

Predisposing Factors, Body Image and Self Esteem Among School Age Children with Nocturnal Enuresis

Amany Mamdouh Mohamed Helmy⁽¹⁾, Amal Mohamed El-Dakhahkny⁽²⁾
& Bataa Mahmoud Mohamed⁽³⁾

⁽¹⁾B.SC. Nursing, ⁽²⁾ prof. of Pediatric Nursing- Faculty of Nursing- Zagazig university, ⁽³⁾ Lecturer of Pediatric nursing- Faculty of nursing- Zagazig university

Abstract:

Background: Nocturnal enuresis leads to an inability to control urination during sleep. **The aim of the study:** Assess predisposing factors, body image and self-esteem among school age children with nocturnal enuresis. **Subjects & methods: Research design:** Case-control study design was used. **Setting:** the Urology and the Psychiatric Outpatient clinics at Zagazig University hospital and Al -Ahrar hospital at Zagazig city. **Subjects:** The study was conducted on 240 children with their mothers (120 studies, and 120 controls). **Tools of data collection:** Three tools were used; Structured interview questionnaire sheet, body image scale and self-esteem scale. **Results:** Concerning to the mean of total self-esteem of both studied and control group were 39.00 ± 3.82 and 43.22 ± 4.77 respectively. In addition to the mean of overall image of both studied and control group were 74.8 ± 4.4 and 79.8 ± 5.0 respectively. **Conclusion:** Concerning the overall image and self-esteem, there are statistically significant differences between both control and studied group. **Recommendations:** Don't punish the child for bedwetting, give the child a simple reward like a coin every time when he wakes up without wetting and trained him during day to urinate to increase the bladder capacity

Keywords: School age children, predisposing factors, nocturnal enuresis, body image, and self-esteem.

Introduction

School age period has the most intense peer relationships troubles which may lead to involuntary behavior against poor and powerless children as well⁽¹⁾.

Childhood nocturnal enuresis (NE) is a health malady that requires immediate attention and management since untreated conditions establish long-term psychosocial hazards to children as well as to their parents.⁽²⁾ According to the American Psychiatric Association's diagnostic and Statistical Manual of Mental disorders IV criteria (DSM-IV) defined nocturnal enuresis as repeated voiding of urine into bed or clothes (whether involuntary or intentional), with a severity of at least twice a week for at least 3 consecutive months, or related to clinically significant distress or impairment in social, academic or other important areas of functioning.⁽³⁾

The International Children's Continence Society (ICCS) has classified nocturnal enuresis into primary and secondary nocturnal enuresis. The majority of children with nocturnal enuresis have primary enuresis. Children who have been dry for a period of 6 consecutive months before starting to wet the bed at night are classified as having secondary nocturnal enuresis, which is more likely to be associated with a pathological etiology.⁽⁴⁾ Nocturnal enu-

resis in children can be further classified into mono-symptomatic and non mono-symptomatic nocturnal enuresis. Children with mono-symptomatic (NE) do not have daytime urinary symptoms, and those with non mono-symptomatic nocturnal enuresis have urgency, frequency, or daytime urinary incontinence in association with their enuresis.⁽⁵⁾

The etiology of nocturnal enuresis is multifactorial. Many theories have been proposed to explain the causation, including the delay in maturation of the micturation processes or genetic factors. Enuresis is now accepted to be caused by the interplay between three factors: nocturnal polyuria, altered sleep and arousal pattern, and reduced bladder capacity; these factors interact to produce wetting during sleep.⁽⁶⁾

Self-concept is an essential part of the cognitive system of individuals and is involved in regulating ongoing behaviors. The looking glass self-theory implies that children have self-concept based on their understanding of how others perceive them.⁽⁷⁾ Body image development has an early onset and is seen as a key element in the psychological wellbeing of children.⁽⁸⁾

Body image involves individual's mental view of their body with regard to appearance

and ability to perform various physical tasks. Body image changes over times as one's appearance, capabilities, and functional status change over life cycle. The concept of body image is complex and individually determined. It is not only the way individuals perceived themselves but also the way other as seeing that body image is closely related to self-esteem.⁽⁹⁾

Self-esteem is related to the sense of attachment in feeling safe, stable and this sense of attachment affect the self-esteem in school children. Positive self-esteem and peer attachment are important factors for personal creativeness and productiveness. Negative self-esteem and peer attachment are factors for decreased confidence, helplessness, depression, and risky behaviors.⁽¹⁰⁾

The treatment program of nocturnal enuresis usually involved several methods of treatment through non pharmacological such as motivational therapy, fluid restriction, enuresis alarms, bladder training, and pharmacological agent [anticholinergic drugs, tricyclic antidepressants (TCAs) and Desmopressin acetate (DDAVP)].⁽¹¹⁾

Pediatric Nurse Plays an important role in treatment by reassurance and educated of the mothers about non-pharmacological therapy such as conditioning therapy (Alarms), Behavioral motivation, Diet therapy and Family Education.⁽¹²⁾

Significance of the Study:

Bedwetting or nocturnal enuresis is the most common childhood condition affecting an estimated 5 -7million children in United States in addition to 10% of 6-years-old, 3%of 12year-old 1% adult, Male > female (3: 1) and Nocturnal > day wetting (3:1)⁽¹³⁾. Nocturnal enuresis can cause a variety of behavioral, psychological, social problems and emotional distress in both children and parents including embarrassment, blushing, lack of self-esteem, and aggression. Therefore, identifying children at risk and performing therapeutic measures are necessary, therefore this study will be conducted to assess predisposing factors, body image and self-esteem among school age children with nocturnal enuresis.

