

# Self-gratification Habits among Children Under Five Years of Age: A Prospective Cohort Study

BISWAJIT BISWAS<sup>1</sup>, MITHUN KONAR<sup>2</sup>, ARCHAN SIL<sup>3</sup>, MOUSUMI DAS<sup>4</sup>, SHIBNATH MONDAL<sup>5</sup>, RAVEESH KUMAR<sup>6</sup>

## ABSTRACT

**Introduction:** Self-gratification or masturbation is a normal sexual behaviour; however, masturbation in childhood is less commonly addressed in literature.

**Aim:** To describe the clinical profile of the children diagnosed with self-gratification condition.

**Materials and Methods:** This prospective cohort study recruited all cases diagnosed to have the self-gratification condition presenting to the outpatient clinic in the Department of Paediatric Medicine, Burdwan Medical College, Burdwan, West Bengal, India during the period- January 2014 to December 2019. Diagnosis was made from history, home videotapes and sometimes by direct observation of the act during hospital stay. All relevant data pertaining to demographic characteristics, clinical presentation, investigations and treatment were collected in case sheets and were analysed by simple descriptive statistics.

**Results:** Fifty-four patients were diagnosed to have the condition. Among them, 29 (53.70%) were girls and 25 (46.30%) were boys. The mean age at first symptoms was 20.98±9.31 months (range 3 months to 3 years 4 months). The average age at diagnosis was 26.16±11.35 months (varied from 4 months

to 3 years 11 months). The mean frequency of events was 10.31±5.10 times per week, and the mean duration was 9.83±5.98 minutes. Events occurred mostly when children were left alone and bored (n=34, 62.97%). Usual presentations were: rocking in prone position (n=24, 44.44%), intermittent dystonic posturing of the crossed legs (n=23, 42.59%), direct genital manipulation (n=3, 5.56%) and others (n=4, 7.40%). Two children had been previously misdiagnosed as having definite epilepsy. In 51 cases (94.44%) home videos were available which served as invaluable tools allowing confident diagnosis. Results of urine and stool examination were normal. MRI and EEG performed on two children with suspected epilepsy were reported normal, and antiepileptic drugs were stopped in both. Sixteen children (29.63%) were sent for behavioural therapy and all of them responded well in next one year.

**Conclusion:** Gratification habits are not uncommon in children and should be considered in the differential diagnosis of epilepsy and other paroxysmal events in early childhood. Home video recording of these actions can be a very influential mean to help in diagnosis and to avoid needless investigations and treatments.

**Keywords:** Child, Gratification disorder, Masturbation

## INTRODUCTION

Self-gratification or masturbation is a normal part of human sexual behaviour. It is said to occur in 90-94% of males and 50-60% of females at some time in their lives [1-4]. However, data on self-gratification behaviours in children under 5 years of age are very limited in literature and they mostly come from case reports and case series [5-13]. Age at onset ranges from 3 months to 5 years, but can occur at any age, even in utero [2,4-6]. Direct genital manipulation is usually absent during gratification spells in children, making the diagnosis difficult at times [2,5]. Usual manifestations of this behaviour include dystonic posture, rocking, friction of thighs, grunting, facial flushing and sweating, and pressure on the perineum [1-6]. Several common features in these children include: no alteration in consciousness, cessation with distraction, normal examination before and after the episode. These apparently bizarre behaviours of the children have often been misdiagnosed as abdominal pain [7,8], epilepsy [3,7,9-11] and paroxysmal dystonia or dyskinesia [12,13]. Several case reports described instances where unnecessary and extensive investigations were performed on such children [7,8]. On many occasions, there had been inappropriate use of medications like anti-epileptic drugs [5,7,10].

This study aims to emphasise that self-gratification or masturbatory habits are quite prevalent among children in our society. Every paediatrician needs to be aware of this, in order to diagnose the condition timely and to prevent unwarranted investigations and inappropriate therapy.

## MATERIALS AND METHODS

This prospective cohort study was conducted among children presenting to the outpatient clinic in the Department of Paediatric Medicine, Burdwan Medical College, Burdwan, West Bengal, India from January 2014 to December 2019. The study protocols were approved by the Ethics Committee of Burdwan Medical College, Burdwan (vide memo no. BMC/PG/719). Informed consents were taken from parents, before the beginning of the study. Everyone had the right to withdraw from the study at any time. No added cost was imposed on the families and all information was retained as confidential.

