

MENTAL DISORDERS AMONG A SAMPLE OF CHILDREN FROM BAGHDAD: SOCIODEMOGRAPHIC AND REFERRAL PATHWAY

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ABSTRACT

Background: Despite the awareness of the ongoing socio-political and economic situation on the mental health of children in Iraq, no systematic studies have been carried out. In fact, interest in children and adolescents' mental health is a comparatively recent phenomenon in Iraq. **Objective:** To explore the patterns of mental disorders and the referral pathway among children attending outpatient clinic of paediatrics psychiatry in Children Welfare Hospital in Baghdad. **Design:** a cross sectional study design that explored the most common presentation and the socio-demographic variables of 186 children (87 from Al Sadr City) who presented at the child and adolescent psychiatric outpatient department at the Children Welfare Hospital, Baghdad, Iraq. DSM 5 criteria were applied for diagnoses, in addition to the Childhood Autism Rating Scale (CARS), and the Stanford-Binet Intelligence Scale. The Pearson chi-square test was used to detect significant associations between categorical variables. **Result:** communication disorder was the most frequent diagnosis (25.8%) followed by both Intellectual disability and ASD (21%). speech delay was the most frequent cause of referral (58.1%), then externalizing behaviours (21.5%) and internalizing disorders in only (5.4%) of them. Most of the referrals were by paediatricians (33.9%). **Conclusion:** somatic metaphors of distress seem to be the preferred idiom of distress in this population. Whilst this is culturally expected, it is important that other presentations are not overlooked. The authors advocate for urgent awareness-based and psycho-educational programs for health workers, schools, faith healers, and the public in Baghdad including Al Sadr City.

KEYWORDS: Children and adolescents' mental health; communication disorder ;intellectual disability; speech delay; externalizing behaviors; somatic symptomatology; Al Sadr city, Baghdad.

INTRODUCTION

A quick skim through the political history of Iraq shows that in the last 50 years, the country has experienced only 16 years of peace, that it has endured one of the most severe and longest embargoes in history, and that it continues to face social, economic, and political unrest. The instability and ongoing situation mean that the work of national and international non-government organizations (INGOs) has also been impacted; many humanitarian agencies have left the country to safeguard the well-being of their staff.^[1]

More than one Iraqi generation has grown up 'living in a state of constant fear,^[2] with catastrophic effects on

health and well-being.^[3] Indeed, the psycho-social consequences of war are well-documented in the literature worldwide both in single studies.^[4,5,6] and in a recent review.^[3] Although it's arguable that the consequences of war are felt by all strata of the population, according to experts, it is children who experience the impact of this ongoing trauma most acutely.^[2,7]

Researchers argue that exposure to war, conflict, and terror interferes with children's natural development and causes disproportionate mental health issues due to the rapid and complex physiological, cognitive and emotional changes that children have to negotiate.^[7]

Although no systematic reviews have been conducted in Iraq and very few single studies exist on the topic, the available evidence suggests that up to 87% of Iraqi-Kurdish children report PTSD symptoms.^[8] Children as young as four clearly describe the horror of wars and report fear, anxiety and depression, and 40% of Iraqi children do not think that life is worth living.^[9]

Even though there is evidence to suggest that traumatic events are a major risk factor for children and adolescents' mental health- CAMH,^[10] it is often virtually impossible to address the latter in poor and politically unstable zones.^[11] This leaves children and young people vulnerable to further traumatization as the never-ending cycle of trauma, ill-health and socio-economic implications continues to perpetuate itself. Indeed, the evidence confirms that childhood psychopathology predicts mental illness in adulthood.^[12,13] precipitating a never-ending intergenerational transmission of trauma.

In Iraq, despite the many reports on the implications of the ongoing political situation on the well-being of the population and despite the evidence that shows that the risk of mental disorders increases over generations,^[14] no systematic studies on children's psychological well-being have been carried out. In fact, interest in CAMH is a comparatively recent phenomenon.^[1] Nevertheless, given that the literature confirms that treatment for mental disorders in Iraq is poor and that specialist services are in dire need of being developed,^[15] epidemiological information would pave the path for treatment/preventative strategies.

