

## Body satisfaction and Depression Symptoms among Children with Precocious Puberty in Baghdad City

رضا الجسم و أعراض الاكتئاب بين الأطفال ذوي البلوغ المبكر في مدينة بغداد

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### المستخلص:

**الهدف:** تهدف الدراسة لتقييم رضا الجسم و اعراض الاكتئاب بين الأطفال ذوي البلوغ المبكر، ولايجاد اية علاقة مع معلوماتهم الديموغرافية.

**المنهجية:** دراسة مقطوع عرضي، عينة مكونة من (٨٠) طفل، من كلا الجنسين، الأطفال فوق ٧ سنوات شملوا بالدراسة وذلك لقدراتهم التعبيرية، مشخصين مسبقا بالبلوغ المبكر، والذين يراجعون العيادات الخارجية للغدد الصماء في مستشفيات الأطفال في مدينة بغداد.

**النتائج:** أظهرت النتائج بان اغلب الأطفال ذوي البلوغ المبكر لديهم عدم رضا عن صورة الجسم و يعانون من علامات الاكتئاب، بالإضافة الى وجود علاقة بين التحصيل المدرسي و علامات الاكتئاب.

**التوصيات:** اوصت الدراسة بضرورة التأكيد حول التقييم النفسي الاجتماعي لهؤلاء الأطفال اثناء زيارتهم الدورية للتقييم البدني و تقديم الدعم النفسي لهم، خاصة الفتيات.

**الكلمات المفتاحية:** رضا الجسم، الاكتئاب، البلوغ المبكر

### Abstract:

**Objective:** to evaluate body image and depression symptoms of children with precocious puberty, and find out association between children`s sociodemographic characteristics and their body image and depression signs.

**Methodology:** A cross sectional study, sample of (80) child from both gender, > 7 years were included due to their ability to express their own feeling, diagnosed with precocious puberty, attending out-patient endocrine clinics at pediatric hospitals in Baghdad city. Data collected, during the period from May to November 2018. Consent form has taken from children and their guardians to participate in study. Child body image scale (CBIS) was used to evaluate children body satisfaction (1) and Mood and feeling questionnaire (M&FQ) to evaluate children degree of depression symptoms (2), the approved has taken from the ownership directly. SPSS version 23 was used to analyze data by applying descriptive analysis (percentages, frequencies and mean) as well as inferential analysis (T-test).

**Results:** the finding shows that most children with precocious puberty experience body dissatisfaction, more than half of children experience depression signs, school achievement shows significant association with their depression signs.

**Recommendation:** the study recommend to emphasis on psychosocial assessment during routine physical examination, in addition to provide psychological support for those children especially girls.

**Key words:** body image, depression, precocious puberty.

## Introduction:

Early puberty timing among children increases the potential risk for developed psychosocial problems than normal or on time puberty; early maturation body changes discrepant with their emotional and cognitive immaturation<sup>(3 & 4)</sup>, in addition to the probable influence on their adverse health outcome later such risk for cancer, heart problems and diabetes<sup>(5, 6, 7 & 8)</sup>.

Usually parents of children with precocious puberty are concerned about the social and psychological effects on their children, while physician concern primarily with disorder causes and height prognosis<sup>(9)</sup>. A study about attention on children with precocious puberty documented that, the China Association of Health Promotion and Education attempt to raise public awareness toward the serious effects of precocious puberty<sup>(10)</sup>.

A previous study documented about review and evaluate previous studies concerning psychosocial assessment of children with precocious puberty that, psychosocial and quality of life burden of those children is taken into account during routine physical exam but it not studied in different circumstances<sup>(11)</sup>.

Precocious puberty has a social concern globally due to it is serious negative outcome on children and their families<sup>(12)</sup>. Details and comprehensive searching regarding probable causes of precocious puberty is demanded, to identify, manage, prevent, and avoid physical and psychosocial outcomes<sup>(12, 13, 14 & 15)</sup>.

Precocious puberty is considered an important public health issue, due to increase numbers and incidence of precocious puberty, in both developing and developed countries<sup>(9, 16 & 17)</sup>.

In Iraq, very few studies concerned about precocious puberty, mostly related to the characteristics and the effect of treatment regime. The finding of present study emphasis on psychosocial aspects during routine exam during endocrine clinics visits and follows up, and

activate nursing role in providing psychological support and suitable coping mechanism for those children and their parents.

## Methodology

**Design of the study:** a cross sectional study to evaluate body satisfaction and depression symptoms of children with precocious puberty, data collected from the period of May to November 2018.

**Setting of the study:** the study conducted in out-patient endocrine clinics at Children Welfare Pediatric Teaching Hospital and Child Center Teaching Hospital in Baghdad city.

