

Original Article

The nature and prevalence of psychiatric disorders in a Sudanese juvenile correctional facility

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ABSTRACT

High morbidity of mental disorders among juvenile offenders has been confirmed by several studies, thus challenging both the juvenile justice system and the mental health system. Data from developed countries may not reflect the situation in low-income countries and therefore cannot form a basis for intervention. No similar study has been done in Sudan. The objective to determine prevalence of psychiatric disorders among incarcerated youth in Al-Juref juvenile correctional facility. All juveniles (forty eight) were studied utilizing a descriptive cross-sectional study design. Data was collected using a socio-demographic questionnaire and the MINI-KID 6.0 and was analyzed using the SPSS v.20. Most respondents were males (Forty six) with a mean age of fifteen (± 1.6 years SD). Most were living with both parents (75%) and were school dropouts (41.7%). The majority was arrested for theft (33.3%) and rape (29.2%).

Prevalence of psychiatric disorders was high (60.4%) with conduct disorder (CD) being the most common (47.9%), followed by anxiety disorders (31.1%) and major depressive disorder (14.6%). Comorbid psychiatric disorders rate was high (31%). Even after subtracting CD, prevalence was still common (39%). New information can help mental health providers and policy makers in the juvenile justice system make effective interventions in provision of mental health services. We recommend clinical assessment for juveniles when they appear at court and training of workers in the justice system on how to detect features of psychopathology.

Keywords:

Delinquency; juvenile; mental health; juvenile offender.

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INTRODUCTION

The high prevalence of mental health disorders among juvenile offenders is well recognized and confirmed by several studies worldwide [1-9]. Research shows that almost two-thirds of youth in juvenile justice detention centers and correctional facilities today meet criteria for one or more mental disorders, posing a challenge to both the juvenile justice and mental health systems [10]. Juvenile Delinquency is defined differently in different settings [11]:

“To criminologists, it is all public wrongs committed by young people between the ages of twelve and twenty. Sociologists view the concept more broadly, believing that it covers a multitude of different violations of legal and social norms, from minor offences to serious crimes, committed by juveniles. Included under the umbrella of juvenile delinquency are status offences, so called because they are closely connected with the age status of an offender; a particular action or behavior is considered a violation of the law only if it is committed by a juvenile (examples include truancy and running away).”

The need to detect and treat mental health disorders among juvenile offenders arises from their possible consequences, like developing anti-social personality disorder and increasing the burden of mental health issues on the community. Above all, detecting and treating them will help in decreasing the rate of admission and incarceration of youth. Failure to care for the population of juveniles is considered a violation of human rights according to the WHO [12]. The United Nations set specific standards and guidelines for dealing with Juvenile delinquency [13]. Legal systems have specific measures such as juvenile detention centers and correctional facilities [14]. Lack of community approaches has resulted in placing juveniles with psychiatric disorders in the juvenile justice system because of minor non-violent violations [15]. Those adolescents are released to a community without access to continuing mental

health treatment and this adds to the likelihood of developing adult delinquency [16].

Statistical data show that in almost all parts of the world, except the United States, rates of youth who commit crime increased in the 1990s. Delinquency rates are also in the increase in countries going through transition [11,17]. Extensive research in western countries is present but in 2008, a systematic review and meta-regression analysis of 25 surveys stated that studies from low- and middle-income countries were not found [18]. Developing countries have done almost nothing to deal with youth crime. The overall system is lacking goal-oriented and effective social work with both offenders and victims, augmented by the lack of international comparative data [11]. In Africa and developing countries like Sudan, the high prevalence of communicable and endemic diseases obscures mental health problems, which are a huge burden too. Data from developed countries may not reflect the local situation in Sudan and thus cannot form the basis for intervention.

I have not found a study done in Sudan targeting psychiatric disorders after a Google Scholars search using the keywords psychiatric disorders, mental health disorders, juvenile delinquents and juvenile offenders in Sudan, and contact with a local expert produced no results. A 2009 WHO-AIMS (Assessment Instrument for Mental health Services) report stated that the links between mental health and the judiciary system in Sudan are weak or not developed [19].

