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## Comorbid Mental Health Problems In Children With Intellectual Disabilities

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## Abstract

**Background:** There has been a growing interest in the quality of life in the field of intellectual/ developmental disabilities. Having co- morbid mental disorders, psychological and behavioral problems on top of intellectual disabilities headed more negative impacts on wellbeing of these individuals and their care- givers. Psychopathology with ID is a major cause of failure of community residential placement, reduced occupational opportunities in the post- school period, and leads to major restrictions in participation in recreational and educational programs.

**Objectives:** To assess the differential coexistence of Mental Health Problems and Intellectual Disabilities and evaluate their effect on ID children.

**Methodology:** Thirty mild- moderate (IQ:  $56.7 \pm 6.4$ ) ID children aged from (5 to10) years, with co- morbid MHPs were compared to a similar number of matched ID children (IQ:  $60.9 \pm 2.7$ ) without MHPs, both were recruited from outpatients clinics of Ain Shams University, during the period from December, 2015 to August, 2016. All consenting participants' IQs were estimated, their present mental status was screened adopting DSM- 5 criteria, and use of CBCL, SDQ.

**Results:** Co- morbid mental disorders were seen in 86.7% of ID children, most commonly as ADHD (23.3%), mood disorders (16.7%), ASD 13.3%, anxiety disorders 13.3%, and impulse control/ conduct disorders 10%. Co- morbid mental problems were recorded in 93.3%, described as being aggressive (26.7%), disruptive (23.3%), and socially- relating 20%. Aggressive behavior was commoner in boys, moderate degrees of ID, presence of co- morbid mental disorders, and seizures. CBCL confirmed the clinical evaluation sensitively in all areas except somatic complaints and thought problems. SDQs total difficulties rationalized the subgrouping of the study sample and rated prosocial and peer relations as being affected by MHPs, less obviously on conduct behaviors.

**Conclusions:** Dual diagnosis of MHPs with ID is a direct risk for a more negative impact on ID children. Identification, assessment and application of MHP in ID persons are predictive of an external gold- standard of well being of the children as well as the populations.

**Keywords:** Children, Intellectual Disabilities, and Mental Health Problems.

## المشكلات الصحية العقلية المصاحبة في الأطفال المصابين بإعاقات ذهنية

**مقدمة:** هناك اهتمام متزايد بجودة الحياة في مجال الإعاقات الذهنية والنمائية. وتواجد تراكم اضطرابات مرضية ومشكلات نفسية وسلوكية مع تلك الإعاقات يترك أثرا سلبيا أكبر على صحة هؤلاء الأشخاص ومن يقومون برعايتهم.

**الهدف:** تقدير حدوث التراكم بين مشكلات صحية عقلية والإعاقات الذهنية وتبين أثره على الأطفال ذوي الإعاقات الذهنية.

**المنهجية:** أجريت مقارنة ثلاثين طفلا من ذوي إعاقات ذهنية بسيطة ومتوسطة بمتوسط معدل ذكاء ( $56.7 \pm 6.4$ ) مصحوبة بمشكلات صحية عقلية، تراوحت أعمارهم بين (5-10) سنوات بعدد مماثل من أطفال مجموعة ضابطة من ذوي إعاقات ذهنية بمتوسط معدل ذكاء ( $60.9 \pm 2.7$ ) بدون تلك المشكلات وتمت الاختبارات من بين مرضى العيادات الخارجية لمراكز جامعة عين شمس بالقاهرة في الفترة بين ديسمبر 2015 وأغسطس 2016.

**النتائج:** ثبت تصاحب مرضي في 86,7% بين أفراد عينة الدراسة في صورة اضطرابات عجز الانتباه/ فرط الحركة، والمزاج، طيف الداتوية، القلق، التحكم في الدوافع/ المسلك وذلك في 23,3%، 16,7%، 13,3% و 13,3% و 10% على الترتيب، وكذلك مشكلات صحية عقلية متراكبة في 93,3% وصفت بالعدائية 26,7% ومترقبة 23,3%، ذات علاقة بعلاقات اجتماعية 20%. وكان السلوك العدائي أكثر في الذكور، ومتوسطى الإعاقة.

**الخلاصة:** التشخيص المزدوج لمشكلات صحية عقلية مع إعاقات ذهنية يشكل خطرا مباشرا بتأثر سلبى لجودة حياة هؤلاء الأشخاص.

**الكلمات الانتائية:** الأطفال، إعاقات ذهنية، مشكلات صحية عقلية.

**Introduction:**

Intellectual disability (ID) affects approximately 1% to 3% of the population in developed countries. Children with ID have been found to have levels of psychopathology approximately (3- 4) times higher than that of typically developed children (Dekker et.al., 2002). Einfeld (2011) provided evidences that the problem of psychopathology co- morbid with ID is both substantial and persistent and suggested the need for effective mental health interventions.

