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Caregivers Perception and Socio-Economic Challenges of Nocturnal Enuresis on Child and Family in Ibadan, Nigeria

Nwakaku Bibian Kuforiji[1]; Iyabode Olufunmike Adekanmbi[2];
Florence Oluyemi Alowo[3]; Folasade Bolanle Alo[4]
Department of Nursing, Lead City University, Ibadan, Nigeria

Abstract:- Nocturnal Enuresis (NE) is bedwetting (BW) at night; it is a childhood problem that involves a large number of children. However, the study aims to investigate caregivers' perception, and socio-economic challenges of nocturnal enuresis on child and family in Ibadan, Nigeria. The study utilized descriptive case study to explore caregivers' perceptions, and challenges of NE on children, and families. The study adopted multistage sampling technique. Convenience sampling technique was adopted in subject selection. To make up for the non-response rate and increase the power of observation, the sample size was 309. A semi-structured questionnaire was used to carry out the study. Statistical Package for Social Sciences version 21 was used for analysis. Descriptive analysis was used for quantitative variables including mean, median, and standard deviation. The data were organized and presented in simple tables, charts, and graphs. Inferential analysis using Chi-Square test, and independent student t-test were performed at a 5% level of significance. The results show that about (86.5%) perceived Nocturnal Enuresis as a psychological problem, and (83.3%) perceived that bedwetting can be a result of the spiritual spell. Majority of the caregivers (87.3%) viewed NE as a source of shame, 94.4% viewed bedwetting as a serious behavioural problem while the majority of caregivers (94.8%) viewed teenage bedwetting as abnormal. Analysis showed that some (35.7%) children exhibited unruly attitude, some (23.8%) were bullied, all felt nervous most times which was common, (39.7%) felt intimidated, and (47.6%) will rather keep to themselves by un-socializing. The occurrence of nocturnal enuresis was high among children above ten years. Almost all caregivers perceived nocturnal enuresis as negative to the family about NE. Hence, there is a need to design health promotion programs aimed at addressing these challenges and empowering both in the process for the resolution.

Keywords:- *Component; Formatting; Style; Styling; Insert.*

I. INTRODUCTION

Nocturnal Enuresis (NE) is bedwetting (BW) at night; it is a childhood problem that involves a large number of children. It is a habit characterized by functional difficulty on bladder control in normal healthy children above the age of eight years. Many children are affected with NE in every culture but not perceived as a public health problem until a very late age when the damage would have been done. Most adolescents no longer bed wet, but for the small percentage of adolescents, who are affected, this can be a devastating problem at home where the child is frequently punished for wetting the bed at night, and at school where the stigma sets the child back (This is more devastating when it affects the girl child where it brings about rejection for intimate relationships, and delay in marriage [1].

The occurrence of NE among children aged 6 to 12 years in Igbo-Ora, a rural community in South West Nigeria, was 17.6 % [2]. In a similar study in Ibadan, children challenged with NE accounted for 21.3% which indicates a high prevalence of NE among children in Nigeria, and other parts of Africa [3]. Nocturnal Enuresis subjects these children to experience indescribable humiliation, anxiety, embarrassment, and loss of self-esteem; with a negative effect on self-perception, interpersonal relationships, quality of life, and school attendance as the child grow [4]. The psychological trauma, emotional challenges and management of NE can be considerably traumatizing on the child, and family. The effects of the stigma vary with individuals. The aftermath of NE can limit socialization opportunities, such as school camps, and sleepover parties; it affects building relationships with peers, and influences choice in marriage negatively later in life. Also, it presents a financial burden to families, with increased costs for laundry, disposables, and medical care. It is important, and more profitable to address the phenomenon early in life than to subject the child, and family to the consequences, and public health importance of a neglected NE. The overall prevalence varies from one place to the other, 22.3% among healthy children in a study in Idikan, an urban community in Ibadan Nigeria [5], and 17.6% from Igbo-Ora, a rural community in Southwest Nigeria [6].

Confronted with the challenge, include those that see to the child's healthy growth, and development. El Said, Ghafor, El Hamady, Abdel Aal, and Omar [7] conclude that the problem that confronts the child with enuresis is enormous. Ranging from the adoption of negative defense mechanism, the child's inability to accept invitations to sleep away from home; urinary tract infection; depression as a result of the enuresis treatments that failed; anxiety, and inferiority complex as adolescence approaches, are some of the huddles the child must cross. The objective of the study

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was to investigate caregivers' perception, and challenges experienced by the children affected with nocturnal enuresis in Ibadan.

