PREVALENCE AND PSYCHIATRIC COMORBIDITIES OF NOCTURNAL ENURESIS IN A SAMPLE OF BASIC EDUCATION STUDENTS IN SHARKIA GOVERNORATE

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ABSTRACT

Background: Nocturnal enuresis and its psychiatric comorbidities are important psychosocial problem. Aim of the work: The aim is to study the prevalence and psychiatric comorbidities of nocturnal enuresis in 11 to 13 years’ old children in Sharkia governorate. Subject and Method: A random sample of school students aged 11 to 13 years old in Sharkia Governorate (N. 603) applied a structured questionnaire searching for nocturnal enuresis. The cases having nocturnal enuresis (N.50) and non enuretic control group (51) applied Children’s Manifest Anxiety Scale, Children Depression Inventory, Abuse and neglect scale for children. Results: The overall prevalence was 8.29% (50/603), depression, anxiety and child abuse are significantly associated with nocturnal enuresis. Conclusion: Our results with enuresis prevalence was comparable to other epidemiologic studies from various countries. Depression, anxiety and child abuse are more prevalent in enuretic child.

Keywords: nocturnal enuresis, prevalence, psychiatric co morbidities.

INTRODUCTION

Nocturnal enuresis (NE) can be defined as the involuntary passage of urine during sleep beyond the age of anticipated nighttime bladder control, which is generally accepted as 5 years of age. Nocturnal enuresis is a very common clinical problem in children. [1] Despite the fact that this condition usually labeled benign, it often leads to considerable emotional distress and concern in affected children. Prevalence of nocturnal enuresis is difficult to be estimated, the age and the diagnostic criteria are important variables that affect the prevalence.[2] There is a spontaneous resolution rate of about 15% per year.[3] The etiology of enuresis is not completely understood. This condition probably has a multifactor etiology. Most studies have consistently found that the risk factors are young age, family history; delayed maturation, bladder abnormality, urinary tract infection, stress, sleep disorders and vasoressin deficiency. In Sharkia there are no studies for prevalence and psychiatric co morbidities for nocturnal enuresis.[4,5,6,7,8,9,10]

Aim of the work

The aim is to study the prevalence and psychiatric co morbidities of nocturnal enuresis in 11 to 13 years’ old children in Sharkia governorate.

Subject and Method

The study is a sample survey as a across sectional study. It was done by stratified sample. One center (Zagazig center) was selected from Sharkia governorate. It has two educational administrations (east and west Zagazige) twelve schools were selected, six from each educational administration. Three from rural areas, the other three were selected from urban areas by simple random sample. The total number of the target population (the six grade primary school children and the first grade secondary school students, 11 to 13 years old) was obtained from the Statistics Bureau (Office)-Educational Directorate-Sharkia Governorate. The sample size was calculated (603 students) and the children were selected by cluster sample.

Stage I

A self-administered structured questionnaire was distributed to all children, they are asked to hide it from each other to keep secrecy and privacy. The questionnaire asked about the name, the age, the gender of the child and the educational level of the parents. It asked also about having nocturnal enuresis.

Stage II

An interview was done with the cases that have nocturnal enuresis according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) for application of the Arabic version of:

1. Children’s Manifest Anxiety Scale "CMAS"

Which is the modified form of Taylor anxiety scale Manifest Anxiety Scale “MAS”. It was prepared for the Egyptian environment by doctor Veola El Beblawi. The scale involves 42 items to be answered by “yes” or “no”, it represents the psychological, physiological and behavioral aspects of anxiety. [11]

2. Children Depression Inventory (CDI)

Which originally prepared by Marya Kovacs who depended on Beck and Albert through many studies to applie the scale on children. It was prepared for the Egyptian environment by doctor Ghareeb Ab El Fatah. the scale involve 27 items that represent a wide range of depressive symptoms each item composed of three phrases from which the child choose only one that have a score from 0 to 2.[12,13]

3. The Arabic Abuse and neglect scale for children.

...
Which is a valid and reliable Arabic scale that measure the three aspects of child abuse physical, psychological and neglect. The scale measures the parents source of child abuse and neglect which is the important source in our study. Each aspect of child abuse is represented in 22 phrases, the child by self report choose one from four levels (never, seldom, sometimes and many times). This scale was prepared for Arabic environment by professor doctor Amal Melegi Baza by the aid of other international scales. [14]

Inclusion criteria
1. Children of governmental and special schools in Sharkeia governorate.
2. All the sample children either males or females.
3. Children aged 11-13 years old.
4. Children who met the diagnostic criteria of DSM – IV.