**Inclusion criteria:** All children 5 years or below who were diagnosed to have the condition during the period mentioned were included in the study.

**Exclusion criteria:** Children in whom the diagnosis of epilepsy was confirmed, those with abdominal conditions like Gastro-Oesophageal Reflux Disease (GERD) or abdominal colic, documented Urinary Tract Infection (UTI), children with genital irritation (diaper rash, pin worms, poor perineal hygiene) were excluded.

Since there is no firm guideline in literature till date regarding how to diagnose gratification behaviours in children, diagnostic criteria were formulated based on evaluation of the consistent clinical findings observed in previous studies [5,13-15]. Children who fulfilled the following two criteria were assumed to have gratification behaviour or masturbating behaviour:

- All of them should be present: 1) Typical stereotype with variable duration; 2) No alteration of consciousness during the spells;

3) Cessation with distraction; and 4) Normal appearance and behaviour before and after the spell.

- B. One or more of the following characteristics should be present:
- 1) Tightening of the adducted thighs in supine (/prone) position with dystonic posturing;
  - 2) Rocking in prone position;
  - 3) Direct manipulation of the genitalia;
  - 4) Rubbing of the perineum against any surface;
  - 5) Facial Flushing and pallor;
  - 6) Grunting noises or other vocalisation;
  - 7) Grimacing;
  - 8) Vacant and staring look;
  - and 9) Fast/irregular breathing.

Diagnosis was made on the basis of careful history taking and watching videoclips meticulously in presence of both the parents. Wherever video-recording of the event was unavailable or was nonconclusive, the child was admitted for 48 hours to directly observe the episode in order to make a correct diagnosis.

A data collecting sheet was developed which included information on demographic characteristics, clinical presentation, investigations and modes of treatment. Demographic data included: birth history (birth order, mode of delivery, birth weight, important perinatal events if any), immunisation status, breast feeding practices, major past illness, family structure, education and occupation of parents. Details of gratification spells were noted like- age of onset and diagnosis, frequency, duration, situations when the episodes were observed, behaviours during the spells, physical changes noticed during the episodes and appearance of the child before and after those episodes. Records were kept regarding investigations performed and wherever treatment was required.

## STATISTICAL ANALYSIS

Statistical data were initially entered into Microsoft Excel spreadsheet and later they were imported to Statistical Package for the Social Sciences (SPSS) software. All data were analysed by simple descriptive statistics using SPSS 26.0 software (IBM Corporation, USA).

## RESULTS

A total of 54 patients were included in the study. Among them, 29 (53.70%) were girls and 25 (46.30%) were boys [Table/Fig-1].

Twenty-eight children (51.85%) in the present study were first born children of their parents. All children in the study group (n=54) were born by institutional delivery. Immunisation status of the study population was 100% as per national immunisation schedule. Twenty-three children (42.59%) received some extra vaccines as per recommendation of Indian Academy of Paediatrics from child care physicians. No major adverse health events in their children were reported by 49 families; three children had history of simple febrile seizure and two had history of neonatal jaundice treated successfully by phototherapy alone [Table/Fig-1].

Thirty-two parents (59.26%) have had come with other medical problems and then, one of the parents declared the concern during conversation. Eighteen parents (33.33%) came directly to seek advice on the peculiar posture/behaviour of their children. Four children (7.41%) were referred to us by local paediatrician for further evaluation. Among these, two children (3.70%) were diagnosed to have seizure disorder, were put on anticonvulsant and patients were not responding. Two patients (3.70%) were referred for further work up of dystonic posturing [Table/Fig-2].

It was possible to make a firm diagnosis by careful history taking and observation of videoclips in 49 children (90.74%). In spite of careful examination of video-recordings, diagnosis was in doubt in 2 of such children. Three families could not provide any video-recording of the events. Thus, 5 children (9.26%) required hospitalisation so that the episodes could be directly observed by the medical personnel to make a more confident diagnosis [Table/Fig-2].