High initial levels of behavioral and emotional disturbances decrease only slowly over time, remaining high 65% in young adulthood (at 22 yrs), then may decline more in boys than girls over time, more in individuals with mild ID compared with those with severe or profound ID, improvement involves more the social- relating disturbances, as reported by Einfeld (2011) who added that psychopathology with ID is a major cause of failure of community residential placement. These major psychopathological problems badly affect the QoL of ID subjects and receive more mental health interventions, reduced occupational opportunity in the postschool period (Fotheringham, 1999), and lead to major restrictions in participation in recreation and educational programs. (Parmenter, et.al., 1998).

**Hypothesis:**

There is a negative impact of dual diagnosis of ID and MH problems on such individual.

**Objectives:**

The present study aims to assess the differential coexistence of MHPs with ID children.

**Methodology:**

- ☒ Type of the study: a case control study.
- ☒ Subjects: The present study was conducted on 30 children with ID and MH problems who attend the child psychiatry and rehabilitation clinics at Ain Shams University hospitals and centers during the period of 9 months starting from December 2015 to August 2016.
- ☒ Inclusion criteria: Age: (5- 10) years, Gender: both sexes, Level of ID: IQ scores of (70- 30) [mild and moderate ID]
- ☒ Diagnosis of MHP: type of MHP that are most commonly encountered in the out- patients facilities (ADD, depressive and bipolar disorders anxiety, ASD, Stereotypic movement, impulse-control and major neuro- cognitive disorders, etc.) according to DSM- 5.
- ☒ The Control group: A matched group of 30 individuals of ID without MHP, homogenous with the selection criteria of the study sample.
- ☒ Tools:

1. Intelligence assessment: The use of Good- enough- Harris Drawing test (1994) of draw a man, draw a woman tests and an optional self- drawing test or Wechsler Intelligence scale for children (WISC) or Stanford- Binnet scale.

2. Child behavior Check- list (CBCL) of Achenbach (1991), Achenbach& Rescorla (2001): that is used to examine behavioral

profiles of the children as reported by care- givers on 118 problem items. Although it has been standardized on children without ID (Verhulst et.al., 1996), findings of Berman et.al. (2002) have found it having adequate psychometric properties when used on ID children.

- 3. Strength and Difficulties Questionnaire (SDQ) - Parent's version: that demonstrated reliable, and valid psychometric tool with acceptable sensitivity/specificity, and seem valuable to be used in populations with ID as reported by Emerson (2007), and Glenn et.al. (2013) as a useful, brief measure of the adjustment and psychopathology of children and adolescents. It is a 25- item, one- page behavioral screening questionnaire, useful as a part of clinical assessment (especially for ADHD), and as a measure of treatment outcome, developed by Goodman (1997. 1999. 2000 a, b, c, 2001), completed by care- givers regarding the behavior of their children. Items are grouped into five subscales: Emotional symptoms (5 items, 0- 3 points), conduct problems (5 items), hyperactivity/ inattention (5 items), peer relationship (5 items), and prosocial behavior (5 items), these items could be re- categorized into internalizing [emotional+ peer] and externalizing [conduct +hyperactivity]. A total difficulties score (20 items), not including prosocial behavior can be also computed, as the case in the present study.
- 4. Written informed consents were obtained from parents/care- givers of the subjects after explanation of the aim of the study and its benefits. According to the ethical committees of both Ain Shams Institute of Postgraduate Childhood studies, Department of Medical Studies for Children, and Ain Shams University Hospitals, the Department of Neurology and Psychiatry, written informed consents were offered to the study participants parents/ care givers.

**Statistical Analysis:**

The collected data were structured, organized, tabulated, clustered and analyzed using the Statistical Package for the Social Science (SPSS-V12).

**Results:**

Table (1) shows that the ratio of girls to boys in the group of ID+MHP= 1: 1.7. By the virtue of their close ongoing involvement with their children, parents especially the mothers were more rated as informants. Only 13.3% of the ID children with clinically significant levels of MHP in the study received mental health intervention., this finding presents a basis for addressing the study problems complicating ID.