II. MATERIALS AND METHODS

➢ *Study Design*

A descriptive study design was adopted to explore caregivers' perceptions, and socio-economic challenges of nocturnal enuresis on child and family in Ibadan, Nigeria. It considered the reported impact of NE from purposively selected children and caregivers who have children challenged with nocturnal enuresis in five (5) LGAs in the Ibadan metropolis.

➢ *Study Area*

This study will take place in Ibadan which is the capital of Oyo-State and the third largest metropolitan city in Nigeria, with an estimated population of 3, 847, 472, in 2007. Ibadan is comprised of 11 LGAs; of which five are urban and six are rural, based on locations of their headquarters ((NPC) and ICF Macro, 2009). There are six rural LGAs (Oluyole, Ona-Ara, Egbeda, Ido, Akinyele, and Lagelu) and five urban LGAs (Ibadan North, Ibadan North East, Ibadan North West, Ibadan South West and Ibadan South East). Ibadan is divided into three socio-economic and cultural zones, which cut across the LGAs: a traditional inner core, a transitional, and a suburban periphery. The inner core areas form the old part of the city, inhabited, for the most part, by people with a low level of education. These areas are highly congested and overcrowded, have few and poor roads, limited amenities, and many public health problems. The transitional area is an interface between the inner core and elite areas. The suburban periphery is described as the elite area, containing modern low-density residential estates, occupied by professionals and other high-income groups [8].

➢ *Study Population*

The study populations include the caregivers (father, mother, grandparents, and senior siblings) caring for the child challenged with NE that met the inclusion criteria.

➢ *Inclusion Criteria*

The study included father, mother, grandparents, including senior siblings (the significant others in the family) (caregivers), of challenged children. Only those residing in the study areas, who volunteered to participate, were recruited into the study.

➢ *Exclusion Criteria*

Those who have children below 10 years with NE and diurnal enuresis or enuresis as a result of disease conditions (organic enuresis) were excluded; those who do not want to participate, those with enuresis living outside the study areas were not qualified to participate in the study.

➢ *Sampling Technique*

The study adopted multistage sampling technique. In stage one, all the eleven Local Government Areas (LGAs) were written out and assigned numbers from one to eleven. Selection was done using toss of the fair coin which 'Head' was given to represent even numbers and Tail represents odd numbers. An exhaustive selection of even numbers was carried out for the selection of LGA. Decision of the fair coin gives the group (even or odd number group) to be selected. Five (5) LGAs among those listed in the Head (even numbers) were selected from the eleven LGAs in Ibadan for the study also by the tossing of fair coin. All the wards in each of the five (5) even numbered LGA were included in the study. The principal investigator and research assistants, trained on data collection, went from house to house, market or convenient places to identify caregivers with children challenged with NE in the communities. Only those residing in the selected LGAs and willing to participate were selected for the study.

➢ *Sample Size Determination*

Yamane (1973) formula was used for sample size determination in the study.

The population in these LGAs was calculated using Wards and Area Square Meter coverage. The population, and wards tabulated below

Table 1 Sample Size Determination

L.G.A census (years 2006)	Wards per L.G.A	Population per M^2 /ward
Ibadan North	12	168
Ibadan South East	12	37
Egbeda	11	172
Ido	10	112
Akinyele	12	36
Total population per square meter	**57**	**525**

Yamane formula: $N/1 + N(e)^2$

Whereby;

n = the required sample size

N = the total population in square meter per ward (M^2/ward) of the study and

e = the error of tolerance (5%)

$$\text{Yamane formula: } n = \frac{N}{1+N(e)^2}$$

$$n = \frac{525}{1+525(0.05)^2}$$

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$$n = \frac{525}{2.31}$$

n= approximately 227.

Assuming a non-response of 10%

$$\frac{100 \times N}{100-r}$$

Where

N = sample size

r = non-response rate (10%)

$$\frac{100 \times 227}{100-10}$$

n = 252.22

The sample size was increased by 10% to make up for the non-response rate, and increase the power of observation. It increased the sample size to 252 caregivers.

