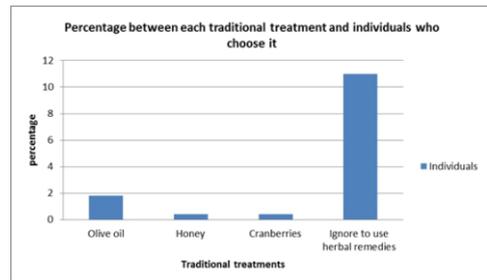
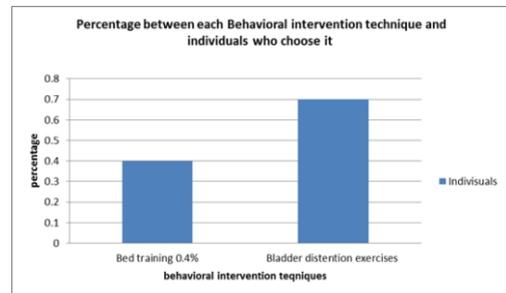
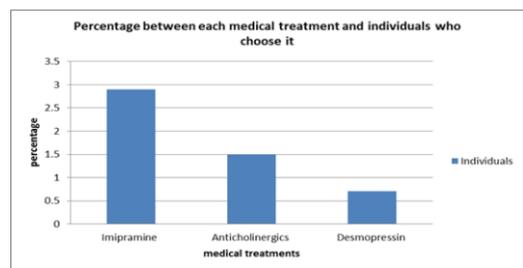


Figure 3 shows percentage of behavioral intervention technique and individuals who choose it



Medical treatments given were the imipramine which is mostly used, anticholinergics and desmopressin

Figure 4 shows percentage of each medical treatment and individuals who choose it..



Discussion:

Nocturnal enuresis is a public health problem that may cause emotional and social problems for both the child and family.. The prevalence of NE at age 7 seems to be around 10% for most countries, at age 11-12 years around 3% and at age 16 around 1.3% (8).. Usually incontinence is defined by Discrete episodes of urinary incontinence during sleep in children ≥5 years of age.. Disturbances in nocturnal urine production, bladder function and arousal mechanisms have all been firmly implicated as pathogenic factors in nocturnal enuresis(14)..

In this study, our focus is the treatment of bedwetting include combined medical, psychological and traditional treatment for nocturnal enuresis in children.. Nocturnal enuresis is a benign condition, yet needs treatment to relieve the child and parents of the accompanying anxiety and the stigma attached to it (16).. The questionnaire's response was 274 children included in the study..

In the etiology of EN, in addition to genetic factors, delay in

maturation, stress, sleeping disorders, detrusor instability, decrease in nocturnal antidiuretic hormone secretion, and functional bladder capacity, psychogenic factors, environmental, and individual factors have been thought to play a role(17)..

In our study, we detected 95% of individuals who know the meaning of the term of NE.. In many research studies, EN has been more frequently encountered in multi-child families, because of poor toilet hygiene, and child care(18)..

As seen in these studies, majority of the patients had enuretic episodes 1–3 times a week during sleeping hours at night. In this case increased frequency of enuretic episodes might conceivably worsen preexisting psychological problems of the child. Problematic issues caused by bedwetting every night can urge the family to use various treatment modalities(19)..

The old opinion that enuresis mainly is a psychiatric disorder has been largely abandoned today (14).. However, 26% of our responders think that there's association between NE and psychological disorder..

1.8% of individuals think that there's strong relation between genetic factors and development of NE.. incidence of enuresis, have revealed positive family history.. We have thought that higher rates of consanguineous marriages peculiar to our region might increase transmission of an enuretic trait through generations[20].. However we think that further studies should be performed on this issue..

Studies of the association of Sleep disorder and NE, In our study, 5.5% of our children complain of sleep disorder in addition to their NE problem.. diabetic children were around 1.5% of total children affected with NE in our study.

Success of treatment of NE has been claimed for several methods that include medical , psychological and herbal method for treatment of NE.. 42% of our responder try to use herbal and traditional management to help their child .The use of honey has been reported in 0.4% of enuretic children, 0.4% individuals has been reported success of use Cranberries in NE patients..1.8% of individuals prefer to use olive oil, while .11% ignore to use Herbal remedies

Apart from the treatment, various other behavioral intervention techniques have been used. The so-called dry bed training, which includes regular waking of the child at night as the central therapeutic intervention (14)..0.4% of our responders take care to do that step. Bladder distention exercises, when the child by gradually delaying micturition learns to augment functional bladder capacity (14).0.7% of individuals keep to learn their children to maintain regular exercise.

About pharmacological method for treatment of NE, imipramine has a beneficial use in treatment of NE, 2.9% of our responders use it in treating their child. Anticholinergic and smooth muscle relaxant effects have been reported by 1.5% of people.. In the late seventies it was found that desmopressin could be successfully used in the treatment of enuresis(14), 0.7% of our responders use it.