**Sample of the study:** (80) children diagnosed with precocious puberty, both gender, (7-14) years, attending endocrine clinics.

**Instrument of the study:** Child Body Image Scale CBIS used to evaluate children body satisfaction; it is a pictorial image rating scale, gender specific (6-12 years). It is used in frequent studies with high reliability. The scale consists of seven figures, ranging from scrawny to obese body figure. Scored (A = scrawny image, B and C = typical image, D and E = overweight image, and F and G = obese image). Children asked to select an image closest to their body (actually), and select another image if they desired to be. The discrepancy between actual and desired image represents body image dissatisfaction. The figures of the scale are matched to the Center of Disease Control and Prevention 2000. The approval obtained from the author Helen<sup>(1)</sup>.

Mood and Feeling Questionnaire MFQ used to assess depression signs for children and adolescents (7-18 years), it is child reported scale. It is used in many epidemiological studies with reliability, developed by Adrian Angold and Elizabeth Costello in 1987 available on Duke University, free to download with Arabic

and English version. MFQ consists of (13) items describing child feelings and behaviors for depression, it was rating: 0= not true, 1= somewhat true, 2= true. MFQ scored from 0- 26: for no depression= 0-7, significant depression= 8-14, and sever depressive= 15-26<sup>(2)</sup>.

Children school achievement was evaluated by their monthly grade achievement: failed= < 5 grades, accepted= 5-6 grades, fair= 6-7, and good= > 7 grades.

Ethical Committee at College of Nursing approved the study. The ethical considerateness concerned during study process, the consent form fulfilled by children`s guardian.

**Validity:** Validity of the instrument is determined through a panel of (18) experts related to the field of the study.

**Reliability:** The reliability coefficient of the instruments is determined by computed  $\alpha$  Cronbach by Statistical Package of Social Sciences (SPSS) version 23, MFQ ( $r = 0.92$ ). While the reliability of CBIS was done by test-retest method (Pearson correlation) CBIS ( $r = 0.82$ )

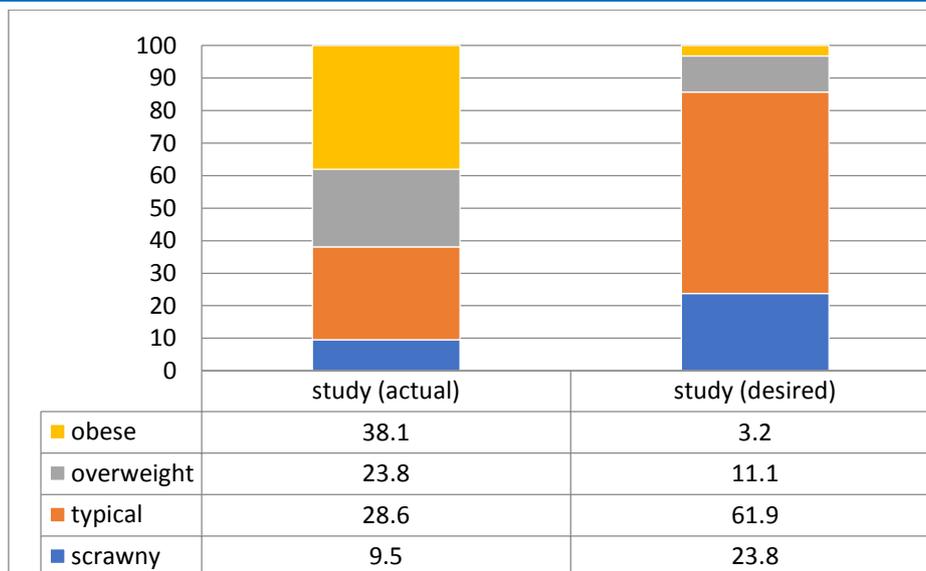
**Statistical methods:** The data analyzed by Statistical Package of Social Sciences (SPSS) version 23. Frequency and percentage mean, and standard deviation used to analyze general characteristics of the result. T- test, ANOVA and Fisher test used for statistical analysis at  $p$  value < 0.05.