- *Instruments for Data*

A semi-Structured Questionnaire was used to carry out this study. Section A inquired about respondents' socio-demographic characteristics, section B elicited information on respondents' perception of NE. There are 22 questions with Likert's scale measure using, Strongly Agree (SA) Agree (A) Disagree (D) Strongly Disagree (SD), and Undecided (U); consisting of 8 positive questions (SA= 4, A=3, D=2 SD=1 U=0), and 14 Negative questions (SA=1, A=2, D=3, SD=4, U=0). The minimum obtainable score is 38, and the maximum 88.

- *Validity*

To ensure variety, and cogency of the instrument, a draft of the self-developed structured questionnaire was given to experienced researcher, and then to the researchers' supervisor in the Department of Nursing, University of Ibadan to explore questions for clarity, specificity of variables to be measured, and relevance of the contents of the questionnaire; to guide against errors and ambiguity for the final administration of the questionnaire.

- *Reliability*

Instrument reliability was ascertained using a test-retest method among caregivers with children who wet the bed at night, recruited for a pilot study in Oke-Ayo, a community in ward 8 of Ibadan southwest L.G.A. This reliability test checked the internal consistency of items in the questionnaire. The pretest of the instrument helped the researcher to estimate the time that could be assigned to respond to the questionnaire. The sum reliability test of Cronbach Alpha for the instrument was 76.3%.

- *Data Management and Analysis*

The Questionnaire was collated and checked for completeness. The researcher rechecked all administered copies of the questionnaire one by one and edited them where necessary. A coding guide was developed and used to facilitate coding and data entry into the computer. Each questionnaire was coded and entered into the computer using Statistical Package for Social Sciences (SPSS) version 20. The information obtained was summarized and interpreted based on the computation of the outcome. Descriptive analysis for quantitative variables including mean, median, and standard deviation which were computed, and self-esteem measured using dichotomous (Yes/No) responses. The data were organized and presented in simple tables, charts, and graphs. Inferential analysis using Chi-Square test, and independent student t-test were performed at a 5% level of significance.

- *Ethical Consideration*

The proposal was submitted to the University College Hospital/ University of Ibadan Ethical Committee for ethical approval. Letter of introduction from the department of Nursing was forwarded to the Chairman of the Ethical Review Committee for approval. Community leaders of the LGAs, heads of the religious organizations, and the family heads of the participating families, in the study areas, were duly informed before contacts were made with the respondents. Written or verbal consent was obtained from the caregivers before administering the questionnaires. Consent for children participation was obtained, from family caregivers, parents, and Parent Teachers Association meetings. The respondents were duly notified that participation was voluntary, and they had the right to withdraw from the study at any time without reprisal or loss of benefit. Strict confidentiality of the information given before, and after the data collection was assured.

Almost all the caregivers (99.2%) perceived nocturnal enuresis as negative to the family, and the child while few (0.80%) had a positive perception about nocturnal enuresis (Fig 1). Most (86.5%) perceived it as a psychological problem, 83.3% perceived that bedwetting can be a result of the spiritual spell. Most of the caregivers, (87.3%) viewed NE as a source of shame. Also, 94.4% viewed bedwetting as a serious, behavioural problem while the majority of caregivers 239(94.8%) viewed teenage bedwetting as abnormal (Table 2).

III. RESULTS

Table 1 shows that the highest number of caregivers were within the age group of 31-40years old (34.9%), with mean age of 38.0±10.4 years. There were many (72.6%) female caregivers out of which many (65.1%) were married. Some caregivers were reported to be actively engaged in one occupation or the other. Many (73.8%) reported that the mothers were self-employed. Likewise, many (65.5%) were self-employed father. The majority of these parents had formal education and reported 57.9% mothers had secondary education. Also, 63.5% fathers had secondary education, and majority (94.4%) of the respondents were Yoruba.

ISSN No:-2456-2165 https://doi.org/10.5281/zenodo.14637059

Table 2 Socio-Demographic Data of Caregivers (N = 252)

Significant others to the child	Categories	Frequency	Percent (%)
Age of caregivers	21-30	63	25.0
	31-40	88	34.9
	41-50	78	31.0
	51-60	16	6.3
	61-70	7	2.8
Gender of caregivers	Male	69	27.4
	Female	183	72.6
Marital status of caregivers	Single	50	19.8
	Married	164	65.1
	Others	38	15.1
Reported occupation of mother of the child with NE	Employed	35	13.9
	Self employed	186	73.8
	Unemployed	13	5.2
	Artisan	18	7.1
Reported occupation of father of the child with NE	Employed	52	20.6
	Self employed	165	65.5
	Unemployed	14	5.6
	Artisan	21	8.3
Reported Mother's educational status	Primary	52	20.6
	Secondary	146	57.9
	Tertiary	48	19.0
	None	6	2.4
Reported Father's educational status	Primary	21	8.3
	Secondary	160	63.5
	Tertiary	68	27.0
	None	3	1.2
parents' ethnic group	Yoruba	238	94.4
	Igbo	6	2.4
	Hausa	1	.4
	Others	7	2.8