Iraqi population comprises more than 40 million people, and nearly 40% are children and adolescents.^[16] the population of Baghdad is over seven million.^[17] There are currently two in/outpatient adult psychiatric hospitals in Baghdad, but no inpatient mental health services for children and adolescents.^[18] Outpatient CAMH facilities are integrated within adult mental health services. A recent development in the country is the new outpatient unit at Children Welfare Hospital (related to Baghdad teaching hospital) that provides training in child and adolescent psychiatry in partnership with Australian Child and adolescent psychiatrists.

Data suggests that over 150 children and adolescents visit the outpatient clinic monthly, and it was noticed that many of them came from Al Sadr City, one of the most economically and socially disadvantaged districts in northeast Baghdad. Al Sadr City houses over 2 million people,^[19] and has witnessed one of the most violent and brutal fighting and urban combat since 2003.^[20] The level of socio-economic deprivation to date is exorbitant, with roughly two-thirds of the city lacking access to essential services, such as electricity, water, and sewage.^[20] The district is distinguished by displaced families living in rubble, damaged buildings, significant garbage, and excrement in the street, backed-up sewage,

and up to just a decade ago, bodies were regularly found 'dumped' in the streets.^[20,21]

A meta-analysis of the literature confirms that the social gradient of health is a well-recognized phenomenon present across societies and throughout time.^[22] The literature confirms that children and adolescents who come from low socioeconomic status (SES) are two to three times more likely to develop mental health problems, including childhood behavioural disorders,^[23] than their peers with high SES.^[24] Children from low SES are more often exposed to fewer health/social resources, including worse access to education and social participation.^[24,25]

Given the link between SES and poor mental health.^[24,26] in addition, to the correlation between exposure to war and psychological distress as mentioned above.^[7,9] the over-representation of children from Al Sadr City in the psychiatric population at Children Welfare hospital is no surprise. Keen to break this pattern, the Iraqi Ministry of Health has recently put mental health as a core priority,^[15] and has worked with the World Health Organization to strengthen the quality of mental health services. Doctors without Borders echo the need and continue to work to increase awareness of mental health issues in the country.^[27]

Given the government's commitments and the fact that early intervention for children exposed to violence can reduce later disadvantages,^[12] it is essential to investigate the demographics, phenomenological characteristics, and referral pathways of children and adolescents attending CAMHS at Children Welfare hospital.

METHOD

Design and measures

This is a cross sectional study design conducted at the child and adolescent psychiatric outpatient department, at Children Welfare Hospital, Baghdad, Iraq.

A full mental state examination (MSE) was conducted according to DSM 5,^[28] and the patient's history was taken by a child and adolescent psychiatrist who was supervised by Australian child and adolescent psychiatrists. Socio-demographic and referral information was collected via a questionnaire. Referral information options included being referred/signposted by a paediatrician, general psychiatrist, neurologist, school, family member, faith healer, audiologist, or self-referring after seeing online information about childhood mental difficulties. Intelligence/ intellectual disability (ID) was assessed with the Arabic version of the Stanford-Binet Intelligence Scale.^[28] The questionnaire has been validated in the Arabic-speaking population.^[29]

The Arabic version of the Childhood Autism Rating Scale (CARS) questionnaire was used to evaluate the symptoms of Autism Spectrum Disorder ASD.^[30] The questionnaire features 15 items, each of which has a

score from 1 to 4. Scores between 30-36 indicate mild to moderate symptoms and scored 37-60 indicate severe autism.^[30] The questionnaire has well-established reliability,^[31] and has been used and validated in the Arabic-speaking population.^[32]

Participants

All new paediatric patients with Baghdad residency address treated by one doctor at one child and adolescent psychiatric outpatient clinic between March to June 2019 were included in the study. A total of 192 families attended this department; 6 families did not consent to participate, so the final sample consisted of 186 young people. The age ranges were 2-16 years old. Excluding of children from other Iraqi governorates, and children with physical illness.

Ethics

Participation was anonymous. Verbal and written consent was taken from both parents of each child. The study was conducted in adherence to the Declaration of Helsinki and the American Psychological Association

with regard to ethical human research, including confidentiality, privacy, and data management. Potential participants were informed of the nature and goals of this research, and they were reminded of their right to withdraw at any time before data analysis.