## Results of the study:

**Table (1): Sociodemographic characteristics for children with precocious puberty**

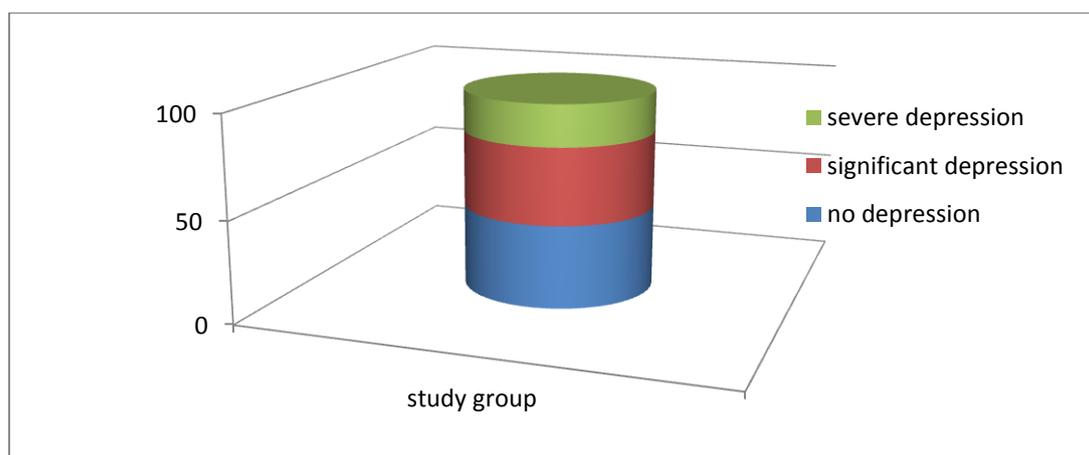
Variables	Frequency (N=80)	Percent (100%)
<b>Child`s age (mean= 8.41±2.7)</b>		
7-8 years	45	<b>56.25</b>
9-10 years	21	26.25
11-12 years	9	11.25
13-14 years	5	6.25
<b>Child`s gender</b>		
Girls	68	<b>85.0</b>
Boys	12	15.0
<b>Child's School Achievement</b>		
Failed	9	11.2
Accepted	10	12.5
Fair	31	<b>38.8</b>
Good	30	<b>37.5</b>

In this table, more than half of children with precocious puberty were at early school age (6-8 years), their mean age was (8.41±2.7). Concerning child's gender, the majority are girls (85.0%), more than one third of them have fair and good school achievement (38.8%, 37.5%) respectively.



**Figure (1) Body Satisfaction of children with precocious puberty by Children Body Image Scale (CBIS)**

In this figure, most of children with precocious puberty resemble to their body (actually) as scrawny, overweight, and obese, while mostly they desired to have different body image.



**Figure (2) Depression Symptoms of Children with Precocious Puberty by Mood and Feeling Questionnaire**

In this figure, (38.1%) of children with precocious puberty experience significant depression, and (20.6%) experience severe depression.

**Table (2): Association between study variables and Mood and Feeling Questionnaire**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Child's age	.247	.400	.114	.616	.540
Child`s gender	1.139	.750	.259	.184	.669
Child`s school achievement	3.948	1.543	12.649	1.026	<b>.030</b>

Std. Error= Standard error, Sig.= significant

There is no association among children age, gender and their mood and feeling questionnaire, while there is a significant association with their school achievement.

**Table (3): Differences between children body satisfaction (actual and desire) and their depression symptoms**

ANOVA						
Actual Body Image		Sum of Squares	df	Mean Square	F	Sig.
Mood and feeling questionnaire	Between Groups	25.686	5	4.281	.324	<b>.022</b>
	Within Groups	739.870	57	13.212		
	Total	765.556	80			
Desired Body Image		Sum of Squares	df	Mean Square	F	Sig.
Mood and feeling questionnaire	Between Groups	69.406	5	13.881	1.137	.352
	Within Groups	696.149	57	12.213		
	Total	765.556	80			

df= degree of freedom, sig= significant

There is no a significant statistically difference between children actual body image and their depression symptoms, while there is no significant with their desired image.

### Discussion:

Table (1) shows more than half of children at early school age (56.25 %) their mean age is (8.41±2.7), majority are girls (85%). This result supports previous studies regarding age and incidence of precocious puberty. Normally girls were sexually mature faster than boys due to mostly to the idiopathic causes for their development.

Many studies suggested that, precocious puberty more frequency in girls especially between (4 and 8) years old, and commonly it considered a feminine disease<sup>(18)</sup>. In Baghdad a study about precocious puberty with (47) children documented that, (93.6%) were girls, and (61.7%) of their common age at presentation was (6-8) years<sup>(19)</sup>. Another study in Baghdad also conducted about effect of treatment on (83) children with precocious puberty showed that, mostly were girls (79.5%), more than a half (53%) were > 6 years<sup>(20)</sup>.

Another study conducted regarding precocious puberty and children psychology in Washington, and in Korea reported in their study that children mean age was (8.12±0.64 years), and the majority (88%) were diagnosed at age 7-8 years<sup>(7 & 12)</sup>.