Table (1-a) Distribution of the study group (n= 30), and the control group (n= 30) according to the demographic data

	Study Group	Control Group	P Value	Sign
	Mean±SD	Mean±SD		
Age (Yrs)	6.73±1.4	7.09±1.3	>0.05	NS

NS; non- significant, S; Significant, HS; Highly Significant

Table (1-b) Distribution of the study group (n= 30), and the control group (n= 30) according to the demographic data

		No	%	No	%	P Value	Sign
Gender	Girls	11	36.7	13	43.3	>0.05	NS
	Boys	19	63.3	17	56.7		
Socioeconomic Status	Low	26	86.7	23	76.7	>0.05	NS
	Middle	4	13.3	7	23.3		
Family History Of Mental Disorders	Positive	7	23.3	2	6.7	<0.05	S
	Negative	23	76.7	28	93.3		

NS; non- significant, S; Significant, HS; Highly Significant

Table (1-c) Distribution of the study group (n= 30), and the control group (n= 30) according to the demographic data- General Health Parameters

		Study Group		Control Group		P Value	Sign.
		No	%	No	%		
Nutritional Status	Deficient	8	26.7	6	20	>0.05	NS
	Satisfactory	22	73.3	24	80		

NS; non- significant, S; Significant, HS; Highly Significant

Table (1-d) Distribution of the study group (n= 30), and the control group (n= 30) according to the demographic data- Social Background

Care Givers	Study Group		Control Group		P Value	Sign.
	No	%	No	%		
Mothers	23	76.7	25	83.4	>0.05	NS
Fathers	4	13.3	3	10		
Grand Parents	1	3.3	1	3.3		
Step Parents	1	3.3	0	0		
Aunts/Uncles	1	3.3	1	3.3		
Social Contacts	No	%	No	%	P Value	Sign.
	Satisfactory	4	13.3	7		
Unsatisfactory	26	86.7	23	76.7	>0.05	NS
Social Networking	No	%	No	%	P Value	Sign.
	Available	5	16.7	2		
Deficient	25	83.3	28	93.3	>0.05	NS
Social Behavior	No	%	No	%	P Value	Sign.
	Safety	12	40	16		
Freedom	2	6.7	8	26.7	<0.05	S
Restrictions	28	93.3	6	20	<0.02	HS
Simple Buying	0	0	2	6.7		
Receiving Mental Health Intervention	No	%	No	%	P Value	Sign.
	Detected	4	13.3	1		
None	26	86.7	29	96.7	<0.05	S

NS; non- significant, S; Significant, HS; Highly Significant

Table (2) shows that overall detected mental health disorders i.e.

Table (3) CBCL scores of the study group (n= 30), and the control group (n= 30)

		Study Group						Control Group						P- Value	Sign
		Normal		Borderline		Clinical		Normal		Borderline		Clinical			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Internalizing	Anxious/Depressed	12	40	10	33.3	8	26.7	27	90	3	10	0	0	<0.05	S
	Withdrawn	18	60	1	3.3	11	36.7	28	93.3	2	6.7	0	0	<0.02	HS
	Somatic Complaints	23	76.7	6	20	1	3.3	25	83.3	5	16.7	0	0	>0.05	NS
Externalizing	Aggressive Behavior	15	50	4	13.3	11	36.7	29	96.7	1	3.3	0	0	<0.01	HS
	Delinquent Behavior	25	83.4	1	3.3	4	13.3	30	100	0	0	0	0	<0.05	S
Others	Attention Problems	19	63.3	2	6.7	9	30	28	93.3	2	6.7	0	0	<0.02	HS
	Social Problems	5	16.7	3	10	22	73.3	23	76.7	3	10	4	13.3	<0.05	S
	Thought Problems	25	83.3	3	10	2	6.7	30	100	0	0	0	0	>0.05	NS
	Total Problem Score	0	0	0	0	30	100	29	96.7	1	3.3	0	0	<0.01	HS

participants meeting criteria for definite mental disorders or major psychopathology (86.7%) and behavioral problems (93.3%) were high in the study group. However, both severity and persistence had not indicated hospital admission. Aggressive behavior (8 subjects, 26.7%), came on the top of the listed challenging problems of the study sample. More focusing on that behavior has led to the following observations.

