



# **Social-Cultural Factors Associated with Common Mental Health Disorders among Pregnant and Parenting Teenagers: A Case Study of Korogocho Slums, Nairobi County, Kenya**

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. Authors MJBG, EJM and PM participated in the entire research process. Author MJBG participated in the data analysis process. Authors MJBG, EJM and PM played a key role in drafting the manuscript. All authors read and accepted the final manuscript.*

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## **ABSTRACT**

**Background:** Teenage pregnancy is a significant problem in Kenya, with over 18% of teenagers aged 15-19 being pregnant or already mothers, with rates even higher in low-income areas such as slums. Existing research has shown that teenage pregnancy increases the risk of mental health disorders, and maternal complications during childbirth, and postpartum.

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**Objective:** The study aimed to determine the social-cultural factors associated with common mental health disorders among pregnant and parenting teenagers.

**Method:** An analytical cross-sectional research design was applied. A stratified random sampling technique was utilized to recruit 153 study participants, where Cochran formula for smaller populations was applied to determine sample size. Both qualitative and quantitative techniques of data collection were applied. The chi-square test for independence was employed to determine the degree of association between the dependent and independent variables. Statistical significance was set at  $p \leq 0.05$ .

**Results:** The prevalence of common mental health disorders in this study was 55%. When the bivariate analysis was done, the following social-cultural factors were found to be significantly associated with common mental health disorders. Absence of social support ( $X^2=2.983$ ,  $df=3$ ,  $P<0.005$ ), intimate partner violence ( $X^2=25.970$ ;  $df=1$ ,  $P\text{-value}<0.000$ ). Presence of physical violence (Physical abuse before pregnancy( $X^2=19.006$ ,  $df=2$ ,  $p<0.001^*$ ), Physical abuse during pregnancy( $X^2=21.169$ ,  $df=2$ ,  $<0.001^*$ ), Physical abuse after delivery( $X^2=26.173$ ,  $df=2$ ,  $<0.001^*$ ),) and presence of sexual violence(Sexual abuse before pregnancy( $X^2=13.896$ ,  $df=2$ ,  $<0.001^*$ ), Sexual abuse during pregnancy( $X^2=5.208$ ,  $df=2$ ,  $0.035^*$ ) and Sexual abuse after pregnancy( $X^2=8.405$ ,  $df=2$ ,  $0.003^*$ ).

**Conclusion:** The prevalence of common mental health disorders in this study was high. The following social-cultural factors were found to be significantly associated with common mental health disorders, absence of social support, presence of physical violence, presence of sexual abuse, and the presence of intimate partner violence. There is a need to develop psychosocial and legal support programs targeting pregnant and parenting teenagers to prevent them from common mental health disorders. Furthermore, the community including parents, teachers, and policymakers should support adolescents during their growth and development stages and protect them against teenage pregnancies which will ultimately lead to a healthier population.

**Keywords:** Common mental health disorders; social-cultural factors; pregnant and parenting teenagers; slums.

## ABBREVIATIONS

**CMD** : Common Mental Health Disorders,  
**DF** : Degree of freedom,  
**FDG** : Focused Group Discussions,  
**KII** : Key Informant Interview,  
**NACOSTI** : National Commission for Science  
Technology and Innovation,  
**SPSS** : Statistical Package for Social  
Sciences

## 1. INTRODUCTION

Mental health is not limited to the absence of a mental disorder. According to World Health Organization (WHO) [1], the concept also entails thinking, learning, and understanding one's emotions and others' reactions. Common mental disorders (CMDs) refer to a group of mental health conditions, that are characterized by symptoms such as anxiety, depression, and stress. According to WHO [2], globally, one in every seven 10–19-year-olds experience a mental disorder, accounting for 13% of the global burden of the disease in this age group. In developing nations, over 10% of pregnant teenagers experience mental health disorders

during and after pregnancy. In addition, Depression, anxiety, and behavioural disorders are among the leading causes of illness and disability among adolescents while suicide is the fourth leading cause of death among 15-19-year olds [3].

Adolescents and parenting teenagers are particularly vulnerable to CMDs due to the many physical, emotional, and social changes they experience during this stage of life. Existing research has also shown that teenage pregnancy increases the risks of mental health disorders, most of which are aggravated by the teenagers' immediate environments [4]. The rate of depression both prenatally and postpartum is significantly higher among pregnant teenagers than their non-pregnant peers and older age group [5]. Pregnancy is considered a major stressor of mental illness in adolescent girls [6]. The researchers maintain that teenage pregnancy leads to cultural stigma, disenfranchisement from public services and institutions, and worsening gender inequality, and as a result educational, psychosocial, emotional, financial, and health problems in affected teenagers [7].

