

**Lessons learned from the study of masturbation and its comorbidity with psychiatric disorders in children:  
The first analytic study**Ashraf Tashakori<sup>1</sup>, Atefeh Safavi<sup>2</sup>, Sorour Neamatpour<sup>3</sup>

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**Type of article:** Original**Abstract**

**Background:** The main source of information about children's masturbation is more on the basis of case reports. Due to the lack of consistent and accurate information.

**Objective:** This study aimed to determine prevalence and underlying factors of masturbation and its comorbidity with psychiatric disorders in children.

**Methods:** In this descriptive-analytical study, among the children referred to the Pediatrics Clinic of Psychiatric Ward, Golestan Hospital, Ahvaz, Southwest Iran, 98 children were selected by convenience sampling in 2014. Disorders were diagnosed by clinical interview based on the fourth edition of the Diagnostic and Statistical Manual for Psychiatric Disorders (DSM-IV) and the Child Symptom Inventory-4 (CSI-4). We also used a questionnaire, containing demographic information about the patient and their family and also other data. Data was analyzed using descriptive statistics and chi-square test with SPSS software version 16.

**Results:** Of the children who participated in this study (most of whom were boys), 31.6% suffered from masturbation. The phobias ( $p=0.002$ ), separation anxiety disorder ( $p=0.044$ ), generalized anxiety disorder ( $p=0.037$ ), motor tics ( $p=0.033$ ), stress disorder ( $p=0.005$ ), oppositional defiant disorder ( $p=0.044$ ), thumb sucking ( $p=0.000$ ) and conduct disorder ( $p=0.001$ ) were associated with masturbation.

**Conclusion:** Masturbation was common in children referred to psychiatric clinic, and may be more associated with oppositional defiant disorder, or conduct disorder, some anxiety disorders, motor tics and other stereotypical behavior. Authors recommended more probing for psychiatric disorders in children with unusual sexual behavior.

**Keywords:** Masturbation; Child; Psychiatric disorders

**1. Introduction**

With the growth of a child during the nascent period and their orientation with a surrounding environment, their attempt can be more to understand the body's various parts. At first, with an aim of identifying, the child touches the genital parts and then, finds that they have a good feeling with this action; so, they may conduct this behavior repeatedly. At the ages of 3 to 6, sex play with co-gender children is common and in the 6 to 11 ages, masturbation is increased. Childhood masturbation means self-stimulation of the genitals by an immature child (1, 2). The word masturbation does not exist in the American Psychiatric Association classification, but in the World Health Organization classification, it is briefly inserted in other parts of specific behavioral disorders (3, 4). Masturbation is a common behavior that has been reported in men more than in women (5). Masturbation in infants is more a focal point, because its diagnosis is often not easy, and can be confused with seizure disorders or other motor diseases or even abdominal pains; so, it leads to unnecessary diagnostic or therapeutic measures (6-11). Studies on masturbation in children are limited and scattered. Most studies have been related to the case reports, and in connection with the

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description of the behavior, differentiation and detection methods or management of this behavior. A few studies have addressed the underlying factors, or its course (12, 13). Some studies have pointed out to the higher serum levels of hormones (14) and some other studies have reported therapy with medication such as risperidone, or its formation, after the consumption of olanzapine (15, 16). Masturbation has been reported more in girls than in boys. It often begins from under the age of one and it can be more manifest during fatigue and change from sleep to wakening (5, 17). When this behavior happens, snoring, flushing, sweating, trunk movements and a situation similar to a dystonia in different parts of the body can be seen (5, 7, 17). The episodes vary from several seconds to several hours several times per day. The child's alertness level will not be reduced and his or her senses excitation can be confused by parents (2). The baby may behave in this way without rubbing the genitalia area. (6). Sexual activity in Iranian society is limited by cultural restrictions. Premarital sexual contact is forbidden, and the most common form of sexual activity in society is masturbation. This commonly behavior can occur at any age, and in children, it can create difficulty in diagnosis of some clinical situations such as epilepsy, movement disorders (dystonia or dyskinesia), abdominal pain and/or colic. We hypothesized that masturbation can be related to some psychological disorders. Since the evaluation of the masturbation depends on the native culture (18, 19), this study aimed to determine its prevalence in a clinical population; in addition, the study determined this behavior's comorbidities with other behavioral disorders, as well as some factors related to masturbation in children.