The first author was a volunteer for a year as a part-time teacher and capacity builder in Al-Juref juvenile correctional facility. The absence of routine screening for psychiatric illnesses and the lack of a similar study on the area were my driving force for undertaking this study. In which authors aimed to assess possible psychiatric morbidity among incarcerated youth in Al-Juref juvenile correctional facility to shed light on the local situation, and to help include mental health needs in the juvenile justice system.

METHODS

This was a facility based cross sectional study conducted in Al-Juref juvenile correctional facility (Educational home) located in Al-Juref area in Khartoum state, which is one of five correctional facilities founded in 1953 for juvenile delinquents. The number of inmates in the facility is not constant with a high rate of turnover. The study included all youth detained in the facility during the time of study that agreed to participate regardless of the nature of charges or conviction status. All participants were interviewed in the same manner using:

1. A pretested pre-coded socio-demographic questionnaire: that included the basic demographic variables like age, level of education, residence, living status, religion and occupation prior to arrest. It also included some criminal background data like conviction type and previous convictions. The inquiries on education and residential status targeted the period immediately before arrest.
2. The MINI-KID [20] (Mini International Neuropsychiatric Interview for Children/Adolescents version 6.0 / 2010): It is a short structured interview for diagnosis of psychiatric disorders according to the DSM-IV/ICD-10 criteria. It can be administered to adolescents without a parent present. The MINI-KID is a reliable and valid measure of current child and adolescent psychopathology [21]. It is relatively easy to administer and is brief compared with other structured interviews [22].

The MINI-KID was translated to Arabic by the principle investigator and Doctor Mohamed Abdelmaksoud (Department of psychiatry, Al-Ain hospital, UAE) because the official Arabic translation has not been finished yet and due to time restrictions, the researcher was not able to wait for its release.

The MINI-KID is divided to modules designated by letters. Certain modules were chosen based on

the most common disorders expected to be found among this group based on international studies.

The modules chosen are:

A Major depressive episode, Major depressive disorder, B Suicidality, E Panic disorder, F Agoraphobia, G Separation anxiety disorder, H Social anxiety disorder, I Specific phobia, J Obsessive-compulsive disorder, K Post traumatic stress disorder, L Alcohol dependence Alcohol Abuse, M Substance dependence (non-alcohol) Substance abuse (non-alcohol), O ADHD, P Conduct disorder, Q Oppositional defiant disorder, S Generalized anxiety disorder.

The interviews took place in the period from the 18th of September to the 2nd of October 2014. Each interview lasted between 25-45 minutes. Data was collected and analyzed using the Statistical Package for Social Sciences (SPSS) v.20. Approval was obtained from the Department of Community medicine, University of Khartoum, Headquarters of reform and prisons, forensic research administration and Al-Juref correctional facility. The study was explained at all levels. A verbal consent was obtained from all participants. Each candidate had the right to withdraw from the study at any given point in time with provision of privacy and confidentiality. No compensation was given to any participant.

RESULTS

Out of fifty-nine individuals between the ages of twelve and eighteen present in the facility during the time of the study, forty-eight consented and were available to participate in the study. There were forty-six males and two females. The mean age was fifteen years (SD=1.6). The majority (41.7%) were school dropouts; the rest either had informal education or secondary level education. Most were from

Khartoum state (52%) while the rest were from other states. Most of the respondents (75%) lived with both their parents; the remainder (22.9%) lived with a single mother, a relative or alone. Seventy five percent acknowledged Islam as their religion while twenty five percent were Christians. Before their arrest, fifty two percent of the young offenders were working in different fields, the rest were either students or did not study nor work. There was variable distribution

of offence among juvenile offenders in Al-Juref juvenile correctional facility (Figure 1). The MINI-KID diagnostic interview showed different results and distribution of psychiatric disorders among juvenile participants (Figure 2). Even after removal of CD, over one third of the sample had one or more disorders. Some participants exhibited evidence of co-morbidity (Figure 3).

