

Prevalence of Clinical Depression and Anxiety among Adolescents in Selected Public Secondary Schools in Homabay County, Kenya.

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Abstract

WHO (2019) reported that mental health conditions such as depression and anxiety account for 16% of the global burden of disease and injury among adolescents, but most cases are undetected and untreated. This study aimed at unveiling the prevalence of clinical depression and anxiety among adolescents in selected secondary schools in Homabay County in Kenya. Data was collected from 783 adolescents who were screened for depressive and anxiety symptoms using Beck Depression Inventory (BDI-II) and Beck Anxiety Inventory (BAI). Respondents aged 14-16 were 16.5% (479) while those aged 17-19 were 38.5% (300) respectively. The study found that the prevalence of clinical depression among respondents was 57.5%. The proportion was higher among females at 30.1% compared to males at 27.4%. The frequency was more among younger respondents aged 14-16 at 33.2% than the older respondents aged 17-19 at 24.5%. Similarly, the prevalence of anxiety was 49.4% with a higher frequency among female respondents at 26.1% than the males at 23.4%. Likewise, the frequency of anxiety was higher among younger respondents aged 14-16 at 29.9% compared to the older respondents at 19.5%. Depression and anxiety were found to be issues among adolescents that should be a clinical concern for mental health service providers.

Keywords: prevalence, depression, anxiety, adolescents, selected public secondary schools

Introduction and Background

One of the most significant stages of development is adolescence and since it is a crucial period, focus should be directed towards addressing mental health challenges such as depression and anxiety which has affected 24.6 million adolescents globally (UNICEF, 2014). Anxiety disorders normally tend to begin in childhood and run into adulthood (Bhatta, Champion, Young, & Loika, 2018). The increase in psychological health problems such as depression and anxiety are a matter of concern and may reveal the challenges that some adolescents go through as they encounter the spiritual, physical, psychological and cognitive changes that they encounter during puberty

(Bhandari, 2016). Depression and anxiety symptoms among adolescents are poorly recognized by health care providers, teachers, and parents, among others, yet they are common mental illnesses that manifest early by the age of 14 years (Rasing, Creemers, Janssens, & Scholte, 2017).

Unidentified and untreated depressive symptoms are associated with decreased psychosocial functioning, poor academic performance or school drop-out, increased risk for substance abuse, other mental health issues, and increased suicidal thoughts, attempts and completion (Sutaria, Devakumar, Yasuda, Das, & Saxena, 2018) as well as other stressful life events (Baharudin, Zulkefly, Yahya & Madon, 2019). The long-term effects of depression and anxiety cannot be ignored even though there is dearth of information on how they can be curbed (Forman-Hoffman et al., 2016).

Therefore, it is recommended that screening of the disorders is carried out early enough to ensure accurate diagnosis, treatment and follow-up. Unfortunately, even with the existing information on how to identify and treat the disorders, primary care providers still report insufficient training in assessing and managing depression as well as anxiety among adolescents using certain interventions (Fallucco, Seago, Cuffe, & Wysocki, 2015). Previous research has found that females tend to experience severe symptoms of depression more significantly compared to males (Avenevoli, Swendsen, He, Burstein, & Merikangas, 2015). This is because the symptoms increase sharply in females from around the ages of 12-13 as a result of pubertal development. This is also supported by what the current study found out that ages 14-16 presented with more symptoms of depression at 33.2%. In South India, the prevalence rate was established to be 33.7% among secondary school students aged 15-16 which is congruent to this study results. (Kanagavelu, Chidambaram, & Jayachandar, 2019).