Table 3 Caregivers' Perception of Nocturnal Enuresis

Caregivers' perception on (NE) (BW)	Strongly Agree n (%)	Agree n (%)	Disagree n (%)	Strongly Disagree n (%)	Undecided n (%)
1 1. Causes of BW are well known	53(21.0)	129(51.2)	39(15.5)	28(11.1)	3(1.2)
2 BW could be kidney problem sign	0	6(2.4)	120(47.6)	116(46.6)	10(4.0)
3 BW could be sign of bladder disease	3(1.2)	51(20.2)	84(33.3)	100(39.7)	14(5.6)
4 BW can be due to Spiritual spell	103(40.9)	107(42.5)	21(8.3)	17(6.7)	4(1.6)
5 BW is a social problem	140(55.6)	78(31.0)	14(5.6)	10(4.0)	10(4.0)
6 A bad omen for a big girl to BW	85(33.7)	137(54.4)	16(6.3)	14(5.6)	0
7 BW will affect marriage negatively	45(17.9)	73(29.0)	47(18.7)	80(31.7)	7(2.8)
8 Taboo for mother/child urine to mix	23(9.1)	66(26.2)	45(17.9)	90(35.7)	28(11.1)
9 Suitors will avoid girls who BW	163(64.7)	72(28.6)	6(2.4)	9(3.6)	2(0.8)
10 A serious behavioural problem	128(50.8)	110(43.7)	9(3.6)	5(2.0)	0
11 BW is a neurological disease	20(7.9)	30(11.9)	48(19.0)	122(48.4)	32(12.7)
12 above 10 years BW is abnormal	152(60.3)	87(34.5)	4(1.6)	5(2.0)	4(1.6)
13 Too much playing causes BW	205(81.3)	44(17.5)	1(.4)	2(0.8)	0
14 No water at night stops BW	192(76.2)	50(19.8)	4(1.6)	5(2.0)	1(0.4)
15 Give herbal remedies to stop BW	19(7.5)	19(7.5)	40(15.9)	125(49.6)	49(19.4)
16 punishment makes child stop BW	41(16.3)	85(33.7)	35(13.9)	89(35.3)	2(0.8)
17 Commend the child each dry night	41(16.3)	159(63.1)	24(9.5)	24(9.5)	4(1.6)
18 Enuresis dance helps to stop BW	12(4.8)	16(6.3)	32(12.7)	191(75.8)	1(.4)
19 Show you are worried about BW	145(57.5)	78(31.0)	19(7.5)	10(4.0)	0
20 Show your anger when bed is wet	142(56.3)	65(25.8)	32(12.7)	13(5.2)	0
21 BW brings shame each wet night	166(65.9)	54(21.4)	21(8.3)	11(4.4)	0
22 Pass urine on hot ash stops BW	21(8.3)	65(25.8)	21(8.3)	106(42.1)	39(15.5)

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➢ *Caregivers' Perception of Nocturnal Enuresis*

Almost all the caregivers (99.2%) perceived nocturnal enuresis as negative to the family, and the child while few (0.80%) had a positive perception about nocturnal enuresis (Fig 1). Most (86.5%) perceived it as a psychological problem, 83.3% perceived that bedwetting can be a result of the spiritual spell. Most of the caregivers, (87.3%) viewed NE as a source of shame. Also, 94.4% viewed bedwetting as a serious, behavioural problem while the majority of caregivers 239(94.8%) viewed teenage bedwetting as abnormal (Table 2).