Attribute	Description	Percentage (%)
Gender	Boys: 25	46.30
	Girls: 29	53.70
Age when symptoms were noticed first	12 months or younger: 10	18.52
	More than 12 months to 3 years: 41	75.93
	More than 3 years: 3	5.55
Birth order	First born: 28	51.85
	Second: 20	37.04
	Third: 6	11.11
Mode of delivery	Normal vaginal: 33	61.11
	Cesarean section: 19	35.19
	Forceps delivery: 2	3.70
Birth weight	Boys	
	More than 2.5 kg: 16	29.63
	(1.5-2.5) kg: 7	12.96
	Less than 1.5 kg: 2	3.70
	Girls	
	More than 2.5 kg: 19	35.19
	(1.5-2.5) kg: 9	16.67
	Less than 1.5 kg: 1	1.85
Breast feeding practice	Exclusively breast fed: 35	64.81
	Breast feeding + formula: 19	35.19
	Exclusively formula fed: 0	00
Immunisation	All immunised	100
Family structure	Joint family: 15	27.78
	Nuclear family: 36	66.67
	Single parent family: 3	5.55
Parental education	Father	
	Primary school: 8	14.81
	High school: 25	46.29
	College: 17	31.49
	University: 4	7.41
	Mother	
	Primary school: 10	18.52
	High school: 28	58.85
	College: 15	27.78
	University: 1	1.85
Occupation of the parents	Father	
	School teacher: 14	25.92
	Other government job: 4	7.41
	Private job: 13	24.07
	Self-employed: 18	33.34
	Agriculture: 5	9.26
	Mother	
	Home-maker: 32	59.26
	School teacher: 12	22.22
	Other government job: 2	3.70
	Private job: 8	14.82

[Table/Fig-1]: Demographic data of the population (n=54).

The frequency of events varied from 3/week to 19/week (mean of  $10.31 \pm 5.10$  times/week). The mean length of events was  $9.83 \pm 5.98$  minutes (range 3 min to 26 min) [Table/Fig-2].

Parental aggression was noticed in one case (1.85%) and familial disharmony was noticed in two cases (3.70%). History of gratification habit in other sibling was reported in two families.

Detailed physical, neurological and genital examination were performed on all children and findings were mostly noncontributory.

Clinical data	Description	Number (percentage)
How did the parents come to us?	1. Came with other medical problem	32 (59.26%)
	2. Gratification as main complaint	18 (33.33%)
	3. Suspected epilepsy (referred to us)	2 (3.70%)
	4. Dystonia for evaluation (referred to us)	2 (3.70%)
Availability of the videoclips	1. Available	51 (94.44%)
	2. Not available	3 (5.56%)
Modes of diagnosis (done on the basis of)	1. Clinical presentation + videoclips	49 (90.74%)
	2. Hospitalisation and direct observation	5 (9.26%)
Age at first symptoms	Mean-20.98±9.31 months	-
	Range-3 months to 3 years 4 months	-
Age at final diagnosis	Mean-26.16±11.35 months	-
	Range-4 months to 3 years 11 months	-
Delay between first presentation and final diagnosis of the event	Mean-5.3 months	-
	Range- 1 month to 1 year 1 month	-
Frequency of the spells	Mean-10.31±5.10 times/week	-
	Range-3/week to 19/week	-
Length of the spells	Mean-9.83±5.98 minutes	-
	Range-3 minutes to 26 minutes	-
Usual manifestations of the spells /physical changes	1. Rocking in prone position	24 (44.44%)
	2. Intermittent dystonic posturing of the crossed legs	23 (42.59%)
	3. Direct manipulation of the genitalia	3 (5.56%)
	4. Apparent rocking and rubbing of both legs in sitting position	2 (3.70%)
	5. Grunting noise with excessive sweating in knee-chest position	2 (3.70%)
Situations when episodes were observed (some children exhibited these behaviours in more than one situation)	1. In bed, lonely and bored	34 (62.97%)
	2. In any situation	11 (20.37%)
	3. While watching television	6 (11.11%)
	4. On tricycles	5 (9.25%)
	5. During nappy change	3 (5.56%)
	6. While climbing to mother's trunk	2 (3.70%)
Behaviours during the spells (some children exhibited more than one behavioural change)	1. Flushing and sweating	35 (64.81%)
	2. Fatigue	7 (12.96%)
	3. Sleep	6 (11.11%)
	4. Grunting noises	13 (20.07%)
Investigations	1. Urine RE and C/S, Stool RE (done to everyone, all reported normal)	100%
	2. MRI brain and EEG (done in two children with suspect epilepsy reported normal)	3.70%
Treatments	1. No treatment required	38 (70.37%)
	2. Psychiatry consultation and behavioural therapy	16 (29.63%)
Follow-up/Improvement	All children showed improvement (reduction in frequency of spells) in 1-year follow-up period	100%

