The clinical outcome of childhood masturbation

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This study was performed to investigate the clinical outcome of childhood masturbation. For this purpose 50 children (mean age = 48.7 ± 24.5 months, 34 girls females and 16 boys males) with masturbation symptoms were examined at first visit to the Department of Child Psychiatry and two years thereafter with psychiatric interviews. The mean masturbation frequency at the initial interview was significantly decreased after two years. It was noted that 39 children (78%) were completely recovered and 11 children (22%) continued to masturbate after two years. Children who did not recover were significantly younger, began to masturbate earlier and masturbated more frequently than others at the time of initial evaluation. It was concluded that the findings about the beneficial effect of sedative drugs in combination with parental guidance, education and means for behavior modification were promising.

Key words: masturbation, child, longitudinal study.

Childhood masturbation (CM) is defined as self-stimulation of the genitalia in a prepubertal child, frequently accompanied by symptoms like sweating, flushing and tachypnea[1,2]. In spite of the fact that CM is not a rare condition[3,4], and causes parental distress of various degrees in different societies[3,5]; it is not included in DSM-IV[6]. The ICD-10[7] placed this problem under the title 'Other Specified Behavioral and Emotional Disorders with Onset Usually Occurring in Childhood and Adolescence' (F98.8) without any detailed description.

Although CM is frequently a confusing problem both for the pediatrician and for the child psychiatrist, the clinical data about CM is based merely on case studies[1,8-13] and general observations[14-16] which also constitute the main source of information in the few review articles about CM[1,2,17]. Systematic reports about this condition are limited to some studies about electroencephalogram (EEG) findings[18-20], or parental attitudes in CM[3]. Sedative drugs[1] and some aversive behavioral methods were reported to be useful in a few children[21,22]; however, there is a remarkable lack of information about the course of CM. Thus, the main purpose of this study was to investigate the clinical outcome and associated clinical variables in CM.

Material and Methods

The 50 children participating in this study were referred to the Department of Child Psychiatry of Hacettepe University Hospital in 1995 and 1996. Children with the symptom of genital self-stimulation interfering with home and/or school functioning and/or strongly disturbing the parents were assessed. After evaluation by at least two physicians to determine that the symptoms were not due to a medical disorder, and that the symptom severity was sufficient to diagnose CM, children with genital self-stimulation and accompanying symptoms like sweating, flushing and tachypnea were included in the study. Children whose parents could not give sufficient information; who masturbated infrequently or simply 'played' with their genitalia for a short while without the accompanying symptoms listed above; those with mental or motor retardation, psychotic disorders, pervasive developmental disorders, or medical or neurological diseases; and children who showed signs of puberty were excluded.

The initial evaluation, performed by a pediatrician, consisted of physical examination, routine blood, urine and stool analyses, routine sleep EEG and consultations with a pediatric neurologist, urologist or a dermatologist when

necessary. Children without positive medical findings were referred to the Department of Child Psychiatry with an initial diagnosis of CM. A child psychiatrist interviewed the family and observed the children in appropriate settings. Age-appropriate intelligence tests, the Stanford-Binet[23] or Wechsler Intelligence Scale for Children-Revised[24] were applied by a psychologist.

The subjects of this longitudinal study were recruited from a larger sample of 61 children described in another article[25]. To recruit the sample, it was attempted to locate 61 children two years after the initial interview. It was possible to get into contact with 57 (93.4%) families and 87.7 percent (n = 50) of them agreed to participate in the longitudinal study. Children whose parents agreed to participate in the follow-up study and children whose parents declined did not differ in age, gender, or masturbation frequency.

As it was not the intent to control the treatment variables, CM and comorbid disorders were treated according to the protocols of the Department of Child Psychiatry; thus, no attempt to randomize the therapy alternatives was made. Parents were informed about the normal sexual development and clinical characteristics of CM, misbeliefs and unrealistic worries were eliminated and various behavior modifications were discussed, depending on the frequency and timing of masturbation. Distracting the child during masturbation, preventing isolation or creating an alternative activity that would take the place of masturbation were among these recommendations. In addition, psychoactive medications were administered to 26 (52%) children who frequently (more than twice a day) masturbated and/or had comorbid psychiatric disorders. Eighteen (36%) children used hydroxyzine (1 mg/kg/day), four (8%) children used thioridazine (1 mg/kg/day), and four (8%) children used imipramine (1 mg/kg/day).

All 50 children were assessed approximately two years (± 6 weeks) after their initial examination, by the same child psychiatrist. Clinical progress of CM and comorbid disorders, and compliance to the treatment were the framework of this interview.

Statistical analysis was performed with a computer package program. Chi-square test and Mann-Whitney U test were used with non-parametric data, and t-test with parametric data. Fisher's exact test was applied when necessary. All tests were two-tailed.

Results

The sample of the present study consisted of 34 girls (68%) and 16 (32%) boys, with an age range of eight to 132 months (mean = 48.7 ± 24.5 months, median ± 24.5 months, median = 38.5 months) at the initial interview. The beginning age of masturbation was 32.4 ± 23.3 months (range = 3-105 months, median = 26.5 months) and was not different among boys and girls. Most of the children came from middle class nuclear families with moderate-income level. Mean schooling time was 8.5 ± 3.7 years for mothers and 10.7 ± 3.3 for fathers.