Exclusion criteria
1. Mentally retarded children.
2. Children of age other than 11-13 years old
3. Children not met the DSM- IV criteria.
4. Those who have physical abnormalities like epilepsy and spina pvida.

Statistical Analysis
Statistical package Epi-6 was used for statistical analysis. To test the statistical significance in the study, we used the $\chi^2$ and Fisher's exact test. Detected differences at $p<0.05$ were considered to be significant.

Results
Mean age of the study group of children was 12.84 ±0.68 years for cases and 12.90 ±0.67 years for controls. In the study, number of cases was 50, 28 of them were boys, and 22 of them were girls. Number of controls was 51, 24 of them were boys and 27 were girls. The overall prevalence of reported nocturnal enuresis was 82.9 per 1000 studied school children (50/603). All of the cases were considered primary cases.

There were no significant difference between boys and girls regarding prevalence. There was significant difference between cases and controls regarding anxiety, depression and abuse. The result showed higher prevalence of abuse and neglect in rural areas than in urban ones. There was no relationship between the educational level of the parents and the child abuse and neglect. Anxiety was more prevalent in females than males. There was significant association between depression and anxiety, also between depression and abuse.

Table 1: Distribution by clinical findings among cases and control

<table>
<thead>
<tr>
<th>Studied variables</th>
<th>Cases (n = 50)</th>
<th>Control (n=51)</th>
<th>Odds ratio</th>
<th>$\chi^2$ test</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>28.92</td>
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<td>24</td>
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<td>25.51</td>
</tr>
<tr>
<td>3: mild</td>
<td>3</td>
<td>27</td>
<td></td>
<td>--</td>
<td>17.01</td>
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<td>total</td>
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<td>51</td>
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</tr>
<tr>
<td>Depression:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>2</td>
<td>1</td>
<td></td>
<td>--</td>
<td>25.51</td>
</tr>
<tr>
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<td>11</td>
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<td>--</td>
<td>17.01</td>
</tr>
<tr>
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<td>21</td>
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<td>--</td>
<td></td>
</tr>
<tr>
<td>4: None</td>
<td>16</td>
<td>40</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>51</td>
<td></td>
<td></td>
<td></td>
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<td>Abuse:</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1:high</td>
<td>8</td>
<td>1</td>
<td></td>
<td>--</td>
<td>17.01</td>
</tr>
<tr>
<td>2: moderate</td>
<td>21</td>
<td>10</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>3: mild</td>
<td>20</td>
<td>40</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>4: none</td>
<td>1</td>
<td>0</td>
<td></td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>50</td>
<td>51</td>
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</tbody>
</table>

Table 1 showed significant differences between cases and control regarding presence of anxiety, depression, and abuse.
Table 2: Residence by clinical findings

<table>
<thead>
<tr>
<th>Studied variables</th>
<th>rural (n=34)</th>
<th>urban (n=16)</th>
<th>Odds ratio</th>
<th>χ² test</th>
<th>P Value</th>
</tr>
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<td>Anxiety:</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1: high</td>
<td>18</td>
<td>52.9</td>
<td>5</td>
<td>31.2</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>3.10</td>
<td>&gt; 0.05</td>
</tr>
<tr>
<td>2: moderate</td>
<td>15</td>
<td>44.1</td>
<td>9</td>
<td>56.3</td>
<td></td>
</tr>
<tr>
<td>3: mild</td>
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<td>2</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>Depression:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: high</td>
<td>1</td>
<td>3.0</td>
<td>1</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.21</td>
<td>&gt; 0.05</td>
</tr>
<tr>
<td>2: moderate</td>
<td>9</td>
<td>26.4</td>
<td>2</td>
<td>12.5</td>
<td></td>
</tr>
<tr>
<td>3: mild</td>
<td>17</td>
<td>50.0</td>
<td>4</td>
<td>25.0</td>
<td></td>
</tr>
<tr>
<td>4: non</td>
<td>7</td>
<td>20.6</td>
<td>9</td>
<td>56.3</td>
<td></td>
</tr>
<tr>
<td>Abuse:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: high</td>
<td>7</td>
<td>20.6</td>
<td>1</td>
<td>6.2</td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>12.10</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>2: moderate</td>
<td>18</td>
<td>52.9</td>
<td>3</td>
<td>18.8</td>
<td></td>
</tr>
<tr>
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<td>8</td>
<td>23.5</td>
<td>12</td>
<td>75.0</td>
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</tr>
<tr>
<td>4: none</td>
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<td>3.0</td>
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<td>0.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 showed no significant differences between residence and all clinical findings as (p > 0.05) except abuse which is higher among rural residents.

