

Original Research Article

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## A Quasi Experimental Study to Assess the Effectiveness of Computer Assisted Teaching regarding Nocturnal Enuresis among Mothers of Preschool Children in Selected Areas of District Mohali, Punjab, India

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### ABSTRACT

Preschoolers are emerging as creative person who are preparing for their future role in society. The normal social and physical development of children ages 3-6 years old includes many milestones. Toilet training is a developmental milestone and is a challenge to parents and children. Toilet training should enhance approximately by 18 months of age and be trained completely by 2 or 3 years old. Delay toilet training may be lead to Nocturnal enuresis. Nocturnal Enuresis is also known as bed-wetting as it happens during the night while the child is sleeping. Enuresis is the loss of bladder control that leads to release of urine. The aim of the study is to assess the effectiveness of computer assisted teaching regarding Nocturnal enuresis among mothers of preschool children. A quantitative approach with quasi experimental research design was adopted by Simple random sampling technique, 60 mothers of preschool children were selected in Daun village Kharar in District Mohali, Structured Knowledge questionnaire was used to collect the data from mothers of preschool children in Selected areas of district Mohali. Analysis of data was done using descriptive and inferential statistics. The study finding shows that the knowledge score of mothers of preschool children had average knowledge score (66.7%) and good knowledge score (33.3%) after the administration of computer assisted teaching on Nocturnal enuresis. The study shows that post- test knowledge score was higher than the pre –test knowledge score which shows that the computer assisted teaching regarding Nocturnal enuresis mothers of preschool children was effective in improving the knowledge level of mothers of preschool children.

#### Keywords

Mothers of preschool children, Computer assisted teaching, Knowledge, nocturnal enuresis

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### Introduction

Preschoolers are emerging as creative person who are preparing for their future role in society (Marlow Dorothy and Barbara Redding, 2011; Ghai *et al.*, 2005). The normal social and physical development of children ages 3-6 years old includes many milestones. Toilet

training is a developmental milestone and is a challenge to parents and children. Toilet training should enhance approximately by 18 months of age and be trained completely by 2 or 3 years old (Dorothy R. Marlow, 2008). Delay toilet training may be lead to Nocturnal enuresis. Nocturnal enuresis is a common problem that can be troubling for children and their families.

Nocturnal Enuresis is also known as bed-wetting as it happens during the night while the child is sleeping. Enuresis is the loss of bladder control that leads to release of urine (Cendron, 1999).

Nocturnal enuresis can cause being tense, having difficulty sleeping and having bad dreams small bladder capacity, improper toilet training and deep sleep with inability to receive the signals from distended bladder to empty it. Child with emotional conflict and tension, desires to gain care and attention of parents (DuMars *et al.*, 1999; Laurie Barclay and Penny Murata, 2008; Ozkan *et al.*, 2010).

Nocturnal Enuresis are of two types Primary Nocturnal enuresis and Secondary Nocturnal enuresis. Primary Nocturnal enuresis (PNE) is the most common form of bedwetting. Bedwetting is a disorder once a child is old enough to stay dry, but continues either to average at least two wet nights a week with no long periods of dryness or to not sleep dry without being taken to the toilet by another person. Secondary Nocturnal enuresis (SNE) occurs after an extended period of dryness at night (roughly six months or more) and then reverts to after sometime time. Secondary Nocturnal enuresis can be caused by emotional stress or a medical condition, such as a bladder infection (Laurie Barclay and Penny Murata, 2008; Nocturnal enuresis, 2008; Ozkan *et al.*, 2010; Solanki and Desai, 2014; Readett *et al.*, 1991).

For most patients, the treatment is aimed at protecting or improving self-esteem. Medical treatment options ranges from behavioural -based options such as bedwetting alarms, to medication such as hormone replacement.

Besides all these, treatment guidelines strongly recommend that parents should be counselled about the psychological damage caused by pressure, shaming, or punishment for a condition that children cannot control (Ramamurthy and Kanitkar, 2008; Di Bianco *et al.*, 2014; De Sousa *et al.*, 2007; Ozden *et al.*, 2007; Chang *et al.*, 2001).