Pregnant teenagers face a myriad of challenges that are not only physical but also psychosocial including stigma, poor social support, and discrimination from the society which in turn predisposes them to CMDs. Unfortunately, these psychosocial challenges have largely been ignored with most researchers focusing on the medical and biological complications of early childbearing [8]. Additionally, Inadequate knowledge, misconceptions about contraceptives, health worker bias, financial constraints, marital status, unwillingness to recognize adolescents' sexual health needs, and restrictive policies and laws are major impediments to planned parenthood in developing countries [9].

Unfortunately, in Kenya, screening and treatment of mental disorders are not done routinely in healthcare facilities. Even though the consequences of neglecting mental health in children and adolescents extend to adulthood, limiting the opportunities available for this cohort leads to poor and unfulfilling lives [10]. Teenage pregnancy is a significant problem in Kenya, with over 18% of teenagers aged 15-19 being pregnant or already mothers, with rates even higher in low-income areas such as slums [8]. While there is considerable research on the factors that contribute to common mental disorders in teenage pregnancy and parenthood, few scholars have focused on the unique situation of adolescent girls in the informal settlements of Kenya [9]. Consequently, there is limited knowledge about the impact of the slum culture, poor infrastructure, poverty, violence, and other factors on the mental outcomes of these parenting teenagers [4]. Therefore, the study aimed to determine social-cultural factors associated with common mental health disorders among pregnant and parenting teenagers in Korogocho slums, Nairobi county, Kenya.

## 2. METHODOLOGY

### 2.1 Research Design

This study employed an analytical cross-sectional study design. There is little known about the occurrence of mental disorders hence this research design provided a better understanding of social-cultural factors associated with common mental health problems among teenage pregnancy and parenting in the informal settlements. The design employed a mixed methods approach, and it was essential for triangulation purposes.

### 2.2 Study Area

Korogocho slums remain to be one of the largest informal settings located in Nairobi Kenya [11]. The slum is home to more than 200000 people who only live in a 1.5-hectare square kilometer making it one of the most congested slums in Kenya [11]. Korogocho remains to be a shanty town dwelling outside the city of Nairobi.

### 2.3 Study Population

The study population constituted pregnant and parenting teenagers, 15-19 years of age, residing in Korogocho slums, Ruaraka Sub County in Nairobi County, Kenya, and being able to understand and provide consent for study participation at the time of the study. The study population was identified through health facility antenatal and post-natal records.

### 2.4 Sample Size Determination

The study population was relatively small hence the Cochran formula for smaller populations was applied to determine sample size. It allowed the researcher to compute a sample size with the desired degree of precision, and level of significance and estimate the proportions of an attribute present in the population. As a result, A sample size of 153 study participants was obtained. In addition, 2 key formants interviews and three focused group discussions were also carried out.

The following equation was used to determine the sample size for this study

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}} = \frac{384}{1 + \frac{(384 - 1)}{357}} = 185$$

Where:

N is population size.

n is the sample size.

$n_0$  is Cochran's sample size recommendation (384)

By substituting the values to the equation, the sample size was computed to be 185. The sample was distributed across the four health facilities in Korogocho according to the proportioning. Of the 185 questionnaires obtained only 153 were deemed eligible for this study, giving a response rate of 82.7% which is scientifically acceptable.

## 2.5 Sampling Technique

In this study, the sampling unit was the health facilities from which the pregnant and parenting teenagers were offered prenatal or post-natal services. Purposive sampling was employed to select these health facilities. The study adopted a proportionate stratified sampling to identify pregnant or parenting teenagers. A frequency and proportion matrix were computed to indicate how participants included in the study were chosen.

## 2.6 Data Collection Method and Instruments

A mixed method (qualitative and quantitative approaches) of data collection was employed in this study where a structured questionnaire was employed to obtain quantitative data. The first section of the questionnaire collected sociodemographic information. The second section of the interview entailed the Self-reporting questionnaire (SRQ-20), which is a WHO-standardized screening tool for common mental disorders (CMDs) in primary care settings. A Multidimensional Scale was used to assess social support for pregnant and parenting teenagers. Lastly, the third section obtained social-cultural factors associated with common mental health disorders. FGD and KII guides were employed to obtain qualitative data.

## 2.7 Validity and Reliability

Fifteen (15) participants were considered. Internal consistency was evaluated using the coefficient alpha, and SPSS version 25 was employed to check for reliability. The results were 0.81 meaning the tools were reliable. To enhance the exactness of data collection tools, interview questionnaires were pretested by a mental health expert.