## 2. Material and Methods

This descriptive-analytical study was conducted among children referred to the Pediatric Psychiatry Clinic of Ahvaz Golestan Hospital, from March 2014 to April 2015. The study protocols were approved by the Ethics Committee of Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran. Informed consent was taken from patients' parents, before the beginning of the study. Patients also had the right to withdraw from the study at any time; moreover, to carry out this study, any added cost was not imposed on the patients, and all information of patients was retained as confidential. In the study, using the convenience sampling method, of 450 cases, 90 children (20% of the population) were considered as a sample size. Then, considering the maximum growth rate of 10% in the population of patients in the year, one hundred was considered as a final sample size. After omitting two participants, the final number of patients reached 98 people. Disorders were diagnosed by clinical interview based on the fourth edition of Diagnostic and Statistical Manual for Psychiatric Disorders (DSM-IV) and the Child Symptom Inventory-4 (CSI-4). At first, for diagnosis of psychiatric disorders (such as masturbation and other disorders) CSI-4 was completed, and then to confirm the diagnosis, an interview with the patients and their parents was done by a psychiatrist based on DSM-IV. We used a questionnaire, containing demographic information about the patient and his family and also other data. CSI-4 has two forms: parent and teacher. The parent form contains 97 questions and has been set for screening 18 emotional and behavioral disorders, and a teacher form, which includes information about the child's educational performance and study environment, contains 77 questions, and has been designed to screen 13 behavioral and emotional disorders. In 2003, validity of the questionnaire was obtained for Iranian children. Using a retest method, the validity of parent form coefficients with a time interval of two weeks for 11 disorders which have been estimated from 29% for the social phobia disorder to 76% for conduct disorder that all, excepting social phobia disorder, were significant at the 1 % level. Criterion-related validity has been estimated for most disorders in the parent form. The specificity was more than 90% and sensitivity was more than 80%. Discriminant validity of a typical sample from clinical samples at a level of 0.001 in all categories was significant. In addition, its content validity was appropriate (20). Criterion-related validity in most disorders in the parent form, the specificity was more than 90% and sensitivity was more than 80%. Discriminant validity of typical sample from clinical samples at a level of 0.001 was significant in all categories. In addition, its content validity was appropriate (20). Using Cronbach's alpha of 0.92 and a sensitivity of 0.94, the reliability of this inventory was reported in an Iranian sample in another study (21). For younger children, the questionnaire was completed by children's parents or caregivers. In this study, a special form for the parent was used so that the symptoms of 18 behavioral disorders in the form of questions were asked from a parent, and based on the severity, a score of zero or one was awarded to every question; then, the scores awarded were compared with a criterion score that has been considered for each disorder. Statistical analysis of questionnaires was performed by using descriptive statistics and chi-square test with SPSS version 16 (SPSS Inc., Chicago, IL, USA).

## 3. Results

In this study, 98 patients referred to the children's psychiatric clinic, were studied, of which, 61 (62.2%) and 37 (37.8%) cases were boys and girls, respectively. The mean age of participants was  $6.01 \pm 2.12$  years (median=5). Overall, 31 (31.6%) of the patients had masturbation disorder of which the relative frequencies were 30% and 34% in patients higher and lower than 6 years, respectively. The detailed demographics data were shown in Table 1. As

Table 1 presents, age, gender, father and mother's education, nutrition, good life neighborhood, divorce of parents, first born and single-child were not associated with masturbation. The most frequent disorders in patients who masturbated, were thumb sucking (77.4%), MDD (19.0%), stress disorder (18%) and obsessive work (18%), respectively. Thumb sucking, phobias, obsessive work, stress disorder, motor tics, separation anxiety, GAD, conduct disorder and ODD were associated with masturbation, significantly ( $p < 0.05$ ). Furthermore, disorders such as ADHD, MDD, autism, social phobia, age, gender, obsessive thoughts, and vocal tick were not associated with masturbation (Table 2).