According to Barra, Baharudin, Zulkefly, Yahya, and Madon (2019), the prevalence of depression among school-going adolescents at Malaysian National School was 57%, which ranged from mild to severe depression. Likewise in a study that was conducted in Saudi Arabia to determine the prevalence of depression and anxiety among secondary school students at Qassim region, it emerged that 34% had minimal depression, 24.6% had mild depression, and 10.4% were moderately depressed while 5% were severely depressed (Alharbi, Alsuhaibani,

Almarshad, & Alyahya, 2019). Such prevalence rates were higher than what Wartberg, Kriston, and Thomasius (2018), previously reported in Germany where the prevalence was 8.4%, but within the range of prevalence estimates observed in countries like China which was 54.5% (Tang, Tang, Ren, & Wong, 2019) and Kenya which was 26.4% (Khasakhala, Ndetei, & Mutiso, 2012).

In terms of anxiety, the National Institute of Mental Health (2017) revealed that the prevalence of anxiety disorders among US adolescents aged 13-18 years was at 31.9%, with 8.3% presenting with severe symptoms. This is also close to a study that was done in South East of Nigeria among adolescents attending secondary schools, where it emerged that 34.1% had anxiety disorders (Chinawa, et al., 2018). Further, Chinawa et al. (2018) found out that when anxiety was segregated into different components, 16.7% had physiological symptoms, 35.5% had concentration problems while 59.9% presented with worry.

Consequently, results of this study corroborates with a study which sought to establish the prevalence of anxiety and depression symptoms among Kenyan adolescents. Ndetei et al. (2008), reported that among the adolescents who completed the Ndetei-Othieno-Kathuku scale for assessing depression and anxiety symptoms, 49.3% presented with positive scores of anxiety. Another study carried out in Kenya by Nyagwencha et al. (2018) revealed the prevalence of anxiety disorder at 84.1% which was higher than the findings of this present study. This could be because the study was conducted among adolescents living in charitable children's institutions.

Methodology

Quasi-experimental design was adopted to establish the prevalence of depression and anxiety among adolescents in selected secondary schools in Homabay County, Kenya. The study was conducted in two purposively selected secondary schools among a total of 783 adolescents who were screened for depression and anxiety symptoms, of which 16.5% (479) of the respondents were aged 14-16 and 38.5% (300) were aged 17-19. The two public secondary schools were purposively chosen based on accessibility and availability of the targeted population that would enable the researcher come up with an appropriate sample size. Besides, respondents had similar socio-demographic characteristics. The researchers worked with students in forms one, two and three aged between 14-19 years and included both boys and girls.

Depression symptoms were assessed using Beck’s Depression Inventory-II (BDI-II). This instrument is a 21-item self-reporting questionnaire, ranked 0 (symptoms absent) to 3 (severe symptoms) used in assessing the severity of depression among normal and psychiatric population in the preceding two weeks (Jackson-Koku, 2016). Similarly, anxiety symptoms were assessed using Beck’s Anxiety Inventory (BAI) which consists of 21 questions with each response being scored on a scale value of 0 (not at all) to 3 (severely). Higher total scores are often an indication of severe symptoms of anxiety. According to Julian (2011), a grand sum between 0– 9 indicates normal to minimal anxiety, 10-18 indicates mild anxiety, 19-29 shows moderate anxiety, while a grand sum that exceeds 30 is a potential cause for concern. Data collected from the respondents were analyzed using descriptive statistics with SPSS version 23.

Results

Table 1: Frequency of Key Demographic Factors and Clinical Depressive Disorder

Variables	Total %	Respondent’s Scores on Clinical Depression		Chi-Square Test		
		0 – 17 Non-Clinical Depression	18-63 Clinical Depression	Value	df	Sig.
Respondent’s Gender						
Male	406 (52.0)	192 (24.6)	214 (27.4)	7.909	1	.005*
Female	375 (48.0)	140 (17.9)	235 (30.1)			
Respondent’s Age						
14-16	480	221 (28.3)	259 (33.2)	6.901	1	.009*
17-19	(61.5)	109 (14.0)	191 (24.5)			
	301 (38.5)					
Respondent’s Level of Education						
Form 1	303 (38.8)	153 (19.6)	150 (19.2)	13.388	2	.001*
Form 2	241 (30.9)	85 (11.0)	156 (20.0)			
Form 3	237 (30.3)	95 (12.1)	142 (18.2)			
Respondent’s Mode of Study						
Boarders	301 (38.5)	135 (17.3)	166 (21.3)	1.098	1	.295
Day Scholars	480 (61.5)	197 (25.2)	283 (36.2)			