➢ *Socio-Economic Challenges of NE on the Child, and Family*

Table 3 shows the various variables of socio-economic challenges of nocturnal enuresis on the family; it is emotionally demanding while trying to stop bedwetting: All the caregivers claimed to pray, consulting for spiritual intervention, series of counseling before, and after bedwetting but almost all (99.2%) had sleepless nights, and frequently woke the child at night. Also, many (59.5%) adopted threats of different kinds, isolating, and making jest of the child as a method for stopping bedwetting. Exposure to risks while seeking intervention; Many caregivers (78.2%) did not seek any intervention but few (8.7%) used the herbal method, 7.9% went for spiritual assistance, and only 2.0% went for medical attention. Majority of the caregivers spent about five hundred Naira per month washing, cleaning, and sanitizing the homes. Also, many (64.3%) caregivers complained about the burden of daily sunning, frequent changing of the mattress, and sleeping on the floor while waiting for it to dry thus would not receive visitors into the family. Impact of bedwetting on school attendance; all the caregivers (100.0%) claimed occasional lateness, and unhappiness to school, skipping of school attendance, and bullying behaviour on wet days. As high as 96.0% could carry on with school activities on wet days while 91.7% claimed bedwetting influence decisions on going on holidays.

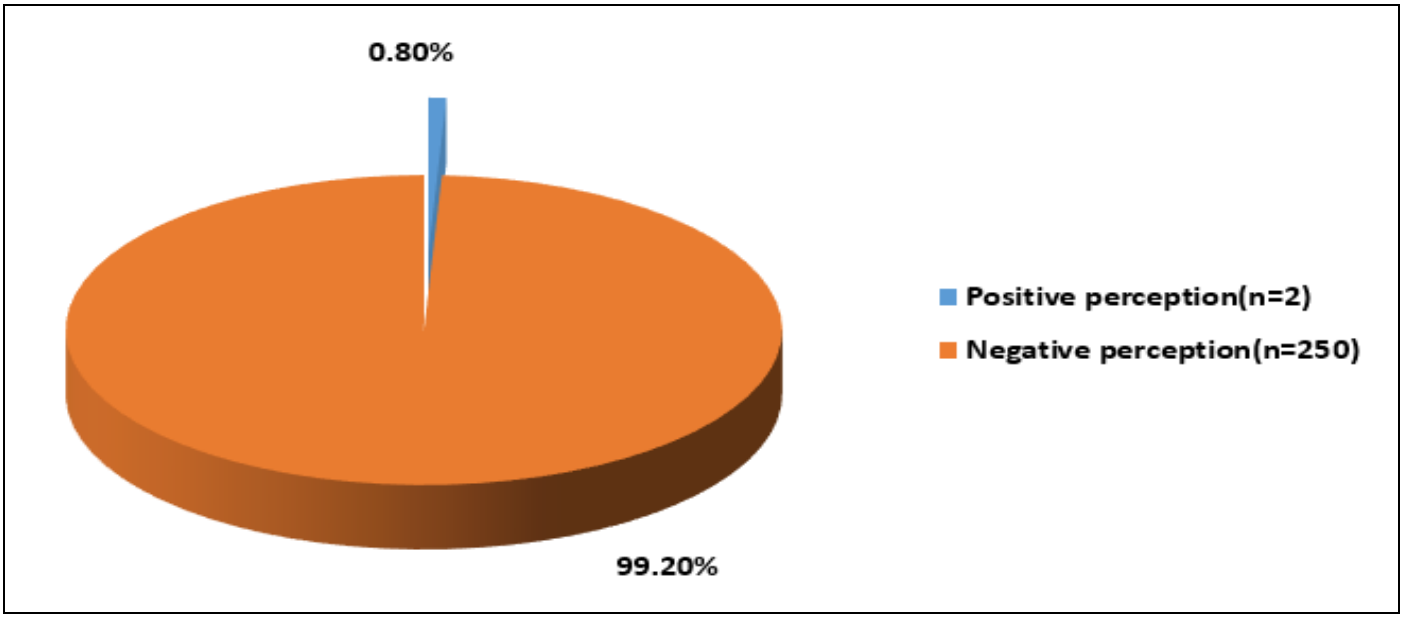

Fig 1 Pie Chart Showing Measure of Perception of Caregiver

Table 4 Socio-Economic Challenges of NE on the Child, and Family (n = 252)

Variables	Categories	Frequency	Percent (%)
Emotionally demanding to prevent BW daily	Spent time, and money praying seeking for, and consulting spiritual intervention	252	100.0
	Sleepless nights waking the child at night	250	99.2
	Series of counseling before, and after BW	252	100.0
	Threats, jest, and isolation of the child	150	59.5
Exposure to risks while seeking intervention to achieve dry nights	Medical attention	5	2.0
	Herbal method	22	8.7
	Spiritual method	20	7.9
	Any solution	8	3.2
	None	197	78.2
Cost of keeping stench off the home	Ten to five hundred Naira per month for washing , and sanitizer for cleaning	252	100.0
	Cost of daily washing, cleaning of bed sheet, and sunning the mattress.	150	59.5
	Cost of replacing mattress, sleeping on floor when wet, reject visitors	162	64.3
	Father always angry, mother isolated to sleeps in	150	59.5