Counselling of the parents regarding Nocturnal enuresis due to improper management of Nocturnal enuresis of children is required to prevent this most common pediatrics health issue. So enhancement of mother's knowledge in management of this most common pediatric health issue will be really beneficial (Safarinejad, 2007; Burns and Grove, 2005; Basavanthappa, 2003; Kamperis *et al.*, 2012).

The main objectives of this study include, assessing the knowledge of mothers of preschool children before imparting the computer assisted teaching regarding Nocturnal enuresis.

To develop and administer computer assisted teaching on Nocturnal enuresis among mothers of preschool children. To assess the knowledge of mothers of preschool children after imparting the computer assisted teaching regarding Nocturnal enuresis.

To compare the pretest and post test knowledge regarding Nocturnal enuresis among mothers of preschool children. And also to associate the findings with selected demographic variables.

## Hypothesis

H<sub>1</sub>:-There will be significant difference between the pre-test and post-test knowledge score regarding Nocturnal enuresis among mothers of preschool children after imparting computer assisted teaching.

H<sub>2</sub>:-There will be significant association between the knowledge score with the selected demographic variables.

## Materials and Methods

In present study, quantitative research and quasi experimental research design approach was used under study. The study was conducted in selected areas of district Mohali. The target population of study consisted of mothers of preschool children in selected areas of district Mohali, Punjab.

By simple random sampling technique, 60 mothers of preschool children were selected from district areas of Mohali, Punjab. A simple random sampling technique from selected areas of district Mohali, Punjab was performed (Ozkan *et al.*, 2010; Vogt *et al.*, 2010; Pereira *et al.*, 2010; Van Dommelen *et al.*, 2009). Structured knowledge questionnaire was used to collect the data from mothers of preschool children in selected areas of district Mohali, Punjab. A study was conducted in the month of March 2016 Formal written permission was obtained from the selected areas of district Mohali, Punjab. After discussing the purpose and objectives of the study; the analysis and interpretation of data was done according to objectives of the study by using descriptive and inferential statistics.

## Results and Discussion

### Demographical variable

According to age of child, majority 23(38.3%) belongs to 5 years of age, 16(26.7%) belongs to 4 years, 11(18.3%) belongs to 6 years of age, in minority 10(16.7%) belongs to 3 years of age.

According to type of family, majority 32(53.3%) belongs to joint family whereas rest 28(46.7%) belongs to nuclear family.

According to educational status of mother, majority 21(35%) were higher secondary education, 18(30%) According to number of siblings, majority 32(53.3%) had 2 siblings, 14 (23.3%) had 1 siblings, 9(15%) had 3 siblings & in minority 5(8.4%) had >3 siblings.

According to occupation of mother, majority 21(35%) had private job, 15(25%) were homemaker, 13(21.7%) were self employed, in minority 11 (18.3%) had government job.

According to family history of nocturnal enuresis, majority 41(68.3%) had no history of nocturnal enuresis & whereas rest 19(31.7%) had family history of nocturnal enuresis.

According to previous knowledge regarding toilet training, majority 34(56.7%) were having previous knowledge regarding toilet training and remaining 26(43.3%) were having no previous knowledge regarding toilet training.

Table 1: depicts the frequency and percentage distribution of mothers of preschool children based on socio-demographic variables such as age of child, type of family, educational status of mother, number of siblings, occupation of mother, family history of Nocturnal enuresis, whether you have any previous knowledge regarding toilet training.

According to age of child, majority 23(38.3%) belongs to 5 years of age, 16(26.7%) belongs to 4 years, 11(18.3%) belongs to 6 years of age, in minority 10(16.7%) belongs to 3 years of age.

According to type of family, majority 32(53.3%) belongs to joint family whereas rest 28(46.7%) belongs to nuclear family.

According to educational status of mother, majority 21(35%) were higher secondary education, 18(30%) were secondary education, 14(23.4%) were primary education, in minority 7(11.7%) were graduate & above.

According to number of siblings, majority 32(53.3%) had 2 siblings, 14 (23.3%) had 1 siblings, 9(15%) had 3 siblings & in minority 5(8.4%) had >3 siblings.

According to occupation of mother, majority 21(35%) had private job, 15(25%) were homemaker, 13(21.7%) were self employed, in minority 11 (18.3%) had government job.