Table 3: Education of parents by clinical findings among cases

<table>
<thead>
<tr>
<th>clinical findings</th>
<th>Illiterate (n=3)</th>
<th>Read &amp;write (n=5)</th>
<th>Moderate (n=21)</th>
<th>Univ. &amp;higher (n=21)</th>
<th>χ² test</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: high</td>
<td>2</td>
<td>66.7</td>
<td>2</td>
<td>37.5</td>
<td>11</td>
<td>52.4</td>
</tr>
<tr>
<td>2: moderate</td>
<td>1</td>
<td>33.3</td>
<td>3</td>
<td>62.5</td>
<td>9</td>
<td>42.8</td>
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<tr>
<td>3: mild</td>
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<td>0.0</td>
<td>1</td>
<td>4.8</td>
</tr>
<tr>
<td>Depression:</td>
<td></td>
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<td>1</td>
<td>33.3</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>2: moderate</td>
<td>1</td>
<td>33.3</td>
<td>2</td>
<td>37.5</td>
<td>4</td>
<td>19.1</td>
</tr>
<tr>
<td>3: mild</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>37.5</td>
<td>10</td>
<td>47.6</td>
</tr>
<tr>
<td>4: none</td>
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<td>33.3</td>
<td>1</td>
<td>25.0</td>
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<td>33.3</td>
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<tr>
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<td>0</td>
<td>0.0</td>
<td>1</td>
<td>12.5</td>
<td>4</td>
<td>19.1</td>
</tr>
<tr>
<td>2: moderate</td>
<td>2</td>
<td>66.7</td>
<td>3</td>
<td>62.5</td>
<td>8</td>
<td>30.1</td>
</tr>
<tr>
<td>3: mild</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>12.5</td>
<td>8</td>
<td>30.1</td>
</tr>
<tr>
<td>4: none</td>
<td>1</td>
<td>33.3</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Table 3 showed no significant differences between level of education of parents and all clinical findings as p > 0.05.
Table 4: Relation between clinical findings and sex.

<table>
<thead>
<tr>
<th>Clinical finding</th>
<th>Males (n = 28)</th>
<th>Females (n=22)</th>
<th>Total N=50</th>
<th>%</th>
<th>Odds ratio</th>
<th>χ² test</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: high</td>
<td>9</td>
<td>14</td>
<td>23</td>
<td>46.0</td>
<td>_</td>
<td>6.80</td>
<td>&lt; 0.05</td>
</tr>
<tr>
<td>2: moderate</td>
<td>18</td>
<td>6</td>
<td>24</td>
<td>48.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>3</td>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
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<td>22</td>
<td>50</td>
<td>100.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression:</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1: high</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>4</td>
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<td>2.82</td>
<td>&gt; 0.05</td>
</tr>
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<td>11</td>
<td>22</td>
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<td></td>
</tr>
<tr>
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<td>21</td>
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</tr>
<tr>
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<td>8</td>
<td>16.0</td>
<td>_</td>
<td>1.49</td>
<td>&gt; 0.05</td>
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<td>21</td>
<td>42.0</td>
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<tr>
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<td>20</td>
<td>4.0</td>
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</table>

Table 4 showed no significant differences between both sexes regarding all clinical findings as p > 0.05 except anxiety which is significantly higher among females (p < 0.05).