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	children's room		
Cost of bedwetting to school attendance	late attendance to school, unhappy to school	252	100.0
	skipping of school attendance	252	100.0
Cost of bedwetting to participation in school activities.	None	231	91.6
	Partial lack of concentration, not socializing, tell lies with cover up stories	21	8.3
Able to carry out school activities on wet days	Yes	242	96.0
	No	10	4.0
Bedwetting influencing the decision on going on holidays	Yes	231	91.7
	No	20	8.3

➢ *Test of Hypotheses*

- *Ho1: There is no significant gender difference in the perception of NE among caregivers*

Table 5 below shows no significant difference in perception of nocturnal enuresis among the caregivers [t (250) = 1.259; p > 0.05]. This implies that there is no significant difference in male and female caregivers' perceptions about nocturnal enuresis in children. Hence, the results confirmed the stated hypothesis, and it is not rejected in this study.

Table 5 Gender Difference in Perception of Nocturnal Enuresis

Gender	N	Mean	Std. Deviation	D	T	p-value
Male	69	62.01	10.81	250	1.259	0.209
Female	183	60.33	8.94			

✓ Note: Primary NE; child has never or seldom experienced a dry night.
✓ Secondary NE; child has experienced dry night then began bedwetting

IV. DISCUSSIONS

The female to male caregivers' ratio was 2.7: 1 which suggests women carry the burdens of caring for the child challenged with NE. Many were married indicating a complete family status for this study, many were self-employed having better time to monitor their children with nocturnal enuresis. Also, majority respondents had educational qualifications within the secondary level which indicates that majority of the respondents were literate. Finding revealed that almost all caregivers have a negative perception of nocturnal enuresis in the family. These negative perceptions were also observed in 2008 in Idikan, Ibadan [5] even in cases of frequency of NE as low as one episode in a month, in line with Hanan, and Mona [9], supported by Patrina [10] who separately observed children challenged with NE having no marked emotional, social, or behavioural problems, to enuresis children with an increase in psychological difficulties; when compared with their non-enuretic peers. Therefore, opined that challenged children with enuresis seem to have accompanying psychological problems.

All caregivers were of the opinion that praying and consulting spiritual intervention, counseling before, and after a night sleep will help to stop bedwetting. But many of the respondents did try any intervention any suggestion to stop bedwetting consequently exposing the child to different counterproductive risks. Most of the caregivers spent quality time, and money; between ten to five hundred Naira per month in washing, cleaning, and sanitizing the house. Most of the time mothers reported bearing the brunt of keeping the stubborn stench off the cloth, and mattress. Thus, anxiety compounds already strained family relationships. Hirokazu, Tsuneki, and Keiichi [11] observed parental intolerance as a strong predictor that any attempt to treat the enuresis at this time may likely fail. However, many caregivers complained about the burden of spreading to the sun the mattress and sleeping on the floor isolated. Graham, and Levy [12] documented that children experiencing stressful events at home, abused early in life; in agreement with Hirokazu, *et al* [11] are more susceptible to a significant risk for psychological disorders, and problems of social adjustment in children with NE beyond the age of 10 years. The study revealed that children with nocturnal enuresis occasionally come late to school, and skipping of school attendance was high on wet days. Bedwetting influence the decision of children challenged with nocturnal enuresis on going on holidays. In line with the findings of Butler, and Heron [13] who pointed out that children suffer embarrassment, guilt, loss of self-esteem, anxiety, unfriendliness within the family, and troubled social development. The condition may draw a negative response from the family members, especially if the attitude of "wait, and see" is adopted [10].

V. CONCLUSION

The occurrence of nocturnal enuresis was high among children above ten years and almost all caregivers perceived nocturnal enuresis as negative to the family, and the child and majority of them were worried about the bedwetting. There is a significant association between classification, and the emotional impact of nocturnal enuresis on the family (worried about the bedwetting). It is important to keep in mind that nocturnal enuresis is a common condition in young children. It requires a careful assessment, and intervention together with the child, and caregiver. There is a need to design health promotion programs aimed at addressing these challenges and empowering both in the process for the resolution.

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