Aim of the study:

The present study aimed to highlight predisposing factors, body image and self-esteem

among school age children with nocturnal enuresis.

Research questions:

- 1- What are the risk factors which lead to nocturnal enuresis among school age children?
- 2- What is the effect of nocturnal enuresis on self-esteem among school age children?
- 3- What is the effect of nocturnal enuresis on body image among school age children?

Subjects and Methods:

Research design:

Case-control study design was used in the present study.

Study setting:

This study was conducted at the Urology and the Psychiatric Outpatient Clinics at Zagazig University hospital and Al -Ahrar hospital in Zagazig city.

Study subjects:

The subjects of this study were divided into two groups:

Group I: Study group

A purposive sample of children suffering from bed wetting and their mothers (120 children) who were attending the urology and the psychiatric outpatient clinic at Zagazig University hospital (n=60) and Al -Ahrar hospital (n=60) in Zagazig city who fulfilled the following criteria and constituted the sample:

- Age: 6-12 years.
- Free from chronic diseases and congenital anomalies

Group II: Control group

They were 120 healthy children and their mothers who were attending at the same previous settings with their sick relatives who fulfilled the following criteria:

- Age: 6-12 years
- Free from chronic diseases and congenital anomalies.
- Free from bed wetting.

Tools of data collection:

Three tools were used to collect the necessary data which included a questionnaire interview sheet, body image and self-esteem scale.

Tool I: A structured interview questionnaire sheet:

A structured interview questionnaire sheet was developed by the researcher after reviewing relevant scientific literature and articles to

collect the required data. It consisted of five parts to collect the following:

Part A: Personal characteristics of studied children included age, gender order of the child in family and level of education...ect

Part B: Medical history of studied children included age of onset of bladder control; frequency of enuresis, any urinary tract problems as well as any investigations was done...ect

Part C: It included some of predisposing factors for nocturnal enuresis such as the event of having a new baby in family, transfer to new house, family live, child room and bath room, eating chocolate before sleep, going toilet before sleep, delaying time of sleep ...ect

Scoring system:

Regarding to scoring system, the scores for factor each correct answer was scored 1 point and zero for wrong one. The total score was 20 marks. Then the score calculated into (**poor** <10marks, **fair** 10 -15marks, and **good** ≥20marks).

Tool II: Body image scale:

Body image scale was developed by the researcher guided by El-Ashram et al.⁽¹⁴⁾. The scale consists of 40 items .There are 10 items excluded by the researcher due to not applicability for the studied problem, assigned to 3 subscales as follows: Perceptual body image (16 items), social body image (4 items) and emotional body image (10 items). The responses by choosing one answer from three answers which agree (3 point) – neutral (2 point) – not agree (1 point).The total score was 33 point. Then the score calculated into (**poor** <15marks, **fair** 15 -18marks, and **good** ≥33marks).

Tool III: Self-esteem scale:

Body image scale was developed by the researcher guided by Youssef and Elmansoury⁽¹⁵⁾. It consists of 58 items. There is 1 item excluded by researcher due to it's not relevancy for the studied problem. It contained 3 subscales. They were divided into the following parts: Personal traits (24items), Social relation (8 items), Parent relation (8 items), Educational achievement (9 items), and Lie scale (8 items).). The responses by choosing one answer from two answers which I'm sure (0 point) – I'm not sure (1 point).The total score was 25 point. Then the score calculated into (**poor** <10marks, **fair** 10 -15marks, and **good** ≥25marks).

Content validity and reliability:

The tools were tested for content validity by 5 experts (three professors of pediatrics at faculty of nursing and two professors of psychiatry at faculty of medicine). The recommended modifications were done and the final form was ready for use. These experts assessed the tools for clarity, relevance, comprehensiveness, applicability, and understanding. According to Cronbach's Alpha, It was found that Cooper scale for overall body image was 0.753 and the overall self-esteem was 0.807.

Field work:

Data collection took a period of five months (May 2016 to September 2016). Data was done three days/week (Saturday, Sunday, and Tuesday) from 8:30 am to 12:00 pm. The children and their mothers were interviewed after providing a complete explanation of the purpose of the study. The time used for finishing each interview ranged between 20-25 minutes according to mother's physical and mental readiness.

Pilot study:

It was carried on 10 % (24) of the studied children and their mothers to assess the applicability of the data collection tool, arrangement of items, estimate the time needed for filling the sheets with the collected data and feasibility of the study and acceptance to be involved in the study.