**[Table/Fig-2]:** Clinical data of the children with gratification behaviour (n=54).

Routine urine and stool tests and urine culture results, performed on all, were reported normal. MRI brain and EEG were performed on two children referred to us as epilepsy. No abnormality was detected in any, and anticonvulsant was stopped in both. Parents of all children were advised to use distraction technique on noticing the spell and to avoid creating stressful situation for them. This simple step helped most of the children (n=38, 70.37%) in the present study group. Sixteen children (29.63%), however, were sent for behaviour therapy and all of them responded well within next one year. No other behavioural problem was noticed among them.

## DISCUSSION

Masturbation is a normal human behaviour and it can occur at any age [1,2,6]. Most of the physiological changes that happen in adolescents or adults, also happen to these children. The difference between children doing it and others is that, children do not know what they are doing is sexual yet [1-3].

Among 54 children in the present study population, 29 (53.70%) were girls and 25 (46.30 %) were boys. Most of the studies in literature shows higher prevalence of gratification behaviours among girls [Table/Fig-3] [4,5,11,13-15]. Tashakori A et al., however found boys masturbating more than girls in their study on 98 children [9]. Most parents in the present study (n=32, 59.26%) did not come to seek medical attention with masturbation or gratification as principal complaint. They came with some other health issues of their children and during conversation; one of the parents initiated the topic. Almost all the parents expressed a feeling of guilt and shame while discussing these events. Othman SA and Unal F also had similar experiences during their study period [11,16]. Exact prevalence of childhood gratification and its' gender distribution is very difficult to know since lot of factors like cultural and religious beliefs, social awareness and understanding regarding sex and sexuality, and educational status of the parents, all interfere with the pattern of reporting of such events across different cultures, societies and countries [14,17].

Most of the children in the present study manifested such behaviour before 3 years of age (mean age at first presentation was 20.98±9.31 months). Nechay A et al., observed a mean age of 12.5 months at presentation in their study [5]. Hiyam Shamo'on found in his study on Jordan population, 18.5 months as mean age at first symptoms [14]. Nechay A et al., found in their study of 31 children with gratification habits: average age at diagnosis was 35 months; the frequency of events varied from 1/week to 12/day; mean length of the spells was 9 minutes [5]. Hiyam Shamo'on reported the frequency of the event to vary from 3 times/week to 10 times/day [14]. The mean duration of the event was 7 minutes. The study findings on these features were consistent with these studies [5,14]. Average delay between first manifestation and diagnosis of the event was less in the present study (mean delay of 5.3 months, range- 1 month to 1 year 1 month) as compared to Nechay A et al., study findings (mean delay of 16 months) [5]. Most common patterns of gratification noticed in the present study were tightening of the thighs with dystonic posturing in girls (n=23, 42.59%) and rocking in prone position in boys (n=17, 31.49%). Direct genital manipulation was uncommon and was seen only in 3 children (5.56%). These findings were consistent with other studies [5,7,11,14]. In most studies children seemed to have a delightful feeling during the episodes [4,5,11,14]; Nechay A, et al., however, reported one child to be cyanosed and frightened during the spell [5]. Two children in the present study population were initially misdiagnosed as epilepsy and were put on anticonvulsants, and other two children were referred to us for further evaluation of possible dystonia. Misdiagnosis in this age group possibly happens due diverse and sometimes peculiar manifestations of the spells, striking absence of direct genital manipulation in most cases and lack of awareness among parents and paediatricians about this entity. Nechay A et al., Fleisher DR and Morrison A, and Ibrahim A and Raymond B reported instances of childhood gratification being initially misdiagnosed and treated as epilepsy [5,7,10]. Mink JW and Neil JJ, and Yang ML et al., reported that childhood gratification was misdiagnosed as movement disorders [12,13]. Fleisher DR and Morrison A, and Couper RT and Huynh H have described dramatic examples of masturbation mimicking abdominal pain in girls [7,8]. With smartphones being available to almost every family now-a-days, it is possible to video-record all these events. This can clarify most of the findings and misdiagnosis can thus be avoided.