Twenty-six (52%) patients received at least one additional diagnosis in the initial evaluation according to the DSM-IV diagnostic criteria. These comorbid diagnoses were as follows (because of multiple comorbid diagnoses, the cumulative rates were listed): oppositional defiant disorder (20%, n = 10), nocturnal enuresis (16%, n = 8), sleep terror disorder (8%, n = 4), pica (8%, n = 4), attention deficit hyperactivity disorder (8%, n = 4), nightmare disorder (6%, n = 2), conduct disorder (2%, n = 1), encopresis (2%, n = 1).

The mean masturbation frequency at the initial interview (13.8 ± 14.1 per week) was decreased after two years (1.9 ± 3.8 per week) significantly ($t = 6.248$, $p < 0.0001$). It was noticed that most of the children (62%, n = 31) were completely recovered after six months; eight (16%) other children showed a relapsing course in the first year but were also recovered after two years. Eleven children (22%) continued to masturbate after two years, but at a lower frequency (8.5 ± 3.1 per week).

It was recongnized that the compliance to pharmacotherapy was poor except for the first three months. Most of the parents discontinued the drug therapy after the recovery. The parents of the children who continued to masturbate also discontinued pharmacotherapy without recommendation. Only four (8%) children were using drugs for comorbid disorders after two years. However, it was interesting to learn that most of the behavior modifications were successfully carried out, and worries about this symptom completely disappeared, even in parents whose children did not recover.

Sixteen (32%) children persevered in their comorbid diagnoses after two years. These disorders were as follows (cumulative rates):

oppositional defiant disorder (12%, n = 6), nocturnal enuresis (6%, n = 3), sleep terror disorder (4%, n = 2), pica (4%, n = 2), attention deficit hyperactivity disorder (8%, n = 4), and conduct disorder (2%, n = 1).

The associations between clinical outcome and various clinical variables were examined. It was observed that children who did not recover were significantly younger, and began to masturbate earlier and masturbated more frequently than others (Table I). These children did not differ in terms of other demographic and clinical variables.

Table I. Associations Between Clinical Outcome and Various Clinical Variables

	Recovered (n = 39, 78%)	Not recovered (n = 11, 22%)	Mann-Whitney U	p
Age at the initial evulation (months)	53.9 ± 28.8	30.0 ± 17.8		
Mean rank	28.6	14.5	93.5	0.005
Age when masturbation started (months)	36.1 ± 24.2	19.4 ± 14.0		
Mean rank	28.1	16.4	114.5	0.019
Masturbation frequency at the initial evaluation (weekly)	10.4 ± 10.0	25.6 ± 19.9		
Mean rank	22.6	35.7	102.0	0.008

Discussion

The female to male ratio for CM was about 2:1 in our clinical population. Although girls with CM were more frequently the subjects of case reports[8-11,12], there was also a study in which boys were reported to be prevalent[3]. It is not possible to claim that the rate of masturbation is higher in girls with clinico-epidemiological information alone. It could be assumed that masturbation in boys would create less worry as compared to girls and may be handled at home without any request for medical help.

One of the interesting findings of this study was that masturbation began in most of the children before two years of age. In the literature, the youngest case is a one-month old infant[1]. Bradley[8] also reported two five month-old children. In our study, there were 11 children (22%) who began masturbation between three to 12 months. These findings show that interest toward the genital area begins earlier than expected.

When comorbid features are reviewed, certain clues about the psychopathology and outcome of CM may be detected. Whereas the comorbidity with oppositional defiant disorder, pica, and encopresis may reflect the association of CM with environmental factors, nocturnal enuresis, sleep disorders, and attention deficit hyperactivity disorder suggest the developmental aspects of the symptom. The improvement in the comorbid disorders in two years may also demonstrate both the developmental and the environmental progress. In other words, behavior modifications that provide a more satisfactory relationship and pharmacotherapy may lead to the treatment of CM and some comorbid disorders like oppositional defiant disorder or encopresis. It is also possible that spontaneously, the developmental process itself may play a significant role in the improvement of CM in some patients, as is the fact in some children with comorbid disorders like nocturnal enuresis or sleep disturbances.

The results of this study showed three different clusters of outcome possibilities in the course of CM. Most of the children completely recovered within six months after the first examination with the help of some behavior modification techniques and/or pharmacotherapy, a few children recovered later after a relapsing course, and some children continued to masturbate after two years. However, there are few data to determine these clusters. Even if the children are evaluated in two groups (those who recovered and those who could not), significant associations about the outcome are limited to variables such as age and masturbation frequency. Nevertheless, it can be claimed that children who begin to masturbate early in infancy or who have a high daily frequency of masturbation will have a poor outcome.

This is the first study with a naturalistic design investigating the clinical outcome of CM in a large series of children. Thus, the effects of various treatments on the outcome were not controlled. Despite this limitation, the findings of this study may give us a preliminary opinion about different treatment possibilities and

outcome measures. The findings about the beneficial effect of sedative drugs combined with parental guidance, education and behavior modification techniques seem to be promising. However, it is necessary to investigate various treatment alternatives for CM in a controlled setting.

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