Table 5: Relation between anxiety and other clinical findings.

<table>
<thead>
<tr>
<th>clinical findings</th>
<th>Sever anxiety (n=23)</th>
<th>Moderate Anxiety (n=24)</th>
<th>Mild Anxiety (n=3)</th>
<th>χ² test</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Depression:</td>
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<td></td>
</tr>
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<td>2</td>
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<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
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<td>39.1</td>
<td>2</td>
<td>8.3</td>
<td>0</td>
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<td>37.5</td>
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<td></td>
</tr>
<tr>
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<td>21.7</td>
<td>13</td>
<td>54.2</td>
<td>2</td>
</tr>
<tr>
<td>4: none</td>
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</tbody>
</table>

Table 5 showed significant association between anxiety, depression, abuse...
Table 6: Relation between Depression and Child Abuse

<table>
<thead>
<tr>
<th>clinical findings</th>
<th>Severe depression (n=2)</th>
<th>Moderate depression (n=11)</th>
<th>Mild depression (n=21)</th>
<th>No depression (n=16)</th>
<th>χ² test</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Abuse:</td>
<td></td>
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<td></td>
<td></td>
</tr>
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<td>18.2</td>
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<td>14.2</td>
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<td>0</td>
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<td>5</td>
<td>45.5</td>
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<td>57.2</td>
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<td>0.0</td>
<td>4</td>
<td>36.3</td>
<td>5</td>
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<td>0</td>
<td>0.0</td>
<td>1</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Table 6 showed significant association between depression and abuse (p < 0.05).

DISCUSSION

1. Prevalence

In our findings, the overall prevalence of reported nocturnal enuresis was 8.29% in school children aged (11-13) years old using the DSM-IV diagnostic criteria (which need two voidings per week for diagnosis). Generally it is very difficult to estimate the exact prevalence of nocturnal enuresis, as multiple confounding factors can significantly influence the final result, as prevalence of NE is conditioned by the sample studied (age of the sample) and the definition used (diagnostic criteria).

Studies that include young aged children resulted in high prevalence like in the United States, Byrd et al, found the prevalence of NE 33% of 5 year aged children. Byrd considered as enuretic all children who reported one bedwetting episode in the year before the study which is considered another cause for that high prevalence. Also in Turkey where the prevalence of nocturnal enuresis was 17.9% as the study involved young aged children starting five years old (5-17-year-old age group). Another example, in Iran, enuresis was a complaint expressed by 16.2% of the cases in the study group (5 to 13 years old).

Studies that used diagnostic criteria other than DSM-IV resulted in high prevalence, some studies use ICD-10 which need only one voiding per month for diagnosis like in Turkey, where the prevalence of enuretic children according to the ICD-10 definition were 14.9%. Also in Saudi Arabia children the prevalence was 15% according to the ICD-10 definition the child age was 6-16.

In Iran Mahmoodzadeh et al found a high prevalence of NE 18.7%. In that study Nocturnal enuresis was defined as any intermittent incontinence while asleep in a child being at least five years old. This a reluctant, non strict definition for NE which may be the cause of that high prevalence. In Sydney the overall prevalence of any reported nocturnal enuresis was 18.9%. The prevalence of marked nocturnal enuresis (at least weekly) was 7.8%.

Butler et al estimated a 2.6% prevalence of NE, as defined by the DSM-IV as diagnostic criteria, at 7.5 years of age, and reported that 12.8% had wetted the bed at some time. The strict diagnosis by the DSM is the cause of the relatively low frequency the non strict, non definite diagnosis (bed wetting at some time) resulted in high prevalence.

Serel et al reported that 11.5% of children in their series, aged 7-12 years, had experienced bedwetting at some time in the year before the study, that prevalence is not based on a strict or demanding definition. The resulted prevalence is high comparable to the other studies.

Spee van der Wekke et al, in a study conducted in The Netherlands, the overall prevalence of enuresis was 6%, including children on special education. The sample of that was not homogeneous and a same definition of enuresis was not used for the whole sample.