Administrative and ethical considerations:

An official permission was obtained by submitting a formal letters issued from Dean of the Faculty of Nursing, Zagazig University to the responsible authorities for both Zagazig University Hospitals and Al-Ahrar Hospital at, Zagazig city to obtain their permission for data collection.

Statistical analysis:

The collected data was coded and entered in a data base file using the fox professor windows. After completing data entry, data was transferred to the IBM SPSS version 20 program. For statistical analysis, frequency distribution and cross tabulations were used. Qualitative variables were presented in the form of number and percent. The tests of significances used were Mont Carlo exact test, Fisher

exact probability, Pearson correlation coefficient and one way ANOVA. Statistical significant difference was considered if $P < .05$. A highly statistical significant difference was considered if $P < .01$.

Results:

Results revealed that half of studied group don't use toilet before sleeping and more than two thirds having a lot of water before sleeping. Concerning to overall image and self-esteem, there are a statistically significant difference between both control and studied group.

Table (1): Portrayed the characteristics of both study and control group of children. Regarding to child's age, it was found that child age at studied group was 40% with mean age 8.73 ± 1.72 years compared to 38.3% of control group children with mean age 8.98 ± 1.66 years. It was revealed from the same table that 53.3% of the studied children at both groups male and 46.7% were female. Concerning to child order, it was found that 56.6% and 30.8% of both groups respectively was the second order. Also, it was found that 90% of the studied group compared to 78.2% of control group of children at primary school.

Figure (1): Demonstrated mother's education for both study & control group. Regarding to mother education, it was found that 40.1% were illiterate in study group compared to 13.3% in control group.

Table (2): Showed the child medical history of both study and control group. Regarding frequency of urination 56.7% were ranked daily, while weekly and monthly constitute 36.7%, and 6.7% respectively. According to medical condition, it was found that 46.7% of studied group compared to 10.8% had urinary tract infection. Regarding to child weight 56.7% and 86.7% were normal in both groups respectively. In addition to laboratory investigation clarified that 53.3% of studied children done urine analysis. The same table also revealed that 100% of studied enuretic children used anti-cholinergic drugs.

Table (3): Clarified predisposing factors of nocturnal enuresis of both study and control group. Results revealed that all homes (100%) of studied group had shared toilet compared to 98.3% of control group. On the other hand, 6.7% of studied group were moved to new residence compared to 20% of control group. The same table clarified that 60% of studied chil-

dren having family troubles compared with 34.3% of control group. Also, it was found that 50% of studied group compared to 75% of control group of children were used to go to toilet before sleeping. Also, 83.3% of studied group; compared with 5% of control group were drinking lots of water before sleeping.

Figure (2): illustrated mothers' knowledge score about nocturnal enuresis for both studied & control group. It was found that 60% of studied mothers had fair knowledge compared to 25% of control group. Also, 18.30% of studied mothers had good knowledge compared 58.30% of control group.

Table (4): illustrated body image scale of both studied and control group. Results revealed that mean of level of perceived image of studied group was 39.4 ± 31 compared to 41.8 ± 2.6 of control group. Concerning to social image, it was found the mean of studied group was 9.2 ± 1.3 compared to 10.3 ± 1.0 of control group. Regarding to the mean of emotional image of both studied and control group were 26.2 ± 2.0 and 27.7 ± 3.3 respectively. It was revealed from the same table that the mean of overall image of both studied and control group were 74.8 ± 4.4 and 79.8 ± 5.0 respectively. Concerning to overall image, it was found that there was statistically significant difference between both control and studied group ($P = 0.001$).

Table (5): Showed that 16.93 ± 2.46 was the mean of personal criteria of studied group compared to 18.09 ± 3.14 of control group, concerning to total self-esteem. Regarding to the mean of social relation of studied group, it was found that $6.03 \pm .99$ compared to 6.61 ± 2.09 . The same table clarified that the mean of parent relations of studied group were 5.90 ± 1.38 compared to $6.18 \pm .91$ of control group. As regard to the mean of educational achievement of both studied and control group were 5.23 ± 2.37 and 6.92 ± 1.35 respectively. In relation to mean of lie of both studied and control group were 4.90 ± 1.33 and $5.43 \pm .90$ respectively. Concerning to the mean of total self-esteem of both studied and control group were 39.00 ± 3.82 and 43.22 ± 4.77 respectively. The difference was statistically significant between both study and control ($p = 0.001$).

Table (6): portrayed the correlation between characteristics of children for both studied & control group and overall body image. Concerning to child age, it was found that the mean of overall body image of the studied

group at 10-12 years was 75.95 ± 5.47 compared to 79.72 ± 4.84 of control group. The same table demonstrated that 75.41 ± 4.79 the mean of overall body image of studied group were male compared to 79.88 ± 4.44 of control group. Also, it found that $77.75 \pm .71$ the mean of the studied group in 3rd child order compared to 80.07 ± 6.24 of control group. A statistical significant difference was found between child order and overall body image in studied group (**P= 0.031**).