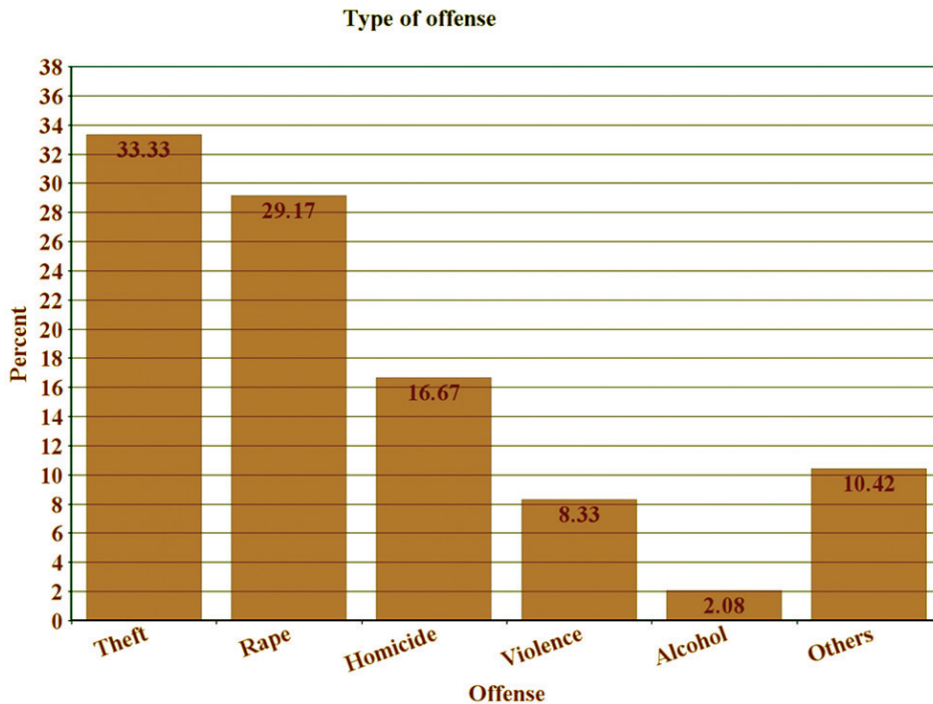


Figure 1- The distribution of offense among juvenile offenders

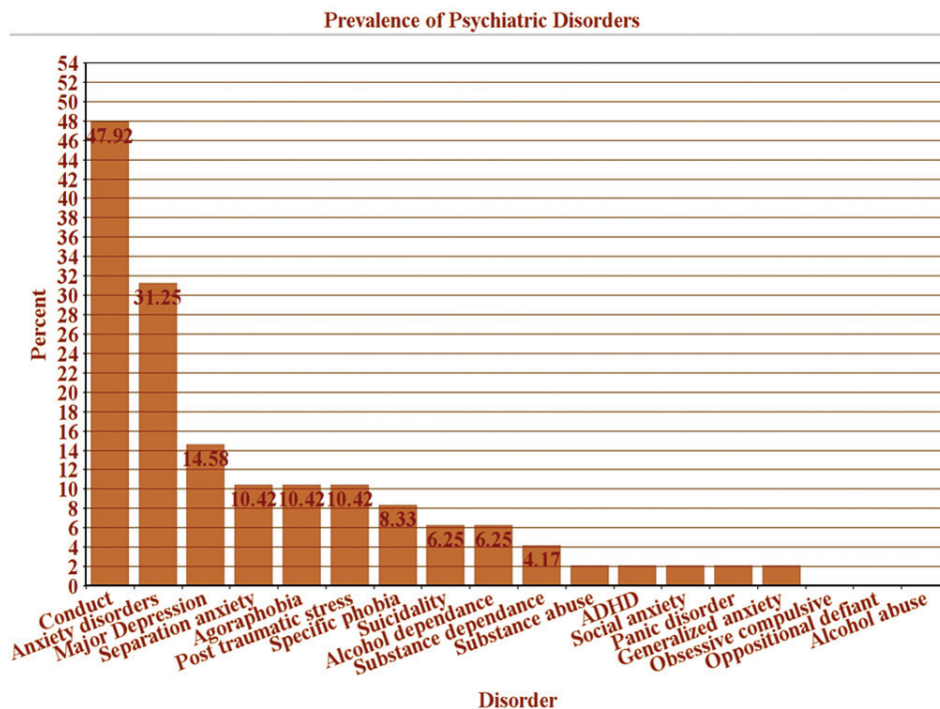


Figure 2- The distribution of psychiatric disorders among juvenile offenders in Sudan, results of the MINI-KID 6.0