A study commissioned by the Italian Association of Parents of Enuretic Children to the Chiozza et al group, conducted on a sample of 6,892 children aged 6-14 years, found a 3.8% prevalence of NE (which considered low frequency ) ,as based on the DSM-III criteria. A detailed analysis of the age distribution of the study sample showed that it mostly consisted of children aged 12, 13, and 14 years. Specifically, children of these ages accounted for 43.94% of the series, while those of 6, 7, and 8 years, in whom enuresis would be more prevalent, only represented 24.47%. This uneven distribution accounts for such a low prevalence.

There is more than thirty studies all over the world for estimation of nocturnal enuresis.
frequency. The least number was 2.6%.[21] And
the largest number was 18.7%, [20]
The overall prevalence in our findings of
nocturnal enuresis was 8.29% which generally is
comparable to that wide range and difficult to be
estimate prevalence of NE in all studies all over
the world.
2. Gender differences
In our study there was no significant
difference in prevalence of nocturnal enuresis
between boys and girls. This result is similar to
some reports in the literature.[25,26,17,19] Although in
some literature the prevalence of enuresis was
more common in boys than in girls.[22,27,28,29,30,31]
In these studies the number of boys in the
samples was more than that of girls. The
significance of difference between boys and girls
in these studies was not calculated.
3. Psychiatric disturbances
Studies focused on the effect of enuresis on
self esteem, self image and the psychosocial
difficulties.[32,28,33] Other studies showed
behavioral disorders like simple phobia, anxiety
disorders, disruptive behavior disorders, problems
at school, mild reading difficulties as well as
subclinical psychological symptoms.[34,35,29,36,37]
Some studies reported that psychiatric co-
morbidities are more common in children with
day-time incontinence and secondary enuresis.
In children with primary MEN, they are no more
common than in the normal population (10% to
20%). They are most common in children with
frequent voiding (40% to 50%).[38,39] Although
Byrd et al who considered as enuretic all children
who reported one bedwetting episode in the year
before the study stated that enuretics in their series
with very infrequent bedwetting had associated
psychiatric disorder. In their opinion, diagnosis of
children with such infrequent bedwetting, based
on data reported in their article (less than six
leakage episodes per year), the diagnostic criteria
in that study was not strict (at least one monthly
bedwetting episode should be calculated
according to the ICD-10 definition). Their results
cannot thus be compared to those of any other
study. The group itself did not discuss their results
as compared to those found in other countries.[40]
Our findings focused on depression and anxiety
and showed significant difference between cases
and controls regarding major depression disorder
and anxiety, although all of our cases were
primary nocturnal enuresis there was high
prevalence of depression and anxiety. Although,
 studies reported no difference between primary
enuresis and the normal population regarding
psychiatric co-morbidities.[38,39] These results can be explained by: first, the
relatively high frequency in our cases (we use the
DSM diagnostic criteria which required two
voidings per week), this is a high frequency in
comparison to the other studies that used other
diagnostic criteria like ICD-10 (need one voiding
per month for diagnosis) Second, the relatively
old age of our cases (11-13 years) in comparison
to the ages of children in other studies. The long
duration of suffering from enuresis had been
considered as a chronic stressor. Third, we use in
our study specific scales for measuring
depression, anxiety and child abuse, which
involve wide ranges of symptoms that can
accurately measure the change in the child
behaviour while all other studies used child
behaviour chick list, Rutter parent score and
Behavior Problem Index.
4. Abuse and neglect of enuretic children
Our findings showed significant
differences between cases and controls regarding
child abuse and neglect, which is similar to
literatures that reported high prevalence of child
abuse either verbal or physical in enuretic patients
like in Turkey and Barazil where the parental
reactions to the child's enuresis were widely
investigated.[15,41]. Also punitive attitude was still
common in the local community of Hong Kong
and this may adversely affect the parent-child
relationship and their commitment to treatment.
There was a significant correlation between the
abuser’s educational level and punishment
severity.[42]
However, our findings showed no significant
differences between level of education of parents
and child abuse as p > 0.05, this may explained by
the same culture and attitude towards the child
even in different educational level in our society.
From the total number of our cases (50), two cases
only sought medical advice, they were under
medical treatment which means that 96% of cases
did not seek medical advice, and this is great and
warning result that denotes how much the neglect
of those children. Kanaheswari in Malasia found
in his study that 87% of cases had not sought any
form of treatment despite 74% admitting to being
embarrassed.[43]
In Turkey, however, the parental concern level
was high; approximately half of the enuretic
children did not visit a physician for management
of the problem. [44]
Butler et al found that 40% of parents had tried
the non medical strategies like fluid restriction
and regular toileting at night. Although only
31.9% of those with nocturnal enuresis had seen a
health worker. [21]
Only 63% of parents thought that medical intervention is a good way to deal with a child's bed-wetting. 6.6% of the parents thought that medicines are a "very good way" to treat enuresis [45].