Table (7): Showed relationship between characteristics of children for both studied & control group and total self-esteem. Regarding to child age, it was found that the mean of total self-esteem of studied group at 10-12 years was 39.60 ± 4.97 ; compared to 42.89 ± 4.62 of control group. The same table demonstrates that 39.69 ± 3.75 the mean of total self-esteem of studied group were male; compared to 42.98 ± 5.34 of the control group. A statistically significant difference was found between child gender and total self-esteem in studied group (**P= 0.034**). The same table clarifies the child order; it was found 40.50 ± 3.74 the mean of total self-esteem in 4th child order of studied group; compared to 38.00 ± 5.23 of control group. A statistically significant difference was found between child order and total self-esteem for both studied (**P=0.031**) and control group (**P=0.016**).

Discussion:

School age is a period of development that starts from 6-12 years, in which the child is directed away from the family group and is centered on the wide world of peer relationship Ahmed et al.,⁽¹⁶⁾ Makrani et al.,⁽¹⁷⁾ stated that nocturnal enuresis is the second most common disorder among children after allergic disorders and is one of the most problems during childhood. It refers to the inability of control of urination and involuntary urination in a child during night in an age period the bladder function control must be achieved. Nocturnal enuresis is a common problem that is frustrating for children, parent, and physician alike. The condition may affect the child's self-esteem and may lead to reduced social interaction and behavioral problems Bope and Kellerna⁽¹⁸⁾.

Regarding to predisposing factors, it was found that more than two thirds of studied group had a lot of water intake before sleep-

ing. These results disagreed with Ko et al.⁽¹⁹⁾ who performed a study entitled "Lower Urinary Tract Dysfunction in Elementary School children: Results of a Cross-Sectional Teacher Survey" and showed that more than two third of studied group had unlimited access to water. Also, El-bahnasawy and Elnagar⁽²⁰⁾ showed that more than two third of studied children took their last drink just before bedtime. This may be due to the presence of the children in schools for at least six hours without drinking or with minimal drinking to avoid going to the bathroom in the school and may be related to eating large amount of food rich in salt at lunch making the child drink more water during night.

According to body image, it was found that all studied group mentioned nocturnal enuresis as a problem. This result mentioned that more than half of studied group suffered from bad odor and cleaning. This result agreed with Duraphe⁽²¹⁾ who found that two third of parents felt with some trouble. Also, Gunes et al.⁽²²⁾ reported that two third of parents of considered nocturnal enuresis as a problem.

As regards reaction of mother toward their enuretic children, the current study emphasized that the majority of mothers punished their children in front of other. This result may be due to that mothers believed that punishment of their children will resume enuresis. This finding is on line with Abdl-elkhalek et al.⁽²³⁾ who found nearly the same result. Vogolu⁽²⁴⁾ added that punishing or shaming a child for bedwetting will frequently make the situation worse. This can cause increased bedwetting incidents, leading to more punishment and shaming.

Regarding to self-esteem, It was found that there was a significantly lower total self-esteem of studied group than control group (**P= 0.001**). These results may be due to that children with a bedwetting problem often suffer from shame and guilt, may have feelings of failure and view themselves as different from others. Children with a bedwetting problem are afraid of being discovered by their peers, and often fear teasing and humiliation by their own siblings and relatives. This result agreed with El-bahnasawy & Elnagar⁽²⁰⁾ who found in their study that two thirds of the studied children had low self-esteem. Also, Tal⁽²⁵⁾ added that the children who suffer from nocturnal

enuresis can experience loss of self-esteem, humiliation and social isolation. All of these experiences can increase the risk for emotional and behavioral problems.

Conclusion:

Based upon findings of the present study, it was concluded that all houses of studied group had shared toilet, more than half enuretic children had family troubles in their life, half of studied group didn't use toilet before sleep and more than two thirds had a lot of water intake before sleeping. Also, heredity enuresis had significant effect on having nocturnal enuresis of children. As well as the belief of eating more chocolate before sleep was significantly related to problem or sleeping early or presence of history of urinary tract infection.

According to overall image and self-esteem, there are statistically significant differences between both control and studied group. Also, it found correlation between total self-esteem and overall image was intermediate.

Recommendations:

In the light of findings of current study, the following recommendations are suggested:

1. Leave the child's room lighted at night or make the light button next to the child's bed so he can light it as soon as he feels the need to

urinate.

2. Leave the child intake of acceptable amount of fluids during the day, but should refrain from taking liquids, especially tea, coffee and cola since the evening because such liquids increase the urination and irritation of the bladder.

3. Make sure that the child hadn't constipation because constipation leads to a decrease in the volume of urine collected in the bladder and increased desire of the child to urinate frequently.

4. Give the child a simple reward like a coin every time he wakes up without wetting a butterfly or when he wakes up for a night.

5. Don't punish the child for the night urination

6 - Some children benefit from awakening at night by the normal way to go to the toilet and must continue this process for several months until the child benefits and the best time to wake the child is midnight.

7 - The child should be trained to increase the bladder capacity during the day as when the child feels the need to urinate, ask for a little wait and make a count from one to ten or to sing rich short and over time should prolong the child waiting period in front of the bathroom gradually becomes the count of one to twenty-five and so on.