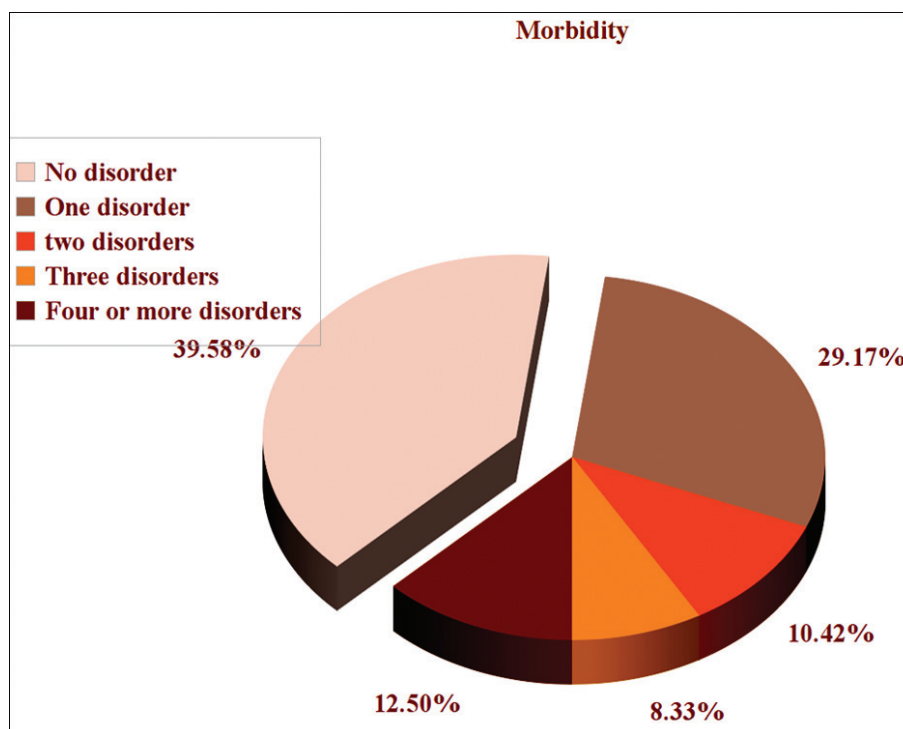


Figure 3 - The frequency of co-morbidity among juvenile offenders

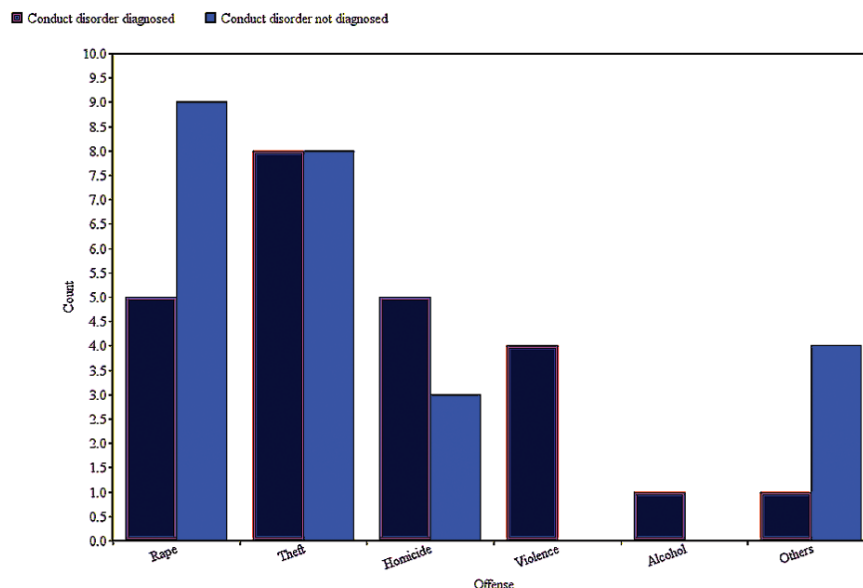


Figure 4 - Association between the types of offense and conduct disorder among juvenile offenders. (Degrees of freedom = 5, P value = .137 (NS))

There is a statistically significant association between age and major depression, which was found to be more prevalent among older juveniles (Table 1). Substance dependence was statistically associated with age and religion. Older Christian juveniles were more substance dependent (Table 3). There was no other significant association between other sociodemographic data and the results of the MINI-KID. As for comorbidity, those who were fifteen to seventeen years old had significantly more disorders than others did (Table 2).

Half of those who committed theft had CD, but all of the violent offenders had CD. Most of those who killed someone had CD while most rapists were not diagnosed with CD. The highest proportion of conduct disorder was among those who were incarcerated for stealing (Figure 4).

Overall, 66% did not engage in any use of any substance. The rest have used at least one of those, with most of the responses being yes to cigarette smoking and snuffing (Table 4).

Table 1- Association between Major depression and socio-demographic profile in Juvenile offenders

Dependent Variable	Independent variable	Degree of freedom	P value
Major depression	Age	2	.002
Major depression	Gender	1	.147
Major depression	Level of education	4	.653
Major depression	Residence	1	.772
Major depression	Living condition	4	.181