These facts provide evidence of the need for systematic research into NE methods of treatment and it's side effect. The study results reveal a discrepancy between current methods about treatments of NE.

Conclusion:

Nocturnal enuresis is a common clinical problem in children.. Although nocturnal enuresis is considered as a benign condition , it causes bad impact in child's self-esteem and well-being..

Concurrently, Successful treatment for the disorder can result in improvements in self-concept and self-esteem, attitude and

behavior. The literature on the treatment of nocturnal enuresis evaluate different methods of treatment of NE including medication , behavioral , and traditional treatment to find proper management for that disease..

Nocturnal enuresis is a disturbing problem for both parent and their children and should be taken seriously. Further studies examining different interventions for nocturnal enuresis are also recommended..

References:

- Du Mars, R. C. (1999, June). Treating primary nocturnal enuresis: The counselor's role. *College Student Journal*, 33(2), 211-216.
- 1-Ghahramani M, Gahahramani AA, Moghdam MB. Nocturnal enuresis and its impact on growth. *Iran J Pediatr* 2008;18 (2): 167-170.
- Cendron M. Primary nocturnal enuresis: current concepts. *American family physician*. 1999; 59(5):1219-1220
- Mithani S, Zaidi Z. Bed wetting in school children of Karachi. *J Pak Med Assoc* 2005; 55: 2-5.
- Gunes A, Gunes G, Acik Y, et al. The epidemiology and factors associated with nocturnal enuresis among boarding and daytime school children in southeast of Turkey: A cross sectional study. *BMC Public Health* 2009; 9:357. pubmed
- Aljenaei A, Majda, Fawaz M, Abd Alaziz AA, Salama RE. Prevalence of nocturnal enuresis among Qatari students aged 6 to 12 years. *Middle East Journal of family medicine*. 2009;8(7)
- Hjalmas K, Arnold T, Bower W, Caione P, Chiozza L, von Gontard A, Han ANS, Husman D, Kawauchi A, Lackgren G. Nocturnal enuresis: an international evidence based management strategy. *J Urol*. 2004; 171: 2545-2561 [DOI via Crossref] (Pubmed)
- Hunskar S, Burgio K, Clark A et al. Epidemiology of urinary and faecal incontinence and pelvic organ prolapse. In Paul Abrams, Linda Cardozo, Saad Khoury, Alan Wein eds, *Incontinence*, 3rd edn, Vol. 1. Plymouth: Health Publication Ltd, 2005: 255–312
- Bloom DA, Seeley WW, Ritchey ML, et al. 1993. Toilet habits and incontinence in children: An opportunity sampling in search of normal parameters. *J Urol* 149: 1087–90.
- Bloom DA, Seeley WW, Ritchey ML, et al. 1993. Toilet habits and incontinence in children: An opportunity sampling in search of normal parameters. *J Urol* 149: 1087–90
- Conditioning treatment of nocturnal enuresis present status Young GC, Morgan RTT. Overlearning in the conditioning treatment of enuresis. *Behav Res Ther* 1972;10:147-51.
- Collins RW. Importance of the bladder-cue buzzer contingency in the conditioning treatment for enuresis. *J Abnorml Psychol* 1973;82:299-308
- Sparrow K, Nunes V, Sawyer L, O'Flynn N, Evans J, Butler U, Chippington Derrick D, Dobson P, Hall P, Mackenzie M, Mawby C, Norfolk S, Williams P, Wootton J, Wright A. Predicating treatment outcome in nocturnal enuresis *Nocturnal Enuresis: The Management of Bedwetting in Children and Young People - Scand J Urol Nephrol Suppl*. 2000;(206):1-44. Enuresis—background and treatment. Nevés T(1), Läckgren G, Tuvevo T, Hetta J, Hjalms K, Stenberg A
- ETEMAD A.A . EL-SHEREEF, M.D. ., MEDHAT A. SALEH, M.D., GHADA SALAH EL-DEEN T. AL-ATTAR, M.D..PREVALENCE, RISK FACTORS AND IMPACT ASSOCIATED WITH NOCTURNAL ENURESIS AMONG CHILDREN IN SOME RURAL AREAS OF ASSIUT GOVERNORATE: A CROSS SECTIONAL STUDY
2. Koff SA. Enuresis. In: Walsh PC, Retik AB, Vaughan ED, Wein AJ, editors. *Campbell's Urology*. Philadelphia: WB Saunders Company; 1998. pp. 2055–68..
- Şahin C, Şahin O, Güraksın A. Frequency of enuresis, and influential factors in primary school children in the province of Erzurum. *Turkish Journal of Urology*. 2001;27:447–55
20. Yıldız M, Yakıncı C. Demographic characteristics of enuretic children in the city of Malatya, and familial inheritance. *Çocuk ve Gençlik Ruh Sağlığı Dergisi*. 1997;4:92–6
21. Koc I. Prevalence and sociodemographic correlates of consanguineous marriages in Turkey. *J Biosoc Sci*. 2008;40:137–48.