Table (1): Characteristics of both study & control group of children.

Characteristics	Group				MCP	
	Study (n=120)		Control(n=120)			
	No	%	No	%		
Mother age (years)	25-	32	26.7%	31	25.8%	0.158
	30-	76	63.3%	63	52.6%	
	40-	12	10.0%	19	15.8%	
	50+	0	0.0%	7	5.8%	
Mean \pm SD		33.37 \pm 4.40		35.06 \pm 8.07		
Education	Illiterate/ read & write	48	40.1%	16	13.3%	0.001*
	Primary	16	13.3%	6	5.0%	
	Preparatory	4	3.3%	18	15.0%	
	Secondary	36	30.0%	42	35.0%	
	University	16	13.3%	38	31.7%	
Mother work	Working	28	23.3%	41	35.3%	0.043*
	Housewife	92	76.7%	78	64.7%	
Marital status	Married	112	93.3%	99	82.5%	0.014*
	Divorced	8	6.7%	16	13.3%	
	Widow	0	0.0%	5	4.2%	
Family size	<5	76	63.3%	56	46.7%	0.009*
	>5	44	36.7%	64	53.3%	
No of children	One child	8	6.7%	15	11.8%	0.001*
	Two children	20	16.7%	50	42.0%	
	Three children	68	56.6%	45	37.8%	
	4+	24	20.0%	10	8.4%	
Home condition	Owned home	92	76.7%	74	61.7%	0.089
	Rent home	28	23.3%	46	38.3%	
	Separated home	84	70.0%	64	53.3%	
	Shared home	36	30.0%	56	46.7%	0.109

▪ MCP: Mont Carlo exact probability

* P < 0.05 (significant)

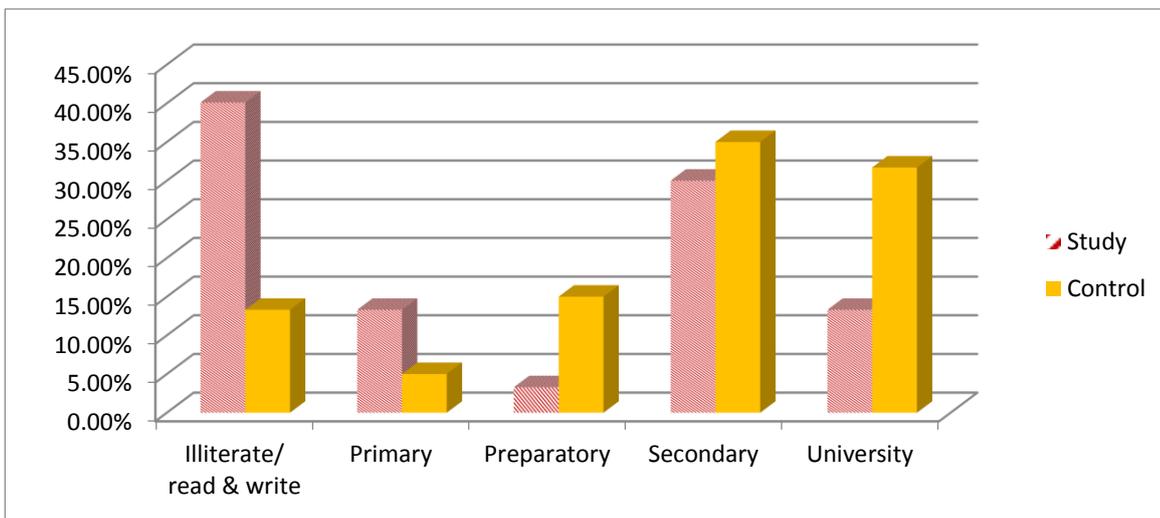


Figure (1): Mother's education for both study & control group.

Table (2): Child medical history of both studied & control group.

Medical history		Group				MCP
		Study(n=120)		Control(n=120)		
		No	%	No	%	
Frequency of urinations	Daily	68	56.7%	0	0.0%	0.0
	Weekly	44	36.7%	0	0.0%	
	Monthly	8	6.7%	0	0.0%	
Medical conditions \$	Psychological problems	48	40.0%	1	.8%	0.001*
	Urinary tract infection	56	46.7%	13	10.8%	
	Constipation	12	10.0%	1	.8%	
	Other health problems	28	23.3%	3	2.5%	
Child weight	Normal	68	56.7%	104	86.7%	0.001*
	Abnormal	52	43.3%	16	13.3%	
Child height	Normal	116	96.7%	119	66.2%	0.175
	Abnormal	4	3.3%	1	.8%	0.0
Clinical examination	None	64	53.3%	0	0.0%	
	Ultra sonar	52	43.3%	0	0.0%	
	Abdominal and pelvic X-Ray	4	3.3%	0	0.0%	
Lab investigations	Urine analysis	64	53.3%	0	0.0%	0.0
	Renal functions	10	8.3%	0	0.0%	
	Urine analysis & Blood glucose level	5	4.2%	0	0.0%	
	Renal analysis & Hormonal analysis	6	5.0%	0	0.0%	
	All investigations	35	29.2%	0	0.0%	
Received drugs \$	Anti-cholinergic	120	100.0%		0.0%	0.0
	Desmopressin acetate	44	36.7%	0	0.0%	
	tricyclic antidepressants	18	15.0%	0	0.0%	
				0		

MCP: Mont Carlo exact probability

* P < 0.05 (significant) \$ More than one answer was allowed

Table (3): Predisposing factors of nocturnal enuresis of both studied & control group.