**Table 1.** Demographic data

Variables		Masturbation			p-value
		Yes (%)	No (%)	Total (%)	
Age (year)	Lower than 6 years	11 (11.2)	21 (21.4)	32 (32.7)	0.26
	Higher than 6 years	20 (20.4)	46 (46.9)	66 (67.3)	
Gender	Male	19 (19.4)	42 (42.9)	61 (62.2)	0.89
	Female	12 (12.2)	25 (25.5)	37 (37.8)	
Father with university education		8 (8.6)	21 (22.6)	29 (31.2)	0.72
Mother with university education		4 (4.1)	21 (21.6)	29 (29.9)	0.078
Nutrition	Breast feeding	18 (18.8)	43 (44.8)	61 (63.5)	0.118
	Dry milk	0 (0.0)	5 (5.2)	5 (5.2)	
	Both	13 (13.5)	17 (17.7)	30 (31.3)	
Good life neighborhood		13 (14.3)	32 (35.2)	45 (49.5)	0.947
Divorce of parents		3 (9.7)	6 (9.0)	89 (90.8)	0.908
First child		20 (20.4)	40 (40.8)	60 (61.2)	0.649
Single-child		20 (20.2)	6 (6.1)	26 (26.3)	0.292
Total		31 (31.6)	67 (68.4)	98 (100)	

**Table 2.** The relationship between psychiatric disorders and masturbation

Variables	Masturbation			p-value
	Yes (%)	No (%)	Total (%)	
Phobias	17 (17.0)	21 (21.0)	38 (38.0)	0.020
Obsessive thoughts	12 (12.0)	16 (16.0)	28 (28.0)	0.110
Obsessive work	18 (18.0)	17 (17.0)	35 (35.0)	0.001
Stress disorder	18 (18.0)	17 (17.0)	35 (35.0)	0.005
Motor tics	2 (2.0)	0 (0.0)	2 (2.0)	0.033
Vocal tick	4 (4.0)	4 (4.0)	8 (8.0)	0.226
MDD*	19 (19.0)	31 (31.0)	50 (50.0)	0.130
Autism	12 (12.0)	31 (31.0)	43 (43.0)	0.561
Social phobia	3 (3.0)	3 (3.0)	6 (6.0)	0.299
Separation anxiety	2 (2.0)	16 (16.0)	18 (18.0)	0.044
**GAD	6 (6.0)	4 (4.0)	10 (10.0)	0.037
Conduct disorder	15 (15.0)	11 (11.0)	26 (26.0)	0.001
\$ODD	15 (15.0)	19 (19.0)	34 (34.0)	0.042
#ADHD	14 (14.0)	17 (17.0)	35 (35.0)	0.153
Thumb sucking	24 (77.4%)	25 (36.2)	65 (65.0)	0.000

\*Major Depressive Disorder, \*\*Generalized Anxiety Disorder, \$Oppositional Defiant Disorder, #Attention Deficit Hyperactivity Disorder.

#### 4. Discussion

Studies conducted so far, have been on the basis of the parents' views and reports and in some cases, based on case reports. However, it should be noted that cultural attitudes to the sexual issues and other social factors, may influence the level of report of masturbation. Therefore, masturbation in children may cause parental concern in traditional societies more than in western societies, and of course, visits to the doctor may be more commonplace (12). Previous studies have reported the prevalence of this behavior in girls more than boys (7, 9, 12); however, in our study, the amount of masturbation in boys was more than in girls, which can be caused by higher rates of visits