Aetiology and predisposing factors of gratification behaviours in children are still poorly understood [9,15,17,18]. Possible sexual

Clinical characteristics	Nechay A et al., [5]	Yang ML et al., [13]	Hiyam Shamo'on [14]	Ajlouni HK et al., [15]	Othman SA [11]	Gündüz S et al., [4]	Present study
Place and time period	Fraser of Allander Neurosciences Unit, Scotland. 1972-2002	4 paediatric neurology clinics, USA. 1997-2002	Paediatric clinic of Queen Alia Military Hospital, Jordan. 2000-2004	3 paediatric neurology clinics, Jordan. 2004-2006	Paediatric Medicine OPD, Sea Ports Corporation Hospital, Sudan. 2011-2012	Paediatric Medicine OPD Turgut Özal University, Turkey. 2015	Paediatric Medicine OPD, Burdwan Medical College, India. 2014-2019
Study population	31 children (Male-11, Female-20) Age - (0-8) years	12 children (Male-0, Female-12) Age- (0-5) years	15 children (Male-6, Female-9) Age- (0-6) years	13 children (Male-3, Female-10) Age- (0-5) years	11 children (Male-6, Female-5) Age- (0-8) years	11 children (Male-3, Female-8) Age- (0-5) years	54 children (Male-25, Female-29) Age- (0-5) years
Age at first symptoms (mean/median, range)	12.5 months (2 months to 5 years 5 months)	11 months (3 months to 3 years)	18.5 months	19.5 months (4 months to 3 years)	38.9 months (10 months to 6 years)	20.91±11.88 months (6 months to 3 years 3 months)	20.98±9.31 months (3 months to 3 years 4 months)
Age at final diagnosis (mean/median±range)	35 months (5 months to 8 years)	Data unavailable	10 months to 6 years	2.02±0.91 years	6 years (1 to 8 years)	26.63±12.61 months (8 months to 4 years)	26.16±11.35 months (4 months to 3 years 11 months)
Average frequency of events	16 times/week (1/week to 12/day)	Data unavailable	3 times/ week to 10 times/ day.	4 times/day	Data unavailable	8±7.47 times/week (1/week to 21/week)	10.31±5.10 times/ week (3/week to 19/week)
Average duration of spells	9 minutes (30 seconds to 2 hours)	less than 1 minute to several hours	7 minutes	3.9 minutes	Data unavailable	7.45±4.25 minutes (2 minutes to 15 minutes)	9.83±5.98 minutes (3 minutes to 26 minutes)
Common manifestations	Dystonic posture with rubbing of thighs-19, Rocking pelvic movements-9	Dystonic posturing-12, Rhythmic pelvic movements-11	Dystonic posture with crossed legs-10, Rocking pelvic movements-10	Prone-10, Supine-3, Knee-chest position-2	Dystonic posture, crossed legs, supine-4 Rocking in prone position-4 Direct genital manipulation-3	Supine-4, Prone-4, Hand on pubic area-7	Rocking in prone position-24 Dystonic posture, crossed legs, supine-23 Direct genital manipulation-3, rocking and rubbing of both legs-2, Grunting noise-2
Situation when events took place	Car seat-11, Any situation-10, When bored-5, In relation to sleeping-5, When tired-3, In front of television-2, In baby walker-2	Not clear	No definite time-12, During nappy change-3	Data unavailable	When bored-3, Baby sitter-2, Sleep related-2	Not clear	When bored-34, Any situation-11, While watching television-6, On tricycles-5, During nappy change-3, Climbing on mother's trunk-2
Behaviours during spells	Grunting noises-10, Vacant look-7, Sweating-6, Fatigue-4, Induction of sleep-4, Pale and frightened-1	Grunting-12, Sweating-4, Irregular breathing-12, Facial flushing-8, Vacant staring-7	Sweating-8, Vacant look- 6, Grunting noises-2, Frightened-2	Facial flushing-13, Sweating-5, Induction of sleep-9	Sweating and flushing-8	Sweating-6, Vocalisation-4	Sweating and flushing-35, Grunting noises-13, Fatigue-7, Sleep-6
Common misdiagnosis	Epilepsy-suspected and investigated-12, treated with drugs-1 Dystonia-1	Movement disorder-12 (8 patient received various drugs including anti-epileptics)	Suspect UTI-8, Pain abdomen-4, Possible epilepsy-3	Epilepsy-5	Epilepsy-1, UTI-1	Suspect epilepsy-1	Epilepsy-2, Dystonia-2
Video recordings	9 helped in diagnosis	All had video clips of the events	1 patient	Data unavailable	Was available in 1 and it helped	All had video-recordings of the events	Was available in 51, helped in 49
Treatment and follow-up	Not mentioned	11 showed improvement	Behavioural treatment-13, Local xylocaine gel application-2	10 children lost to follow-up	Not mentioned	Psychiatry consultation for all	16 needed psychiatric consultation and behaviour therapy