Predisposing factors		Group				FEP
		Study (n=120)		Control(n=120)		
		No	%	No	%	
New child at family	Yes	84	70.0%	16	13.3%	0.001*
	No	36	30.0%	104	86.7%	
Moved to new residence	Yes	8	6.7%	24	20.0%	0.002*
	No	112	93.3%	96	80.0%	
Family troubles	Yes	72	60.0%	41	34.3%	0.001*
	No	48	40.0%	79	65.9%	
Child room	Shared	116	96.7%	110	91.7%	0.098
	Private	4	3.3%	10	8.3%	
Home toilet	Shared	120	100.0%	118	98.3%	0.156
	Private	0	0.0%	2	1.7%	
Using school toilet	Yes	84	70.0%	111	92.5%	0.001*
	No	36	30.0%	9	7.5%	
Joined nursery	Yes	28	23.3%	91	75.8%	0.001*
	No	92	76.7%	29	24.2%	
Bathroom lighting	Yes	112	93.3%	114	95.0%	0.582
	No	8	6.7%	6	5.0%	
Go to toilet before sleeping	Yes	60	50.0%	90	75.0%	0.001*
	No	60	50.0%	30	25.0%	
Sleeping late	Yes	48	40.0%	74	61.7%	0.001*
	No	72	60.0%	46	38.3%	

Continued of table (3)

Predisposing factors		Group				FEP
		Studied(n=120)		Control(n=120)		
		No	%	No	%	
Sleeping Nature	Light	28	23.3%	94	78.3%	0.001*
	Deep	92	76.7%	26	21.7%	
Have a lot of fluids containing caffeine	Yes	96	80.0%	58	48.3%	0.001*
	No	24	20.0%	62	51.7%	
Have chocolate before sleeping	Yes	92	76.7%	3	2.5%	0.001*
	No	28	23.3%	117	97.5%	
Taking water before sleeping	Yes	100	83.3%	6	5.0%	0.001*
	No	20	16.7%	114	95.0%	
Food	Neutral	48	40.0%	43	35.8%	0.001*
	Sugary	36	30.0%	64	53.3%	
	Salty	36	30.0%	13	10.8%	
Sleep clothes	Neutral	80	66.7%	52	43.3%	0.001*
	Light	40	33.3%	68	56.7%	
	Heavy	0	0.0%	0	0.0%	
Play electronic games for long time	Yes	60	50.0%	75	62.5%	0.050*
	No	60	50.0%	45	37.5%	
Watch TV for long time	Yes	96	80.0%	77	64.2%	0.006*
	No	24	20.0%	43	35.8%	
Watch horrible programs	Yes	20	16.7%	3	2.5%	0.001*
	No	100	83.3%	117	97.5%	
Have attention and concentration troubles	Yes	68	56.7%	37	30.8%	0.001*
	No	52	43.3%	83	69.2%	

FEP: Fisher exact probability

* P < 0.05 (significant)

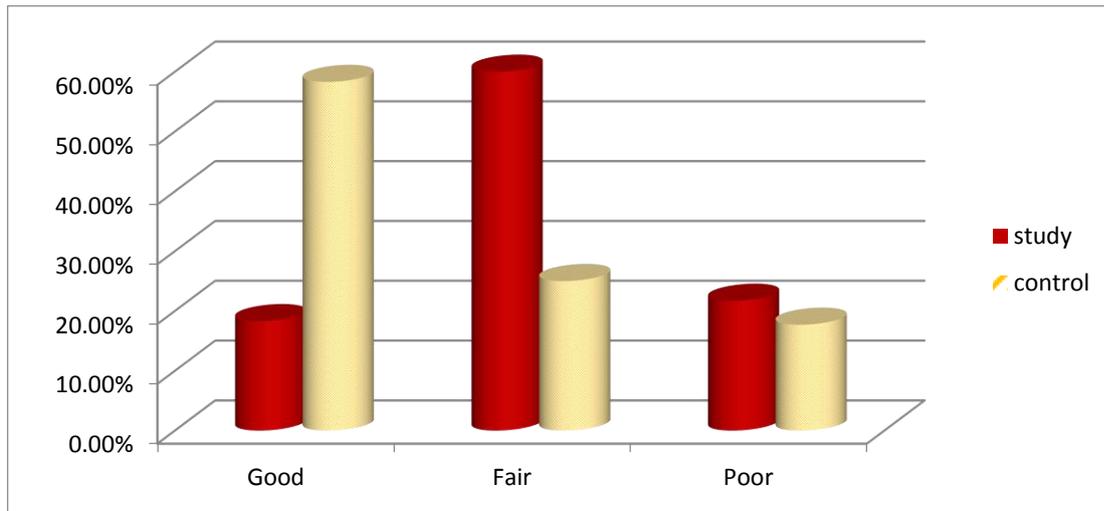


Figure (2): Mothers' knowledge score about nocturnal enuresis For both studied & control group.

