

**Comparative study on using different modalities in the
treatment of primary monosymptomatic
nocturnal enuresis in children**

Thesis

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List of Abbreviations

ACH	: Acetylcholine
ADH	: Anti-diuretic hormone
ADHD	: Attention deficit hyperactivity disorder
BDD	: Body dysmorphic disorder
BMI	: Body mass index
CDI	: The Child Depression Inventory
DDAVP	: Desmopressin Acetate
DI	: Diabetes insipidus
DM	: Diabetes mellitus
DSM IV	: Diagnostic and statistical manual of mental disorder
EEG	: Electroencephalogram
FBC	: functional bladder capacity
GAD	: Generalised anxiety disorder
IBS	: Irritable bowel syndrome
IC	: Interstitial cystitis

IQ	: Intelligence quotient
MDD	: Major depressive disorder
NE	: Nocturnal enuresis
NICE	: National Institute for Health and Clinical Excellence
NSAID	: Non-steroidal anti-inflammatory
OAB	: Overactive bladder
OFC	: Head circumference
PMNE	: Primary monosymptomatic nocturnal enuresis
PTSD	: Post-traumatic stress disorder
SP	: Social phobia
TCAs	: Tricyclic Antidepressants
UTI	: Urinary tract infection

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Introduction

The word enuresis is derived from a Greek word meaning "to make water." Enuresis is defined as the repeated voiding of urine into the bed or clothes at least twice a week for at least three consecutive months in a child who is at least five years of age. It can be nocturnal (occurring at night) or diurnal (occurring during the day)(*Glazener & Evans, 2004*) .

Enuresis is a fairly common condition in children. It can be a stressful condition as well as for both parents and children. Some children find bed-wetting extremely embarrassing. Parents sometimes become both frustrated and angry and it can lead to diminished self-esteem of the affected child (*Kristensen & Jensen, 2003*).

Standard treatment, as antidiuretic drug desmopressin or conditioning with the enuresis alarm, is effective in only approximately 75% of cases, which, given an enuresis prevalence among 10-year-old children of about 5%, leaves many socially handicapped. Thus, effective alternative therapies are needed. High arousal thresholds, nocturnal polyuria and detrusor hyperactivity have been firmly implicated as causes of enuresis (*Kanpen et al., 2002*).

Recent research has indicated that polyuria is present in cases of enuresis responsive to antidiuretic treatment,

whereas detrusor hyperactivity causes therapy resistance. These findings are reflected by a reduced renal concentrating capacity with the former type of enuresis, and low functional bladder capacity with the latter type (*Kanpen et al., 2002*).

Aim of the work

The aim of this study was to compare between different modalities used in the treatment of PMNE namely (selective antimuscarinic, non selective antimuscarinic and tricyclic antidepressant).