to the clinic by boys. In addition, most of the case reports have also mentioned age of onset of masturbation prior to the two years, and some studies have reported an age under one year as age of onset (2-6, 9-11); however, in our survey the masturbation cases have had patients more than two years of age. It can be due to referral of parents that their children masturbate by rubbing the genitalia whereas infantile masturbation may be seen without rubbing the genitalia. In other studies, children who were breastfeeding, had been seen to be masturbating less, but this is probably because of the physical contact and the amount of time spent by the child in the mother's arms. It is said that if the relationship between mother and child is not enough, the child may start self-stimulating, but in our study, there was no relationship between nutrition and masturbation. Also, we did not find any significant relationship between the children's sleeping place and masturbation. Some other cases determined included stressful circumstances surrounding the child such as parental separation or death, the birth of a new child in the family that may reduce parental attention to the first child and lead to the occurrence of child anger, and their effort to overcome it via masturbation; however, no statistical relationship was found among them in our study. But in his study, Mc Cray reported 5 cases in which the onset of their self-stimulation had been coinciding with lower communication and parental attention for any reason (22). In the case of other factors in our study, 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 this study, we also checked for comorbidities of masturbation with other behavioral disorders in children, but no study was found in this aspect. The results of this study showed that some disorders have a relationship with masturbation in children that include anxiety disorders such as separation anxiety disorder, phobias, generalized anxiety disorder, motor tics, oppositional disorder and conduct disorder and thumb sucking; in addition, no statistically significant relationship existed between the rates of comorbidities of disorders such as hyperactivity, vocal tics, autism, depression, and obsessive thoughts with masturbation. Finally, masturbation in children may be considered as normal behavior, but in cases where the child continues masturbating in public places or the child's mother thinks that the child has learned this behavior from someone else, as well as the child trying to provoke others, and this behavior continues until the age of 5-6 years that the medical consultation is necessary (15). Masturbation in children in the first place, is an age growth-related behavior. But an untimely desire to genital areas is created in children who have comorbid problems. Sometimes, it seems that the masturbation has a performance i.e. it has a mechanism so that the children can deal with their negative emotions. Children with serious behavioral and emotional problems tend to show a wide range of behavior which also includes extreme sexual behavior. According to researchers' recommendations, the doctors who are faced with unusual sexual behavior, must be looking for a basic psychological or behavioral problem in the child. And this is an important point, because a sexual behavior may remain stable from childhood to adulthood and even lead to a sex crime. Furthermore, comorbid neurological or mental disorders, for example the character having intellectual or behavioral obsessions, can cause the growth and spread of the suspected sexual behavior in a person. Therefore, the recognition of comorbidities of masturbation by children in the study, will be helpful. Despite, the novelty of our study, it had some major defects due to the lack of control group compared with healthy subjects. So, we can't generalize these results to a general population, especially children with masturbation. Indeed, these results may be due to the nature of the disorders. Therefore, the authors recommend more researches with better methodology (case-control study) to explain the probably causality relationship between masturbation and some psychological disorders.

## **5. Conclusions**

The results of this study showed that masturbation is common in children referred to the psychiatric clinic, and may be more associated with oppositional defiant disorder or conduct disorder, some anxiety disorders, motor tics and other stereotypical behavior. Factors such as age, gender, parental education, being a single child, being a first born, a child's sleeping place or breastfeeding were not associated with masturbating. In addition, there was not a statistically significant relationship between the rates of comorbidity of disorders such as hyperactivity, vocal tics, autism, depression, and obsessive thoughts with masturbation. The results of this study may not be generalizable to a non-clinical population. In this study, the cases that have had an unusual expression of masturbation, may have remained out of sight. In this study, the interview has been used for the detection; moreover, no study has been conducted about comorbidity with masturbation, up to this point in time. For assessment of masturbation in general population and pediatric clinic, the future study is suggested.

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**Conflict of Interest:**

There is no conflict of interest to be declared.

**Authors' contributions:**

Ashraf Tashakori, Atefeh Safavi and Sorour Nematpour designed the protocol of study and they will act as guarantor of the study. Ashraf Tashakori, Atefeh Safavi drafted the paper, and revised the manuscript for important intellectual content. All authors helped in manuscript writing.

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