Table (4): Body image scale of both studied and control group.

Body image scale	Group		t (P)
	study	Control	
	Mean	Mean	
Perceived image	39.4 ±3.1	41.8±2.6	6.4 (0.001)*
Social image	9.2± 1.3	10.3± 1.0	7.1 (0.001)*
Emotional image	26.2± 2.0	27.7± 3.3	4.3 (0.001)*
Overall image	74.8± 4.4	79.8± 5.0	8.2 (0.001)*

T: independent samples t-test

* P < 0.05 (significant)

Table (5): Total Self-esteem scale of both studied and control group.

Self-esteem	Group		t (P)
	Studied	Control	
	Mean	Mean	
Personal criteria	16.93± 2.46	18.09± 3.14	3.2 (0.002)*
Social relations	6.03± .99	6.61± 2.09	2.8 (0.007)*
Parents relations	5.90± 1.38	6.18± .91	1.8 (0.070)
Educational achievement	5.23± 2.37	6.92± 1.35	6.7 (0.001)*
Lie	4.90± 1.33	5.43± .90	3.5 (0.001)*
Total self-esteem	39.00± 3.82	43.22± 4.77	7.6 (0.001)*

T: independent samples t-test

* P < 0.05 (significant)

Table (6): Correlation between total Self-esteem and total body image for domain

Domain	Correlation coefficient	Perceived image	Social image	Emotional image	Overall image
Personal criteria	R	.20	.28	.10	.24
	P	.002*	.001*	.129	.001*
Social relations	R	.03	.12	.19	.15
	P	.632	.058	.004*	.024*
Parents relations	r	.10	.18	.11	.04
	P	.127	.004*	.093	.493
Educational achievement	r	.13	.18	.20	.23
	P	.045*	.005*	.001*	.001*
Lie	r	.30	.09	.21	.31
	P	.001*	.171	.001*	.001*
Total Self-esteem	r	.24	.27	.29	.36
	P	.001*	.001*	.001*	.001*

r: Pearson correlation coefficient

* P < 0.05 (significant)

Interpretation of r:

Weak (0.1-0.24) Intermediate (0.25-0.74) Strong (0.75-0.99)

Table (7): The relationship between characteristics of children for both studied & control group and total self-esteem.

characteristics		Study(n=120)	F (P)	Control(n=120)	F (P)
		Total self-esteem		Total self-esteem	
		Mean		Mean	
Child age (years)	6-	39.00± 2.21	0.90 (0.408)	43.75± 4.20	0.28 (0.757)
	8-	38.50± 3.56		43.22± 5.27	
	10-12	39.60± 4.97		42.89± 4.62	
Child gender	Male	39.69±n3.75	t=2.1 (0.034)*	42.98±n5.34	t=0.15 (0.570)
	Female	38.21± 3.78		43.48± 4.04	
Child order	1st	37.33± 2.48	9.4 (0.031)*	42.63± 4.19	3.6 (0.016)*
	2nd	40.18± 4.00		44.84± 5.42	
	3rd	35.00± 1.07		43.14± 4.00	
	4th	40.50± 3.74		38.00± 5.23	

F: One Way ANOVA T: independent t-test

* P ≤ 0.05 (significant)

References:

- Demirbağ BC, Çiçek Z, Yiğitbaş C, Özkan CG and Dinçer A: Spain the Relationship between Types of Bullying experienced by Primary School Students and Their Anxiety, State-Trait, Self-Esteem and Certain Socio-Demographic Characteristics, Social and Behavioral Sciences ,7th International Conference on Intercultural Education "Education, Health and ICT for a Transcultural World", Elsevier Ltd., Birsell, 2017;399.
- Osman ZH, Ali SA and kamel NM: Impact of an educational program on mothers' knowledge, attitude and practice regarding their children with nocturnal enuresis. International Journal of Advanced Research, 2016; 4(6), 771:776:779.
- Kushnir J, Kushnir B and Sadeh A: Children Treated for Nocturnal Enuresis: Characteristics and Trends Over a 15-Year Period, Child Youth Care Forum, Springer Science Business Media New York, 2013;120. Available at: <http://link.springer.com/article/10.1007/s10566-013-9195-0> Accessed at May 3, 2017.
- Traisman E: Healthy Baby / Health child: Enuresis: Evaluation and Treatment, Pediatric Annals, Slack Incorporate, 2015; 44(4), 133.
- Diamond AJ & Schaeffer DA: Pediatric Urinary incontinence: Classification, Evaluation and Management, Pan African Urological Surgeons' Association, African Journal of Urology, 2013; 20(1), 2.
- Deshpande A and Caldwell P: Medical Management of Nocturnal Enuresis, Pediatric Drugs, 2012; 14(2), 72. Available at: <http://link.springer.com/article/10.2165%2F11594870-000000000-00000>. Accessed at August 14, 2016.
- Lu FY, Wen S, Deng G and Tan YL: Self-concept mediates the relationship between childhood maltreatment and abstinence motivation as well as Self-efficacy among drug addicts, addictive behaviors, 68 (2017), Elsevier Ltd., 53.
- Veldhuis J, Poel F, Pepping R, Konijn E and Spekman M : Skinny is prettier and normal: I want to be normal- Perceived body image of non- Western ethnic minority children in the Nether lands, Body image, 20(2017). Elsevier Ltd., 74.
- Mohamed NS, El-Dakhahkny AM, Hesham MA and Elmasry NM: Impact of thalassemia on body Image and Self-esteem among thalassemic adolescent at Zagazig university hospital. Unpublished master's thesis. Zagazig University, Faculty of Nursing, Pediatric Department, 2014; 4:34-35.
- Min P. and Park H: Effects of Self-esteem Improvement Program on Self-esteem and Peer Attachment in Elementary School Children with Observed Problematic Behaviors. Asian Nursing Research Korean Society of Nursing Science, 9(2015). Elsevier Ltd. 54.
- Murad NA, El-deen ZM, and Ahmed AE: Solifenacin Versus Oxybutynin Treatment of Nocturnal Enuresis in Children. Unpublished master's thesis. Qena University, Faculty of Medicine, Pediatric Department, 2012; 11.

- 12- Strivastava RN and Bagga A (2016): *Pediatric Nephrology*, 6th ed., Jaypee Brothers Medical Publishers, London. P.519.
- 13- Domino F, Baldor R, Grimes J and Golding J (2014): *The 5- Minute Clinical Consult Premium*, 3rd Ed., Congress Library, China, P.404.
- 14- El-Ashram RE, Hassan MB and Kashef EF: Body image and its relation to self-esteem for visually impaired adolescents. Unpublished master's thesis. Zagazig University. Faculty of Education, Psychiatric Health Department, 2008; 23.
- 15- Yousef N and Elmansoury A: After modification of cooper smith inventory (1967): The effect of hospitalization on children's self-esteem, *The New Egyptian Journal of Medicine*, 1994; 4(2)324-328.
- 16- Ahmed SR, El-Dakhahkny AM and Bassam SM: Quality of life school age children with cancer at Zagazig university hospital, unpublished master's thesis. Zagazig University, Faculty of nursing, pediatric department, 2014; 3.
- 17- Makrani A, Moosazadeh M, Nasehi MM, Abedi G, Afshari M, Farshidi F and Aghaei S: Prevalence of Enuresis and its Related Factors among Children in Iran: A Systematic Review and Meta-analysis *Int J Pediatr.*, 2015; 3(23), 996.
- 18- Bope E and Killerman R: *Conn's Current Therapy*, America, Elsevier INC., 2016; 1131.
- 19- KO LN, Chuang KW, Champeau A, Allen IE and Copp HL: Lower Urinary Tract Dysfunction in Elementary School Children: Results of a Cross-Sectional Teacher Survey, *American urological association education and research. Inc., Urological Journal*, U.S.A.2016; 195, P.1234.
- 20- El-Bahnasawy HT and El-Nagar MA: Psychological Impact of Nocturnal Enuresis on Self-esteem of School Children. *American Journal of Nursing Research*, 2015; vol. 3, No.1, P.16-18
- 21- Duraphe VM: Management of enuresis: Need to focus on parents' knowledge and practice, *International Journal of Nursing Research, Innovational Journal of Nursing and Healthcare*; 2015; vol.1, Issue3, P.111:114.
- 22- Gunes A, Gunes G, Acik Y and Akilli A: 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*, BioMed Central Ltd., 2009; P.6. DOI: 10.1186/1471-2458-9-357. Available at: <https://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-9-357> . Accessed at April 25, 2017.
- 23- Abdel-Elkhalek FM, Baraka SS and Tayal KY: Predisposing factors and parental perception of nocturnal enuresis among children attending to El-Shatpy hospital in Alexandria. Unpublished master's thesis. Alexandria University, Faculty of Medicine, Family Medicine Department, 2013; P.6:8:10:24.
- 24- Vogolu IK: a descriptive study to assess the knowledge and practice of the mothers of age 3 to 7 years children regarding enuresis in selected rural area of Tumkur with a view to develop information guide sheet. Unpublished Master's thesis. Akshaya College, Faculty of Nursing, Mental Health, 2011; P.6.
- 25- Tal S: The Gap between Social Functioning to Emotional Functioning Among Young Adolescents with Nocturnal Enuresis. *Bedwetting Clinics*, Israel, 2014; P.364. ISBN 978-83-232-2837-0. Available at: https://repozytorium.amu.edu.pl/bitstream/10593/13436/1/SE_32_2014_Tal_Sagie.pdf