Table 1 presents the prevalence of clinical depression as it is distributed using the demographic characteristics among the respondents. Those who scored equal or less than 17 in BDI-II were considered to present with non-clinical depressive condition, whereas, respondents who scored

equal or greater than 18 were considered to present with clinical depressive disorder. Table 1 shows that clinical depression was more prevalent among female respondents (30.1%) as opposed to the male counterparts (27.4%). The Chi-Square statistical analysis showed that there was a significant difference in the distribution of clinical depression among the respondents ($p=0.005$). The result showed that major depressive disorder was more among female adolescents. In regard to age distribution, the prevalence of clinical depression was higher among younger respondents aged 14-16 (33.2%) as opposed to older respondents aged 17-19 (24.5%). The statistical analysis showed that the distribution of severity of major depression among the respondents' age was statistically significant ($p=0.009$). This implied that younger respondents had clinically significant symptoms of depression compared to older respondents. Consequently, clinical depression was noted to be more prevalent among respondents in form 2 at 20% compared to respondents in form 1 at 19.2% and form 3 at 18.2%. The difference in distribution was statistically significant ($p=0.001$). This result demonstrated that depression was exhibited more among respondents in form 2 compared to those in forms 1 and 3. Further, the high levels of major depression was seen to be among day scholars at 36.2% as opposed to boarders at 21.3%. There was no significant difference in the distribution of depression in terms of whether the respondents were boarders or day scholars ($p=0.295$). Overall, the general prevalence of depression among adolescents in the study was at 57.5% while the mean was $.5749 \pm$ (SD: .49467).

Table 2: Frequency of Key Demographic Characteristics and Anxiety Disorder

Variables	Total %	Participant's Scores on Clinical Depression		Chi-Square Test		
		0 – 18 Non-Clinical Anxiety	19 + Clinical Anxiety	Value	df	Sig.
Respondent's Gender						
Male	406 (51.9)	223 (28.5)	183 (23.4)	6.387	1	.011*
Female	377 (48.1)	173 (22.1)	204 (26.1)			
Respondent's Age						
14-16	479	246 (31.6)	233 (29.9)	.302	1	.582
17-19	(61.5)	148 (19.0)	152 (19.5)			
	300 (38.5)					
Respondent's Level of Education						
Form 1	301	170 (21.9)	131 (16.8)	15.792	2	.000*
Form 2	(38.7)	96 (12.3)	144 (18.5)			
Form 3	240	127 (16.3)	110 (14.1)			
	(30.8)					
	237					
	(30.5)					
Respondent's Mode of Study						
Boarder Scholar	302 (38.6)	163 (20.8)	139 (17.8)	2.272	1	.132
Day Scholar	481	233 (29.8)	248 (31.7)			
	(61.4)					

Table 2 presents the distribution of socio-demographic characteristics and clinical anxiety among the respondents at baseline. The respondents who scored 19 and above on BAI were considered to be presenting with clinical anxiety. In terms of gender, more females had anxiety symptoms (26.1%) compared to male respondents (23.4%). Chi-Square statistical analysis showed that the difference between the scores of males and females was statistically significant ($p=0.011$). This meant that more females presented with anxiety symptoms. In terms of age, female respondents aged 14-16 presented with more symptoms of clinical anxiety at 29.9% compared to respondents aged 17-19 at 19.5%. Chi-Square test demonstrated that the difference in distribution was not significant ($p=0.582$). This meant that the difference between respondents of different ages was not significant.