Statistical analysis

Data were analysed with SPSS, version 26. The Pearson chi-square test was used to detect significant associations between categorical variables. The level of significance was set at $p < .05$.

RESULTS

The entire sample was 186 children, their age ranged from 2 to 16 years old with a mean(\pm SD) of 6.56 (2.99) years, the mean age(\pm SD) of their parents was 40.9(\pm 10) and 34.5(\pm 7.9) for their fathers and mothers respectively. Those children were 140(75.3%) males and 46(24.7%) females. Their various characteristics are illustrated in table (1) below.

Table (1): Characteristics of children attending psychiatric outpatient clinic at children welfare hospital (n=186).

Characteristics		N	%
Parents marital status	Married	176	94.6
	Divorced	7	3.8
	Widow	3	1.6
Economic status	Good	10	5.4
	Moderate	113	60.8
	Poor	63	33.9
Family history of psychiatric illness	Present	148	79.6
	Absent	38	20.4
History of perinatal complications	Present	80	43
	Absent	106	57
Mode of delivery	Cesarean section	86	46.2
	Normal vaginal delivery at hospital	77	41.4
	Normal vaginal delivery at home	23	12.4
Type of feeding	Artificial	92	49.5
	Mixed	59	31.7
	Breast	35	18.8
Parents consanguinity	Relatives	101	54.3
	Not relatives	85	45.7

About half of the children, 105(56.5%) were living with their parents in their grandfathers' homes while only 81(43.5%) were living with their parents in their own homes, as shown in figure (1).

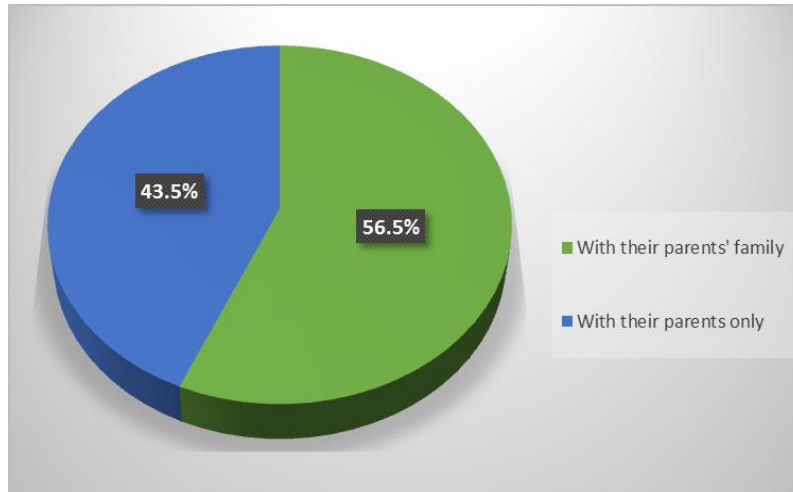


Figure (1): Proportion of children home situation.

The children were referred to the outpatient clinic under the current study mainly by doctors, 111(59.7%), among whom, pediatricians constituted the largest proportion as it is illustrated in table (2) below.

Table (2): Referral source of children attending pediatric psychiatry outpatient clinic at children welfare hospital (n=186).

Referral source	N	%	specialties	N	%
Doctor	111	59.7	Pediatricians	63	33.9
			Psychiatrists	24	12.9
			Neurologist	24	12.9
Others	75	40.3	School	14	7.5
			Family member	44	23.7
			Faith healers	2	1.1
			Audiologists	11	5.9
			Media	4	2.2

The distressing symptoms of the children under this study were mainly delayed speech, 108(58.1%), followed by externalizing behavior, school difficulties, internalizing behavior and limb weakness in 40(21.5%), 27(14.5%), 10(5.4%) and 1 (0.5%) respectively, as it is shown in figure (2) below.