According to family history of nocturnal enuresis, majority 41(68.3%) had no history of nocturnal enuresis & whereas rest 19(31.7%) had family history of nocturnal enuresis.

According to previous knowledge regarding toilet training, majority 34(56.7%) were having previous knowledge regarding toilet training and remaining 26(43.3%) were having no previous knowledge regarding toilet training.

Table 2: depicts the pre-test & post test knowledge score regarding nocturnal enuresis among mothers of preschool children. In pre-test knowledge score majority of mothers of preschool children had average knowledge score 44(73.3%) and 16(26.7%) had poor knowledge score and there was no sample had good knowledge score.

In post-test knowledge score of mothers of preschool children had good knowledge score 20(33.3%) and 40(66.7%) had average knowledge score and no sample had poor knowledge score. Thus it concludes that after the administration of computer assisted teaching the knowledge score of mothers of preschool children has increased.

Table 3: depicts the comparison between pre-test and post-test knowledge score mothers of preschool children on nocturnal enuresis The paired - t test was used. The pre-test mean knowledge scores of mothers of preschool children was  $9.5833 \pm 2.04435$ . Whereas post-test mean knowledge scores of mothers of preschool children was  $14.2833 \pm 2.19469$ . Thus comparing both pre-test and post-test knowledge scores, the result revealed that post-test knowledge score mean was higher than pre-test knowledge score mean. Hence ( $H_1$ ) hypothesis is accepted.

**Table.1** Frequency and percentage distribution according to demographic variables of mothers of preschool children (N= 60)

Sr. No.	Socio-demographic variable	Frequency (f)	Percentage (%)
1.	<b>Age of child (in year)</b>		
	3	10	16.7
	4	16	26.7
	5	23	38.3
	6	11	18.3
2.	<b>Type of family</b>		
	Nuclear family	28	46.7
	Joint family	32	53.3
3.	<b>Educational status of mother</b>		
	Primary education	14	23.3
	Secondary education	18	30
	Higher secondary	21	35
	Graduate and above	7	11.7
4.	<b>Number of siblings</b>		
	1	14	23.3
	2	32	53.4
	3	9	15
	>3	5	8.4
5.	<b>Occupation of Mother</b>		
	Homemaker	15	25
	Self employed	13	21.7
	Private job	21	35
	Government job	11	18.3
6.	<b>Family history of Nocturnal enuresis</b>		
	Yes	19	31.7
	No	41	68.3
7.	<b>Whether you have any previous knowledge regarding toilet training</b>		
	Yes	34	56.7
	No	26	43.3

**Table.2** Pre-Test & Post test knowledge score regarding nocturnal enuresis among mothers of preschool children; (N=60)

Level of knowledge	Pre-test		Pot-test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
<b>Poor (0-8)</b>	16	26.7%	0	0.0
<b>Average(9-16)</b>	44	73.3%	40	66.7
<b>Good ( 17-25)</b>	0	0.0	20	33.3
<b>Median ( min.max)</b>	10(5-13)		14( 10-20)	
<b>Mean ± SD</b>	9.583 ± 2.044		14.283±2.1946	

\*significant p< 0.05 level

**Table.3** Comparison between pre-test and post-test knowledge score of mothers of preschool children on nocturnal enuresis. N=60

Level of knowledge	Mean	SD	t-value	P-value
Pre-test score	9.5833	2.04435	17.256	.000*
Post –test score	14.2833	2.19469		

\*significant  $p < 0.05$  level

### Findings related to association between the post-test knowledge scores and selected socio-demographic variables

In the present study findings, there was statistically significant association between the number of sibling and level of knowledge score of mothers of preschool children.

The conclusion drawn from in the present study, the post-test knowledge score was higher than the pre-test knowledge score which shows that the computer assisted teaching regarding Nocturnal enuresis mothers of preschool children was effective in Improving the knowledge level of mothers of preschool children and there was association between level of knowledge with selected demographic variables.

### Author contributions

Rajni Kumari: designed the experiment; Khoinaijam Nitakumari: conducted all the experiments and drafted the manuscript.

### Data Availability

The data sets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

### Declarations

**Ethical Approval** Not applicable.

**Consent to Participate** Not applicable.

**Consent to Publish** Not applicable.

**Conflict of Interest** The authors declare no competing interests.

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