[Table/Fig-3]: Comparison of clinical data of other similar studies with the present study [4,5,11,13-15].

abuse, genital irritation, familial stress, emotional deprivation and lack of breast feeding were found to have a positive correlation with childhood gratification behaviour [10,15-17]. No relationship was obtained between masturbation and factors such as age, gender, parental education, being a single-child, being a first born and the baby's sleeping place in the study conducted by Tashakori A et al., [9]. The present study was on a small sample and it was not a case-control study to make any assumption on aetiological perspectives. Childhood gratification can be diagnosed clinically based on meticulous history taking, careful evaluation of video clips in presence of parents and sometimes by direct observation of the act [5,11,14,19]. Unnecessary investigations should be avoided. Once diagnosis is established, possibility of sexual abuse and sources of genital irritation have to be ruled out. Parents should be counselled and reassured about the benign nature of the entity. They should be taught that punishing the child or shouting at them does not

help, rather attempt should be made to distract them during episodes and to engage them into another playful activity [19-21]. Some children, however, might require psychiatric evaluation and behavioural therapy.

### Limitation(s)

Most of the data available on childhood gratification are derived either from case reports or from studies carried out on very small sample sizes. This holds true for the present study also.

Further prospective studies including cases and controls need to be carried out on sufficiently larger population size to understand why some children are more prone to these kind of behaviours than others; and these children should be prospectively followed-up well into their adulthood to observe whether these early childhood behaviours impart any adverse effect on their adult psycho-sexual tendencies.

## CONCLUSION(S)

Gratification behaviour can be seen in young children, and it is not pathological. Owing to various religious and cultural taboos attached to this, it can be a cause of enormous anxiety and guilty feelings among parents and family members. All paediatricians should be aware of the condition and its various display patterns in order to diagnose them timely and to avoid unnecessary investigations and harmful therapy. Since paediatricians occupy a privileged place in all societies, they can play an important role to educate children and parents about normal sexual development and to help prevent or rectify misconceptions about masturbation or gratification habits.

**Author's contribution:** BB- Concept, manuscript writing and critical revision; MK, AS- Manuscript editing; MD, SM, RK- Compilation of records, review of literature.