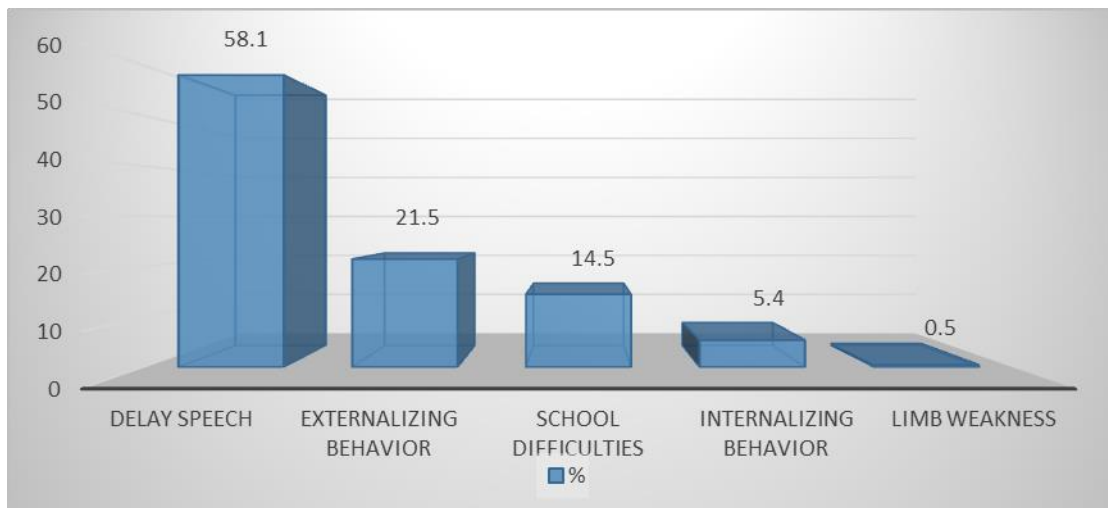


Figure (2): Distressing symptoms of children attending pediatric psychiatry outpatient clinic at children welfare hospital(n=186).

The main mental disorder among the study sample was communication disorders followed by intellectual disability, ASD and ADHD in 48(25.8%), 39(21%), 39(21%) and 34(18.3%) respectively, as shown in figure (3).

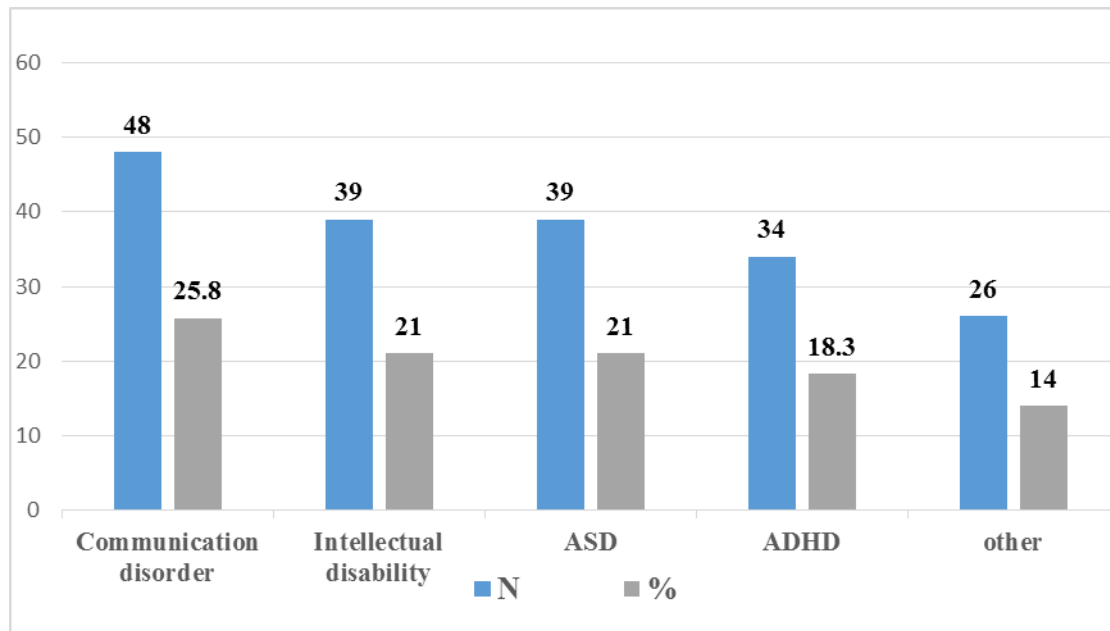


Figure (3): Types of mental disorders among children attending pediatric psychiatry outpatient clinic at children welfare hospital (n=186).