Regarding school data as parent reported in (table, 1), children school achievement is (41.3%) for both fair and good level. In addition children school achievement affected by children depression symptoms (table, 2).

Children school data from better to assess to measure the influence of children earlier maturation on their school achievement. Children early maturation without appropriate configure and support may lead to negative feeling regarding their bodies, and affects negatively on children school achievement.

A study about commentary on the cognitive, emotion, and psychological function of children with precocious puberty treated with pharmacological puberty blockers showed, children exam performance in school was better included during assessing their cognitive and psychological influence<sup>(21)</sup>. In addition the author added, children with precocious puberty who experience school failure have difficulties in psychosocial adaptation to class mate<sup>(21)</sup>. A study about review and evaluate of psychosocial assessments of

children with precocious puberty, those children have high school absenteeism and poor school performance than typical children<sup>(11)</sup>.

Figure (1) reflects children body dissatisfaction by child body image scale, (38.1%, 23.8%) of them assess their bodies (actually) as obese and overweight respectively (select figure 4, 5, 6, and 7 according to CBIS). While they desired different image, mostly (61.9%) select typical body (select figure 3 and 4) of the same scale.

Children with precocious puberty experience low self concept due to their body dissatisfaction. Precocious puberty cause rapid growth spurts for children and body differences from peers; children self concept was developed at school age, and they can distinguish their differences from peers. Additionally, the environmental factors (family and school) increase the potential risk of negative consequences about their bodies. These consequences mostly make children do not like their differences and them unhappy, and dissatisfied with their body built, and appearance.

Unfortunately, (figure, 2) shows more than a half of children with precocious puberty experience depression symptoms: (20.6%) of them experience severe depression symptoms and (38.1%) with significant depression symptoms.

Children with precocious puberty may experience signs of depression due to hormonal changes and mismatch between their body changes and environment acceptance

The present result agreed with previous studies that, children with precocious puberty showed advanced growth parameters and bone age<sup>(11, 12 & 22)</sup>, which may caused negative body image, low self esteem behavioural and psychological disorders<sup>(7, 9 12)</sup>. A previous study concerned about psychosocial characteristics of (100) child diagnosed with precocious puberty aged (6-9) year in Korea, children with pp showed high score of body dissatisfaction, low self-esteem and

depression signs than normal developing children at the same age<sup>(16)</sup>. While a study coincided with the present finding in their study about body image and depression of (82) girls diagnosed with pp that, early puberty mostly lead to negative body image, low self esteem and usually correlated with negative feeling and behaviors about themselves. In addition, their awareness about the degree of sexual maturation body was correlated with body dissatisfaction and depression signs, especially late pubertal stage<sup>(3)</sup>.

The result also shows a relation between children body satisfaction and their depression symptoms (table, 3). When children not satisfy with their body appearance and not accepted their physical changes, it may reflect on their psychological status negatively, and they feel unhappy and sadness.

A study concerned about the areas of needed support for children with pp aged 6–10 years showed that, children with precocious puberty scored highly “negative body image, low self esteem, tend toward neuroticism, an exaggeration of their physical appearance, and feel significantly more insecure than peer”<sup>(7)</sup>. Body awareness influenced by general public acceptance body built, lovely social media and cartoons characters that resemble for thinner body image, social comparison to these characters increased the negative effects of children body image<sup>(3)</sup>. Another study about reviewing and evaluation psychosocial studies concerning children with precocious puberty (pp) that, most studies revealed those children experience body image disturbance, low self esteem, and negative expressive outcomes about their bodies than normal developing children<sup>(11)</sup>.

The physical changes of puberty may cause feelings of shame, embarrassment, frustration or insecurity; these feelings may increase isolation and social withdrawal, further interfering with peer and family relationships”<sup>(11)</sup>. Many previous studies support the present finding.

A previous study carried out to measure the depression signs and self concept of children with early puberty in Korea added that, there is no significant difference between normal and early onset of puberty children regarding depression and psychosocial problems <sup>(12)</sup>. Another previous study conducted to examine the influence of cortisol on children's psychosocial who stress diagnosed with early puberty revealed that, the elevated cortisol level in those children has correlated with their interpersonal conflict, depression symptoms, and the stressor environment <sup>(23)</sup>. Another previous study concerned about supported area for children with precocious puberty aged 6-10 years that revealed that, those children showed mood changes, impaired social relationships <sup>(7)</sup>.

#### Recommendation:

The study emphasized upon psychosocial assessment for children with precocious puberty during their routine physical examination, provide psychological support for those children and their parents, concern about school and family influence on children perception.

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