Major depression	Religion	1	.813
Major depression	Occupation before arrest	3	.220

Table 2- Association between Comorbidity and socio-demographic profile in Juvenile offenders

Dependent Variable	Independent variable	Degrees of freedom	P value
Comorbidity	Age	10	.008
Comorbidity	Gender	5	.102
Comorbidity	Level of education	20	.078
Comorbidity	Residence	5	.430
Comorbidity	Living condition	20	.260
Comorbidity	Religion	5	.582
Comorbidity	Occupation before arrest	15	.474

Table 3- Association between Substance abuse and dependence and socio-demographic profile in Juvenile offenders

Dependent Variable	Independent variable	Degrees of freedom	P value
Substance dependence	Age	2	.003
Substance dependence	Gender	1	.763
Substance dependence	Level of education	4	.094
Substance dependence	Residence	1	.166
Substance dependence	Living condition	4	.952
Substance dependence	Religion	1	.012
Substance dependence	Occupation before arrest	3	.638
Substance abuse	Age	2	.459
Substance abuse	Gender	1	.833
Substance abuse	Level of education	4	.839
Substance abuse	Residence	1	.332
Substance abuse	Living condition	4	.987
Substance abuse	Religion	1	.080
Substance abuse	Occupation before arrest	3	.816

Table 4- Use of cigarettes, snuffing, alcohol and other illicit drugs in Juvenile offenders

Use	Responses	
	N	Percent
Ever consumed alcohol	6	17.1%
Ever used Bango*	4	11.4%
Ever used Akisol**	2	5.7%
Ever smoked cigarettes	12	34.3%
Ever tried snuffing	8	22.9%
Ever used other drugs that were not mentioned?	3	8.6%
Total	35	100.0%

*Also known as Hashish, is an extracted product composed of compressed or purified preparations from the cannabis plant.