The largest proportion, 87 children (46.8%), of children were from Al Sadr city which lies in the eastern part Baghdad city (capital of Iraq) while the remainder,99

children (53.2%) were from different parts of Baghdad city, as it is shown in figure (4) below.

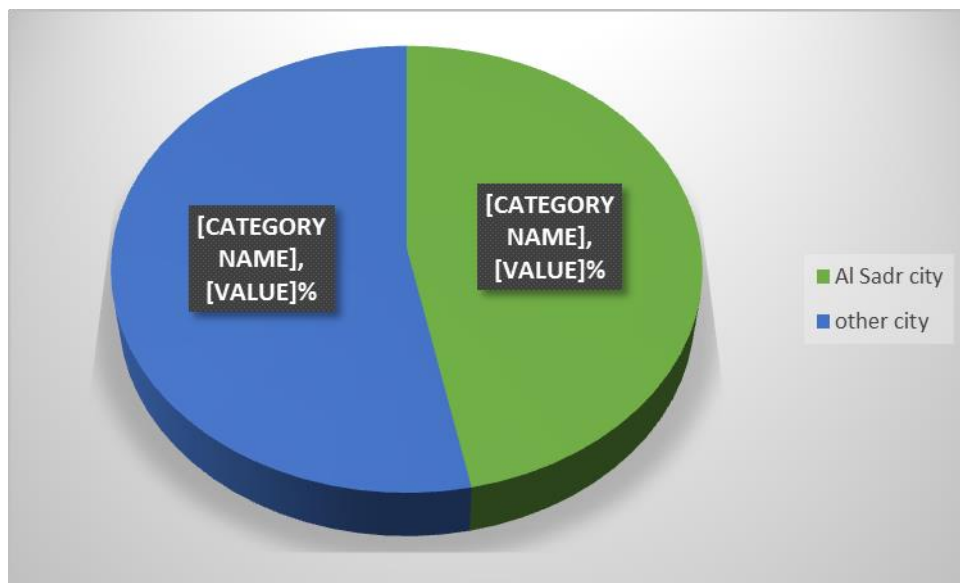


Figure (4): Geographical distribution of children attending pediatric psychiatry outpatient clinic at children welfare hospital(n=186).

Although intellectual disability predominates among children living in Al Sadr city while communication disorders constituted the predominant mental disorder among children living in areas other than Al Sadr city, as shown in figure (5), this difference was not significant statistically (p=0.38).

was commonest among children belonged to poor families while ASD and ADHD predominates among children of families with good economic level (p=0.004) as shown in table (3). These poor families were mainly from Al Sadr city (79.4%) while families with good economic status were mainly from areas other than Al Sadr city (90%) and this difference was statistically significant (p=0.0001) as it is illustrated in table (4).

On the other hand, economic status was a statistical significant affecting factor in that intellectual disability

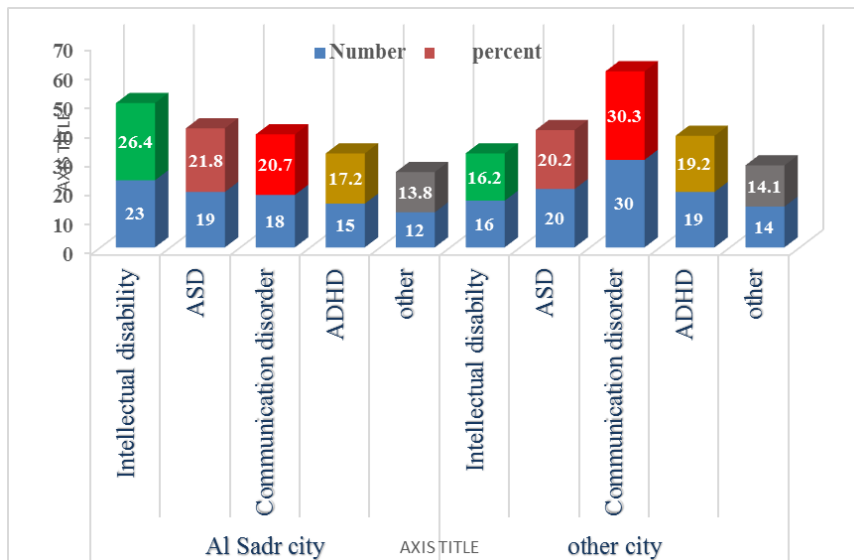


Figure (5): Frequency distribution of mental disorders according to the area of residency of children attending pediatric psychiatry outpatient clinic at children welfare hospital(n=186).