In relation to the level of education, respondents in form 2 presented with more symptoms of clinical anxiety at 18.5% compared to respondents in form 1 at 16.8% and form 3 at 14.1%. Chi-square test showed that the difference in distribution of clinical anxiety among the respondents in

terms of level of education was statistically significant ($p=0.000$). This seems to suggest that participants in form 2 presented with more symptoms of anxiety. In addition to this, the day scholars had higher symptoms of clinical anxiety at 31.7% as opposed to boarders at 17.8%. There was no significant difference in the distribution of clinical anxiety among the participants as regards their mode of study. This was interpreted to mean that both day scholars and boarders present with anxiety and the difference is not statistically significant. Overall, the general prevalence of anxiety among adolescents was 49.4% while the mean anxiety was $.4943 \pm$ (SD: $.50029$).

Discussion

This study sought to determine the prevalence of depression and anxiety among adolescents in selected public secondary schools in Homabay County. In this study, the general prevalence of depressive disorder among the respondents was 57.5%. This is almost similar to what was reported by Barra et al. (2019) where the prevalence of depression among school going adolescents at Malaysian National School was 57%, which ranged from mild depression to severe depression. The findings of this study were also within the range of prevalence estimates observed in China at 54.5% (Tang, Tang, Ren, & Wong, 2019), and Kenya at 50.4% (Nyagwencha et al., 2018). However, such prevalence rate is higher than 21% reported by Nalugya-Sserunjogi et al. (2016) among adolescents aged 14-16 in Uganda which showed a higher prevalence of clinical depression among female respondents at 30.1%. The female gender often tends to be significantly more likely to present with severe levels of depression as opposed to males (Avenevoli et al., 2015). This is also supported by Hankin et al. (2016), who explained that sex differences in depression become more elevated during puberty among females as a result of physiological changes which come about due to physical development.

Additionally, a study done by Khasakhala et al. (2012) stated that females present with higher depressive rates than males at 26.4%. However, this was not the case at least according to a study in North of Iran which showed that 29.5% of male adolescents ($F = 25.530$, $t = 4.847$) were more depressed than females (Khesht-Masjedi et al., 2019). This was because male adolescents struggle with handling their depressive bouts such as having low mood and often wanting to appear normal even when they are psychologically affected. The study also found that the

prevalence of depression among younger respondents aged 14-16 was at 33.2%. This finding is congruent with a study conducted to determine the prevalence of depression among adolescents aged 15 and 16 years in a secondary school in South India found the prevalence rate at 33.7% (Kanagavelu, Chidambaram, & Jayachandar, 2019). This seems to demonstrate that younger respondents present more with symptoms of depression. This seems to suggest that the prevalence of depression is higher among younger adolescents across the globe.

Notably, the prevalence of clinical depression for respondents in form two was 20%. This is highly supported by what was previously reported that during this period, adolescents tend to discover more about their worldview, want to be self-reliant, to be understood by their significant others and so, failure to accomplish this throws them into depressive states (Bhatta et al., 2018). While the problem of depression has been increasing significantly among adolescents, the increase was not nearly as large in some younger and older adolescents. Bhatta et al. (2018) further noted that students in form two tend to have more problems even academically compared to those in form one who are just getting into adolescence and form three who have learnt to cope.

A similar study also indicated that adolescents in form two who had symptoms of depression had significantly elevated scores for stressful life events, paternal and maternal aggression at 33%, compared to adolescents without symptoms (Baharudin, Zulkefly, Yahya & Madon, 2019). This shows clearly that adolescents in form two tend to present with more depressive symptoms. In this study, the prevalence of Major Depressive Disorder among day scholars was at 36.2%. A study by Khasakhala et al. (2012) on major depression disorder among adolescents in Nairobi public secondary schools indicated that adolescents presented with higher symptoms than day scholars (26.4%). However, a study conducted in residential higher school in Chennai consisting of 125 day scholars, indicated that adolescents students in day schools were more depressed at 50.8% since they were emotionally unstable (Rajan, 2019).