**Trihexyphenidyl, also known as benzhexol and trihex, is an antiparkinsonian agent of the antimuscarinic class. It is also used in the treatment of extrapyramidal symptoms.

DISCUSSION

Young offenders in Al-Juref correctional facility were in average fifteen years old. It is somewhat similar to several different studies [3,8,23]. This age constitutes a transition phase into adulthood. It is a critical period, which requires cooperation and role models to help an individual in developing his sense of identity and self-worth, with which he can resist peer pressure. In a quest to develop their identity these youth may find themselves fighting the norms of the society, and this could be made worse for those who suffer from a mental illness. Imprisonment in such a young age may put these youth in a higher risk of reoffending and impersonating a criminal identity. Studies in Africa; in Nigeria [6] and Kenya [5] had a higher mean age (seventeen years), which may mean that reoffending or beginning to offend at an older age is found more in Africa compared to other regions of the world (3,8,23). This makes the average age in Sudan much more consistent with global studies.

The greater majority of offenders were males, which augments the theory of masculinity as a risk factor for delinquency. The idea of being tough, competitive and powerful causes males to engage in delinquent behaviors [14]. Females were a minority. Gender differences are well demonstrated in the prevalence of psychiatric morbidity among juvenile offenders. In 2006, Wasserman mentioned the “gender paradox” where females were less likely to have mental illnesses than males and less likely to be involved in crimes. A minority of females within the justice system are at a high risk for internalizing disorders like affective disorders and anxiety disorders. Those had a higher proportion when the offence was a violent one [24]. This is in contrast to what Russel and Marston stated. They described that in the recent years in the US, the number of incarcerated females in the juvenile justice system has increased and that girls now comprise almost one third of all arrests, while approximately 75% met the criteria for one or more mental health

diagnosis, with the most common disorders being CD, ADHD, MDD and GAD. It is thought that the rates of illnesses are higher among females in custody than males [25]. Likewise, in another study in the US, their results showed that girls in custody were at a higher risk for having a mental illness [9]. Others suggested that in the severely disturbed females, gender specific symptoms disappear and disruptive behavior disorders may as frequently be diagnosed in females in custody as in males [26].

Before their arrest, fifty two percent of the young offenders were working different fields, the rest were either students or did not study nor work. A survey carried out in England and Wales on young offenders described the characteristics of youth arrested and stated that few had any education and less than a third had been working before arrest. The rest had been either looking for work or living off crime [27].

Above one third of the detained youth attended school, basic or secondary. This was lower than a study done in Brazil where about forty-five were attended school, and slightly higher than what was found in Kenya [5,23]. A Swedish birth cohort study demonstrated delinquents to have poor academic performance [28]. The high level of illiteracy and being a school dropout could be associated with disturbance of identity when adolescents begin to become aware of the difference between an educated person and an illiterate, causing them to rebel against society, feeling inferior. It may also give them much more free time to wander the street, join gangs and befriend others who are similar to them, thus driving them further away from the educated society. Dropping out of school may also be associated with mental illnesses that disturb learning, but learning disorders were not investigated in this study.

Although the percentage of those who were from Khartoum state was very close to those coming from other states, comparing its size and its population

relative to the rest of the states makes it the state with highest number. This may be due to urbanization among other factors. The modernization of traditional societies affects the labor activity, social features, way of life and living measures, and this, in turn; affect authority organizations, forms of obedience, and political contribution - even perceptions of reality. The media creates standards that are beyond the ability of most families and these ideals become a virtual reality for many youth, causing them to go to great extents to uphold a standard of living they cannot afford [11].

The majority (75%) of cases were living with both parents, and this is dramatically higher than in other studies. For example, In Brazil, only a quarter lived with both parents, and in Kenya nearly half of the inmates did [5,23]. It is known that children who obtain acceptable parental observation are less likely to involve in criminal acts [11]. Conflict between family members, poor parental control and early independence could be the causes behind the study's finding. In societies like Sudan, the reason for marriage is for social features rather than for starting a family with someone you care about. Because of this, unhappy partners who would otherwise seek divorce tend to stay together for fear of shame or other reasons, forming some form of a dysfunctional family. The frustration of children towards this may manifest as violent behavior. The dilemmas of countries in transition like ethnic minorities, exiled individuals and refugees are disturbing and lead to the increase in the numbers of children abused and neglected by their parents [11].