## REFERENCES

- [1] Strachan E, Staples B. Masturbation. *Paediatrics in Review*. 2012;33:190-91.
- [2] Wilkinson B, John RM. Understanding masturbation in the paediatric patient. *J Paediatr Health Care*. 2018;32(6):639-43.
- [3] Mallants C, Casteels K. Practical approach to childhood masturbation-A review. *Eur J Paediatr*. 2008;167(10):1111-17.
- [4] Gündüz S, Uşak E, Yüksel CN, Eren A. Early childhood masturbation. *Medical Journal of Islamic World Academy of Sciences*. 2015;23(2):59-62.
- [5] Nechay A, Ross LM, Stephenson JBP, O'Regan M. Gratification disorder ("infantile masturbation"): A review. *Arch Dis Child*. 2004;89:225-26.
- [6] Fernández VR, Cajal CL. In utero gratification behaviour in male fetus. *Prenatal Diagnosis*. 2016;36:985-86.
- [7] Fleisher DR, Morrison A. Masturbation mimicking abdominal pain or seizures in young girls. *J Paediatr*. 1990;116:810-14.
- [8] Couper RT, Huynh H. Female masturbation masquerading as abdominal pain. *J Paediatr Child Health*. 2002;38:199-200.
- [9] Tashakori A, Safavi A, Neamatpour S. Lessons learned from the study of masturbation and its comorbidity with psychiatric disorders in children: The first analytic study. *Electron Physician*. 2017;9(4):4096-100.
- [10] Ibrahim A, Raymond B. Gratification disorder mimicking childhood epilepsy in an 18-month-old Nigerian girl: A case report and review of the literature. *Indian J Psychol Med*. 2013;35(4):417-19.
- [11] Othman SA. Self-gratification in sudanese children: Indisputable but implausible. case reports and literature review. *Merit Research Journal of Medicine and Medical Sciences*. 2015;3(9):459-61.
- [12] Mink JW, Neil JJ. Masturbation mimicking paroxysmal dystonia or dyskinesia in a young girl. *Mov Disord*. 1995;10:518-20.
- [13] Yang ML, Fullwood E, Goldstein J, Mink JW. Masturbation in infancy and early childhood presenting as a movement disorder: 12 cases and a review of the literature. *Paediatrics*. 2005;116:1427-32.
- [14] Hiyam Shamo'on. Early childhood masturbation: A clinical study. *JMJ*. 2005;39(1):23-26.
- [15] Ajlouni HK, Daoud AS, Ajlouni SF, Ajlouni KM. Infantile and early childhood masturbation: Sex hormones and clinical profile. *Ann Saudi Med*. 2010;30(6):471-74.
- [16] Unal F. Predisposing factors in childhood masturbation in Turkey. *Eur J Paediatr*. 2000;159:338-42.
- [17] Kellogg ND. Clinical report-The evaluation of sexual behaviours in children. *Paediatrics*. 2009;124:992-98.
- [18] Doust ZK, Shariat M, Zabandan N, Tabrizi A, Tehrani F. Diagnostic value of the urine mucus test in childhood masturbation among children below 12 years of age: A cross-sectional study from Iran. *Iran J Med Sci*. 2016;41(4):283-87.
- [19] Pandurangi AA, Pandurangi SA, Mangalwedhe SB, Mahadevaiah M. Gratification behaviour in a young child: Course and management. *Journal of the Scientific Society*. 2016;43(1):48-50.
- [20] Omran MS, Ghofrani M, Juibary AG. Infantile masturbation and paroxysmal disorders. *Indian J Paediatr*. 2008;75(2):183-85.
- [21] Franić T, Franić IU. Infantile masturbation- exclusion of severe diagnosis does not exclude parental distress- Case report. *Psychiatria Danubina*. 2011;23(4):398-99.

### PARTICULARS OF CONTRIBUTORS:

1. Associate Professor, Department of Paediatric Medicine, Burdwan Medical College, Burdwan, West Bengal, India.
2. Associate Professor, Department of Paediatric Medicine, Burdwan Medical College, Burdwan, West Bengal, India.
3. Assistant Professor, Department of Paediatric Medicine, Burdwan Medical College, Burdwan, West Bengal, India.
4. Clinical Tutor, Department of Physiotherapy, Burdwan Institute of Medical and Life Sciences, Burdwan, West Bengal, India.
5. Senior Resident, Department of Paediatric Medicine, Burdwan Medical College, Burdwan, West Bengal, India.
6. Senior Resident, Department of Paediatric Medicine, Burdwan Medical College, Burdwan, West Bengal, India.

### NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Biswajit Biswas,  
11/23, Ulhas Mini Township, Ulhas, Burdwan-713104, West Bengal, India.  
E-mail: drbiswazetbiswas@gmail.com

### PLAGIARISM CHECKING METHODS: [\[Jain H et al.\]](#)

- Plagiarism X-checker: Apr 07, 2020
- Manual Googling: Jun 24, 2020
- iThenticate Software: Aug 10, 2020 (9%)

### ETYMOLOGY: Author Origin

### AUTHOR DECLARATION:

- Financial or Other Competing Interests: None
- Was Ethics Committee Approval obtained for this study? Yes
- Was informed consent obtained from the subjects/guardians involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. NA

Date of Submission: **Apr 06, 2020**  
Date of Peer Review: **May 11, 2020**  
Date of Acceptance: **Jun 24, 2020**  
Date of Publishing: **Sep 01, 2020**