In terms of anxiety outcome variable, the prevalence rate of clinical anxiety among the respondents was 49.4%. The finding corroborates a similar study which sought to establish the prevalence of anxiety and depression symptoms among Kenyan adolescents (Ndeti et al., 2008). Moreover, Ndeti et al. (2008) reported that among the adolescents who completed the Ndeti-Othieno-Kathuku scale for assessing depression and anxiety symptoms, 49.3% presented with

positive scores of anxiety. In addition, a study conducted in Iraq showed that 40.6% of adolescents in secondary schools had anxiety (Al-Abbudi, 2019). The findings demonstrated statistically significant association between the prevalence symptoms of stress, depressive disorder and anxiety among students and the socio-demographic features. Further, Al-Abbudi (2019) stressed that these findings were related to conflicts, destructions, insecurity, death and displacement. Another study carried out by Nyagwencha et al. (2018), revealed the prevalence of anxiety disorder to be 84.1%, which was higher compared to this study. This could have resulted from the different measures used to assess for anxiety and the population which involved adolescents living under care and protection in charitable children's institutions in Nairobi. In this study, the prevalence of clinical anxiety among female respondents was at 26.1%. This finding is similar to what has been found in numerous studies across the globe. For instance, a study on prevalence of anxiety among female government high school students in Saudi Arabia showed that 25.5% of females suffered from anxiety-related symptoms as a result of the influence of female gonadal hormones as well as psychological changes associated with puberty (Al-Qahtani & Al-Harbi, 2017). In addition, Al-Qahtani and Al-Harbi (2017) in their study, discovered that female adolescents in secondary schools are more prone to internal distress which exposes them to anxiety symptoms.

In terms of age, this study established that the prevalence of clinical anxiety was 29.9% among respondents aged 14-16 years. The finding is lower than that of a study carried out by Nag et al. (2019) which indicated that adolescents aged 14-16 presented with moderate symptoms of anxiety at 38.3%, due to increased stress in the school environment and future academic examination. For respondents in form two in this study, clinical anxiety was at 18.5%, which was slightly higher than the result of a study conducted in Nepal by Bhandari and Adhikari (2015), which revealed that 16.7% of school-going adolescents in form two exhibited anxiety symptoms. The possible cause for anxiety in this class was related to high academic pressures in studies, hostility from other students, lower family income as well as decreased self-esteem. This aligns with findings from research at Bengali High School in India which revealed higher prevalence rate among students in form two at 24.6% as a result of life stressors, rapid social change, corporal punishment, and low social economic class (Deb & Walsh, 2019).

In this study, the prevalence of clinical anxiety was higher among day scholars at 31.7%. This finding aligns with a study by the National Council for Population and Development (2017), which found that adolescents in Kenyan day schools struggle with high poverty levels, lack of parental support, negative attitudes from their teachers, diseases such as HIV and peer pressure. Further, the Kenya National Bureau of Statistics (2019) asserted that the day scholars faced problems related to lack of school fees, child labor and the fact that life at home was full of negative events. Students who commuted from home to school also encountered various environmental factors that made them susceptible to mental health issues such as anxiety. By contrast, studies in India and Vietnam revealed that adolescents in boarding schools suffered more from clinical anxiety than day scholars. In a study of temperamental differences among day and boarding school students in Chennai, India, Jilsy and Rajan (2018) found that day scholars had greater effortful control of anxiety due to availability of resources compared to boarders who struggled with emotional instability and anxiety as a result of hostile environment. Similarly, in a Vietnamese secondary school, a study revealed that students who boarded had anxiety prevalence rate of 67.1% which was much higher than day scholars (Wahab et al., 2019). This was associated with stressors such as academic output, and intrapersonal issues with teachers.

Conclusion

This study showed that adolescents in selected public secondary schools in Homabay County in Kenya experienced depression and anxiety. Therefore, it is pertinent that more research is conducted that would help in developing appropriate intervention measures and would deal with the unidentified and untreated symptoms of the depression and anxiety. Sequel to these findings, the mental health service providers need to work towards creating awareness in the community aimed at providing effective treatment plans to reduce the symptoms of depression and anxiety among this population. Further, adolescents need to be encouraged to seek help early enough from mental health practitioners.

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