A lack of knowledge regarding the nature of enuresis and its negative effect on their children can cause parents to delay seeking medical advice. This lack of awareness is obvious in our society where the highest percentage of enuretic children don't seek medical advice.

5. **Level of parents education**

Our study showed non-significant difference between cases and controls regarding the educational level of the parents. Some studies have reported parents of enuretics had low educational level [46,20,47,29]. Also in Iran the most recent study, there was low educational level of fathers in 48.3% and 62.8% in mothers [19] in all that studies the educational level was classified in two categories only (Primary school or less and Junior high school or more) in our study the educational level of the parents was classified to four categories which are more precise and more expressive (illiterate, read and write, moderate and university and higher).

In Turkey Gur et al. found a relation between enuresis and the low educational level of the fathers, but there study had no control group. [25]

**Limitations:**

The results was dependent only on the child application of Children's Manifest Anxiety Scale (CMAS). Children Depression Inventory (CDI), and Arabic Abuse and neglect scale for the children. It was difficult to meet the parents of the cases or controls to apply the parental versions of the scales.

**CONCLUSION**

In conclusion this study provides us with:

1. The prevalence of nocturnal enuresis in our locality which is a noticeably high prevalence.
2. Knowing how much the problem affects the child, (depression, child abuse and anxiety are highly associated with nocturnal enuresis)

**RECOMMENDATIONS**

1. A descriptive longitudinal study would also be helpful to describe the exact natural history of this disorder.
2. Because of the differences in NE type, frequency, a detailed prevalence study with stratification by subtype and age is required in order to ascertain NE incidence in our environment and differences in frequency.

**We can suggest:**

1. Secondary psychological damage should be prevented by advising against the punitive approach and for the supportive approach.

2. The importance of frequent follow-up with emotional support, reassurance and encouragement was reflected by the improvement of children's self concept and parent's perception of their behavior regardless of the treatment outcome.

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الملخص العربي

الن同胞 الليلي لدى الأطفال من المشكلات الصحية التي لها بالغ الأثر على الحالة النفسية للطفل، والهدف من هذه الدراسة هو معرفة معدل انتشار الن同胞 الليلي في عينة من طلبة وطالبات التعليم الأساسي بمحافظة الشرقية، والتي تتراوح أعمارهم من 11 إلى 13 عام من التجربة على بعض المشكلات النفسية التي تتراوح أعمارهم من 11 إلى 13 عام من تجارب طفولتهم، وذلك من خلال تطبيق استبيان للكشف عن الن同胞 الليلي في العينة العشوائية الممثلة للطلبة في الصف السادس الابتدائي والصف الأول الإعدادي وعددهم (603) وقد فحص كل من مقياس القلق للأطفال ومقاييس الإكتتاب للأطفال ومقياس سوء المعاملة والإهمال للأطفال على كل من مجموعة الحالات وعدهم (50) والمجموعة المقارنة بها وعدها...

وقد نجت عن البحث الآتي:

معدل انتشار الن同胞 الليلي في العينة الممثلة للمحافظة يمكن مقارنته بالنسب العالمية وهو 8.29%.

تزايد معدلات الإكتتاب في الأطفال الذين يعانون من الن同胞 الليلي.

تزايد معدلات القلق في وحاء الأطفال خاصة الفتيات.

تزايد معدلات سوء المعاملة والإهمال في وحاء الأطفال خاصة في الريف.

وجود ارتباط بين سوء المعاملة وكل من الإكتتاب والقلق.

عدم وجود علاقة بين المستوى التعليمي للأباء وبين هذه المشكلات النفسية في بيئة البحث.

-610-