For those who lived with only a mother, the absence of a father figure, a masculine role model causes boys to feel excluded and then seek manhood in delinquency. They exile themselves from where adults are the position of authority [11]. Over two thirds of the juvenile offenders were working before arrest including those who were working and attending

school at the same time. This is different and higher than what was found in Kenya and England [5,29]. For juveniles to be working, and even working while attending school is suggestive of poverty and desperate need for money.

The distribution of religion in the study reflects that of the country, since Sudan has both Muslims and Christians. This suggests that other factors besides faith could be responsible for delinquency.

Regarding offenses, theft and rape were most prevalent similarly to a study done in Kenya (5). The most common offense was theft (33.3%). This is in contrast to a study in Brazil where theft was the least common offense coming behind armed assault and drug dealing (23). This can be attributed to the low income, increased poverty, hunger and desperate need for money through any means. Rape had a high proportion too with about 69% convicted because of it. This is very different from china where only a minority were convicted with rape (8). A Study in the US states that juveniles account for the majority of sex offenders (30). Killing, although not common in other studies, is proportionately high here (16.66%) coming right after theft and rape.

Only six percent had a history of previous arrest, which is dramatically different from the data obtained from China where over the half had been previously detained [8]. Youth committing even minor crimes may be excluded from the society and labeled. Once labeled, a young person possibly will take that role and probably comrade others that are similarly labeled. In addition, once a young person is thought of as a criminal, he is more likely to offend [5]. The low rate in this study could possibly suggest that labeling and criminal identity is not a major contributor in Sudan. Perhaps once detained, a juvenile offender does not want to repeat the act. On the other hand, it could mean that the rate of novice offenders is on the increase and this is not a reassuring sign.

Alcohol consumption, which is related do disruptive

behavior in adolescents, was reported by seventeen percent of detained youth [31]. This is much lower than other studies [5,23,29,32]. This could possibly be explained by the fact that the major religion in Sudan is Islam, and with its teachings that prohibit consuming alcohol, it will not be commonly available as in other non-Muslim countries worldwide.

Almost nineteen percent reported previous psychological trauma. These data are probably lower than reality as this kind of information is not commonly disclosed in a single session. Moreover, physical assault and corporal punishment are common practice in societies like Sudan's, therefore are not identified as traumatic events.

Two styles are identified concerning substance abuse in juveniles: they are using more powerful drugs, and they begin taking them at a sensitive age. The use of drugs motivates them to commit delinquencies to obtain the money to buy those drugs. They are also more likely to get involved in illegal activities while on the substance [5]. Although substance use and abuse is this well recognized, 66% of offenders never used cigarettes, tobacco, alcohol or any other drugs. Of course this is dramatically different than in other countries [23,29]. This raises a new question that needs to be answered.

Youths entering the justice system usually manifest difficult mental and behavioral health necessities. Those adolescents are later on released to a community without continuing treatment which adds to the likelihood of developing adult delinquency [16]. Research proves that many particular mental disorders and their co-morbidity raise the risk of hostility since their emotional symptoms (e.g. anger) and self-regulatory symptoms (e.g. impulsiveness) increase the risk of violence. The increased risk of violence increases the risk that they will be arrested and convicted of offenses and may even continue with a criminal career as they become adults [10]. Psychiatric disorders were common among the

juvenile offenders of AL-Juref correctional facility with almost two thirds having at least one disorder, and that is substantially higher than the normal population [1]. These findings were similar to previous studies worldwide; including The United States, the United Kingdom where psychiatric disorders' rates were between 45%-85%, regionally; Kenya (59%) and in Nigeria (67%) [3-6].