Table (3): Effect of economic status on the type of mental disorders among children attending pediatric psychiatry outpatient clinic at children welfare hospital(n=186).

Economic status	Type of mental disorder										P value
	Intellectual disability		ASD		Communication disorder		ADHD		other		
	N	%	N	%	N	%	N	%	N	%	
Good	0	0	6	60	0	0	2	20	2	20	0.004
Moderate	19	16.8	22	19.5	35	31	18	15.9	19	16.8	
Poor	20	31.7	11	17.5	13	20.6	14	22.2	5	7.9	

Table (4): Association of area of residency and the economic status of children attending pediatric psychiatry outpatient clinic at children welfare hospital(n=186).

Economic status	Total	Area of residency				P value
		Al Sadr city		Other city		
		N	%	N	%	
Good	10	1	10	9	90	0.0001
Moderate	113	36	31.9	77	68.1	
Poor	63	50	79.4	13	20.6	

Educational level of mothers was a highly significant affecting factor on distribution of different types of mental disorders (p=0.001) among their children in such a way that intellectual disability was the most prevalent disorder among children of mother with ≤ secondary

school education (27%) while communication disorders were commonest among children of mothers with ≥ college education (35.9%). On the other hand, fathers educational level was not a significant affecting factor(p=0.2), as it is illustrated in table (5).

Table (5): Effect of parents' educational level on distribution of different types of mental disorders among children attending pediatric psychiatry outpatient clinic at children welfare hospital(n=186).

Educational level	Total	Type of mental disorder										P value	
		ID		ASD		CD		ADHD		other			
		N	%	N	%	N	%	N	%	N	%		
Mothers	≥college	64	6	9.4	20	31.3	23	35.9	6	9.4	9	14.1	0.001
	≤secondary	122	33	27	19	15.6	25	20.5	28	23	17	13.9	
Fathers	≥college	85	15	17.6	22	25.9	24	28.2	11	12.9	13	15.3	0.2
	≤secondary	101	24	23.8	17	16.8	24	23.8	23	22.8	13	12.9	

Allocating parents according to their residency area showed that parents with educational level of ≤ secondary school were mainly from Al Sadr city (68% of

mothers and 73.3% of fathers) while parents with educational level of ≥ college were mainly from areas other than Al Sadr city (93% of mothers and 84.7% of

fathers) and this difference was significant statistically ($p=0.0001$ for both parents) as shown in table (6).

Table (6): Allocating parents of children attending pediatric psychiatry outpatient clinic at children welfare hospital according to their area of residency and their educational level (n=186).

Educational level		Total	Residency area				P value
			Al Sadr city		other city		
			N	%	N	%	
Mothers	≥ college	64	4	6.3	60	93	0.0001
	≤ secondary	122	83	68	39	32	
Fathers	≥ college	85	13	15.3	72	84.7	0.0001
	≤ secondary	101	74	73.3	27	26.7	

DISCUSSION

The aim of the present study was to provide information on the attendees of a child and adolescent mental health clinic at the Children Welfare Hospital, Iraq. The sample consisted of 186 newly referred children, 140 males, and 46 females. The children were referred over a period of 4 months and came from Baghdad and mainly Al Sadr City. The mean age was 6.6 (SD=2.99) and the majority of children were referred for speech delays (58.1%), followed by behavioural difficulties (21.5%), school difficulties (14.5%). Interesting findings emerged in relation to demographic characteristics.