Table (2) shows that overall detected mental health disorders

		Health Disorders	Number	%
Comorbid Mental Disorders	Total		26	86.7
	Autism Spectrum Disorder		4	13.3
	Attention Deficit/Hyperactivity Disorder	Add	2	6.7
		Adhd	5	16.7
	Mood Disorders	Bipolar (current episode Hypomania)	1	3.3
		Disruptive Mood Dysregulation Disorder	1	3.3
		Depressive Disorders		
		Single episode: mild/moderate	2	6.7
		Recurrent: Mild	1	3.3
	Anxiety Disorders.		3	10
	Disruptive, impulse control, and conduct disorder		4	13.3
	Specific Learning Disorder (Dyslexia)		1	3.3
	Stereotypic Movement Disorder		1	3.3
	Organic Catatonia		1	3.3
	Comorbid Mental Conditions	Total		28
Aggressive Behavior		8	26.7	
Withdrawal Behavior		2	6.7	
Disruptive Behavior		7	23.3	
Social- Relating Behavior		6	20	
Communication problems (echo, etc.)		3	10	
Others (Head banging, pica, mouths body parts etc.)		2	6.7	

Table (3) shows that; CBCL as a sensitive screening tool, verified the current mental health problems in the study group, compared with the controls, in most of its domains except the somatic complaints which occur in ID individuals in general, and thought problems which are rarely seen in moderate or mild degrees of ID and only evident in cases with paranoia or obsessions.

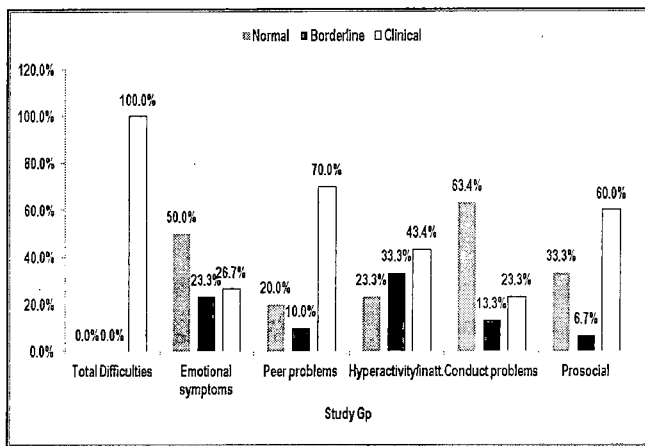


Figure (1) SDQ scores among the study group.

### Discussion:

Application of the used QoL questionnaire will help to describe the domain (s) of needs both qualitatively and quantitatively, and dimensions of intervention. The results of the present study are consistent with national articles (Okasha et al., 1983) and international researches, Einfeld (2011), Dekker et al. (2002), Emerson (2007), and others that describe the different MHPs in ID persons. Our findings of 86.7% of ID subjects having definite co-morbid psychiatric disorders are therefore, transferable and important for further research in the field, and for decision makers in planning for services targeting the studied problem. In the contemporary, cases with ADD and ADHD were the most encountered mental disorders in ID subjects as referred to by Parmenter et al. (1998) and other many researchers. Overlapping MHPs were also established in 93.3% of ID individuals, and in particular the aggressive and disruptive behaviors were complicating the clinical picture, put more burden on care givers and badly affected the QoL profile.

The collection of relevant clinical information by the CBCL developed by Achenbach alone (1991), and with Rescorla (2001), and Berman et al. (2002) was proved to be a valid and reliable scale to assess ID subjects in infancy and adolescence. Its use in the present study confirmed its specificity and sensitivity as a diagnostic tool and a possible alternative clinical measurement as noted by Gomez et al. (2016). Its reliable items could support the clinical evaluation. The CBCL significant total score, and results in items of aggression, attention and withdrawal were consistent with the clinical context and assessment as well as with the previous results of the literature. The different results obtained from responses to CBCL questionnaire on thought problems and somatic complaints were also expected in the study sample that includes only mild and moderate ID individuals.

SDQ has been recognized as being of great value in relation to pediatric care, and rehabilitation by predicting ID individual health, well-being, and relevant intervention as stated by Emerson (2007), and Glenn et al. (2013). Findings from the current study again support those of clinical assessment and CBCL administration, ascertaining the differences between the study group ID subjects and the controls in total score, prosocial, peers dysfunctioning, emotional and attention problems, and disagreed in the conduct problems in both groups as answered by the care

givers. Because the main topic of the existing study is the issue of QoL, two complementary ways of measurement were implemented to fully understand the varied needs of the ID individuals in general and ensure the influence of MHPs in the study group on QoL in ID individuals.

Caregivers completed a specially structured interview questioning the different areas of psychosocial functioning for ID individuals with MHPs and those without, derived mainly from Gomez et al. (2016) kidslife scale for QoL in children with ID.

### Conclusions:

The findings of the present study confirms the hypothesis of greater sufferings of ID subjects with dual MHP when compared with ID individuals without such co-morbidities.

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