The combination of persistent school, drug and psychiatric problems is a practically strong risk factor for the persistence of delinquency [33]. In addition, mental illness can sometimes be seen as a justification for ill conduct [34].

Conduct disorder was the most common being diagnosed in almost 48%. This was consistent with Atkins et al. and the NJP [3,7]. It is slightly higher than in Kenya where it had been diagnosed in thirty percent but moderately lower than in Brazil and China [5,8,23]. This is On the contrary to a study done in children appearing at the Nairobi juvenile court where only twenty percent met the diagnosis. This may be attributed to the fact that not all children who appear at the court are convicted and detained and it could possibly point out that the likelihood of being diagnosed with CD increases if the juvenile offender is detained. It could also mean that having CD increases the likelihood of detention. After removal of CD from calculations, 39% still had one or more disorders, and that is a sign that CD itself does not account for the high morbidity among offenders. This is similar to a study done in the US, where conduct disorder and substance use disorders were excluded and still 45% were found to have a mental health disorder [9].

MDD was less common (14.6%) but not rare and that was similar to other studies [3,5,7]. Suicidality was higher among females which is consistent with what the NJP stated and in England and Wales [3,29].

Anxiety disorders contributed to about a third (31.3%) similar to other different studies but lower than figures from Brazil [7,23]. It is not surprising for anxiety to

be diagnosed among this kind of population. PTSD contributed to ten percent, which is consistent with NJP [3]. This group may probably develop PTSD later on in life as it was found in a higher proportion in older forensic patients [35].

Alcohol and substance use and dependence were very much lower than any other study [5,7,8,23]. This may suggest, as previously mentioned, that religious aspects of the society make these behaviors to be non-prevalent and therefore less likely to be practiced. It may also be explained by the poverty and need of money for other basic needs rather than obtaining substances. OCD, ODD and alcohol abuse were not diagnosed among this sample.

Comorbidity was found to be common. Ten percent had two disorders, eight percent had three disorders, and twelve percent had four or more psychiatric disorders. That is not a small proportion and it is very consistent with what was found in other regions [7,8]. This reflects the high morbidity, the difference from the normal society, and the severity of the situation in the correctional facility.

In general, the age group fifteen to seventeen was associated with more disorders and higher rate of comorbidity compared to younger and older offenders. Major depression was associated with older age in juveniles. Perhaps as children get older and reflect more on their lives they start developing negative self-images and feelings of worthlessness. They also start using substances. Christians were more substance dependent, which augments the probability that Muslims are a bit restricted by their religious belief.

CONCLUSION

This study confirmed the high degrees of psychiatric disorders found by multiple other studies throughout the world. It suggests that regardless of the geographical distribution or the type of juvenile justice facility, the majority of juvenile offenders have

at least one mental health disorder. Strikingly, about one third met criteria for more than one diagnosis. This new information widens our understanding of the juvenile justice population, and can help mental health providers and policy makers in the juvenile justice system make better decisions about effective interventions and provide further support for the critical need of improved mental health services in the justice system. Providing psychiatric services to juvenile detainees could improve their quality of life and help reduce the rate of psychiatric morbidity and recidivism. It is recommended that juveniles go through extensive clinical assessment during their first appearance at court. This would be followed by proper therapeutic interventions involving them and their families. Mental health services should be available for access if they were released (Community-based, home-based, family-based) or if they were incarcerated. Lawyers and workers in the justice system should be trained to detect signs and symptoms of psychopathology and be able to properly refer or consult on suspicion of their presence. Psychological support programs should be readily available for youth with or without symptoms of mental health illness.

The study has some limitations as it relied on verbal self-reports from the offenders only as there was no other information from medical records or family members. Data about traumatic events, suicidality and sexual abuse are probably understated because this kind of information is not usually disclosed to a strange interviewer in a single session. Social desirability was a major limitation, even after careful explanation that this study is not related to their stay in the facility. The samples size was relatively small causing some disorders with very low base rates to remain undiagnosed.

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