The present findings unearth some differences compared to a similar study carried out in Egypt,^[33] both in terms of mean age, but also in terms of presenting problem. The younger mean age in the present study (current mean age of 6 versus 8 in the Hussein et al. study) could be explained by and intertwined with the presenting problem. In fact, the most frequent presenting symptom in the current study was speech delay, whereas it was behavioural difficulties in Hussein et al.'s study (2012). It can be hypothesized that speech delays might carry less stigma than behavioural difficulties, prompting earlier help-seeking behaviours.

Communication disorder was the most frequent diagnosis in the current study; 25.8% of the sample, compared to 18% in the Hussein et al. (2012) study. Intellectual disability was in 21% compared to 24% in the other study. Slightly higher is also the ASD diagnosis prevalence in the present study compared to the Egyptian one (21% versus 17%). Instead, the current sample featured fewer ADHD diagnoses (18.3% compared to 28%). This difference could be due to cultural differences between Iraqis and Egyptians in relation to what might constitute 'hyperactivity' and/or attention deficits. Indeed, 21.5% of the participating families in Iraq described externalized behavioural problems as the most distressing symptom, compared to 63% in the Egyptian study. It can be argued that the socio-political climate of Iraq might prompt an interpretation of externalizing behaviours as the result of the lack of stability and safety that follows that climate, rather than an intrinsic deficiency of the individual. Both the present study and the Egyptian one reported that school

difficulties were the presenting problem in some of the families (14.5% versus 13%), even though the current sample was below the official school age whereas the Egyptian sample wasn't. Given the reliance on family members for childcare in the early years and the consequently lower numbers of children sent to preschool facilities, these figures seem high and may indicate a connection between poverty and child educational attainment.^[34] Interesting is also the prevalence rate of internalizing symptoms of anxiety in the current study compared to pre-schoolers in Oman (5.4% versus 1.9%)^[35] Whilst conclusive findings are difficult to draw due to a worldwide paucity of studies in this age group, the higher anxiety prevalence rates found in Iraq suggest risk factors intrinsic to the country itself. It can be argued that the ongoing socio-political climate might trigger more anxiety in children living in Iraq compared to children living in Oman, which is a significantly more stable and safe country to live in. Furthermore, accurate prevalence figures for anxiety are likely to be higher than the ones reported as somatic metaphors are the preferred idioms of distress in Arab countries.^[35] Also this study shows a statistical significant association between mental disorders and socioeconomic states of the families like many different studies.^[23,24] There was a highly significant association between the educational level of mothers and the development of different mental disorders among their children ($p=0.001$). This was expected as many studies showed the link between maternal education and offspring's mental health.^[36,37] Regarding the referral pathway 33.9% of referrals came from paediatricians (compared to 21% in the Egyptian study). 23.7% of our referral source was advice from a member of the family (compared to 30% in the Egyptian study). Only 1.1% of the referral sample was by the faith healer. Considering the number of people who consult and rely on faith healers in Iraq,^[38] it seems paramount for professionals to develop sound relationships with them and run mental health awareness training courses for faith healers.

The literatures suggests a relation between obstetric complications and later behavioural disorders,^[39] the present study showed that 43% of the mothers also had complications during pregnancy or labour and although no association between the two variables was found, it is

imperative that prenatal screening and healthcare are prioritized. This is to minimize possible long-term developmental complications,^[40] especially in a population already vulnerable to many health and mental health-related issues. Interestingly, only 18.8% of the total sample breastfed. Given the recognized benefits of breastfeeding,^[41] it would be important to explore what prevented mothers from engaging in this.

Strengths and limitations

A number of potential limitations must be acknowledged. First, this is a descriptive study with a small sample. Hence, further studies ought to be carried out to replicate these findings with a larger number of participants and more sophisticated statistical measures to ensure a more nuanced perspective. For example, building on the socio-demographic variables identified in this study, it would be important to explore potential mediating factors. This would support the development of preventative programs. In addition, it would be important to carry out similar studies across the country, as rural areas might produce different data.

Despite the above limitations, this study is the first of its kind, hence paving the road for subsequent projects and generating important recommendations. In particular, based on these findings, the authors advocate for urgent awareness and psycho-educational programs aimed at a) health workers; b) primary healthcare centres; c) traditional healers; d) schools; e) the public. Utmost attention ought to be given by the government towards tackling contextual factors that may be involved in the development and perpetuation of poor mental health in children.

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