## 2.8 Data Processing and Analysis

Quantitative Data collected was keyed into Excel, cleaned, cross-checked, and finally imported to SPSS version 25 for analysis. Categorical variables were described by frequency and percentage. The chi-square test for independence was employed to assess for a relationship between common mental health disorders and associated social-cultural factors. The association was statistically significant between the variables if the p-value was  $\leq 0.05$ .

Analyzed data was presented using tables. Qualitative data was analyzed thematically.

## 3. RESULTS

### 3.1 Prevalence of Common Mental Disorder (CMD) among the Study Participants

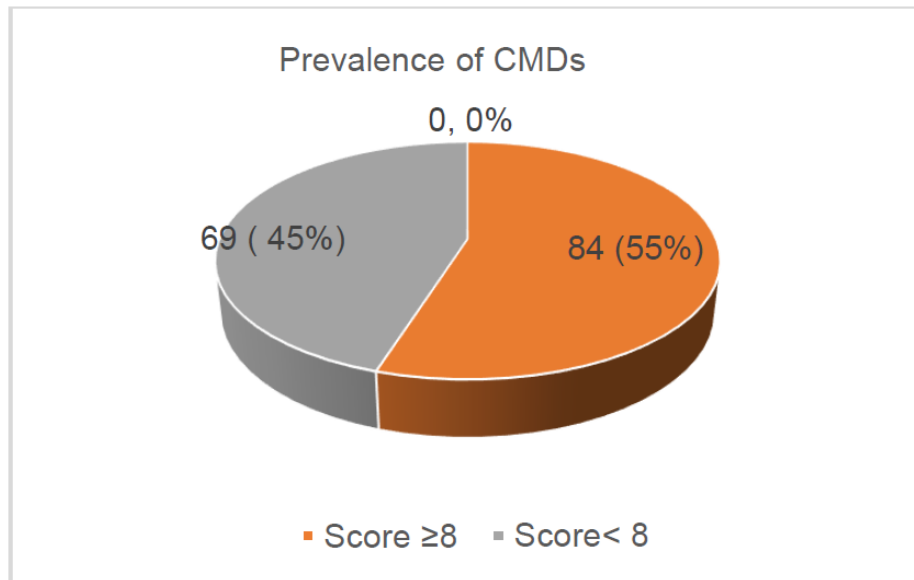
Self-reporting questionnaires with 20 items were analyzed in line with World Health Organization guidelines (WHO), where study participants who answered 'Yes' to at least 8 questions were classified to have manifestations of common mental disorder (CMD). Results indicated the prevalence of common mental disorders among the pregnant and parenting teenagers in Korogocho slums is 55%, meaning slightly half of the respondents manifested symptoms of common mental disorders.

These findings were concurrent with the qualitative data where one of the group discussants noted that:

*"I noticed something was wrong with my daughter when I saw how she was excluding herself from everyone and everything, at times she will talk to herself and even beat other springs with no apparent reason. She complained of a headache, feeling scared and dizzy, followed by insomnia, and her heart beating so fast. She was just not her normal self-most of the time....."*

### 3.2 Social Demographic Characteristics of the Study Respondents

As indicated in Table 1, concerning gender, all (100%) of the study respondents were females, the majority (74.5%) of the study respondents were single while only a few (1.3%) were cohabiting. Concerning education level, close to half (47.1%) of the study participants had attained a primary education level while only a few (2.6%) of the study participants had attained a tertiary level of education. Concerning employment status, the majority (79.7%) of the study participants reported not being employed while only a few (5.2%) reported being in formal employment. Lastly, concerning living arrangements in their households, more than half (56.9%) of the study respondents reported living with their parents while only a few (9.8%) reported living with their relatives.



**Fig. 1. Prevalence of Common Mental Disorder (CMD)**

**Table 1. Demographic characteristics of the respondents**

Variables	Categories	Frequency	Valid percentage
Gender	female	153	100.0
Age	(15-17) years	93	60.8
	(18-20) years	60	39.2
Marital status	Single	114	74.5
	Married	26	17.0
	Separated	11	7.2
	Cohabiting	2	1.3
Education level	None	7	4.6
	primary	72	47.1
	Secondary	70	45.8
	Tertiary	4	2.6
Employment status	Not employed	122	79.7
	Self-employed	19	12.4
	Employed	8	5.2
	In school	4	2.6
Living Arrangements	living alone	20	13.1
	living with parents	87	56.9
	living with partner	31	20.3
	living with relatives	15	9.8

**Table 2. Source of social support**

Variable	Categories	Frequency	Valid percentage
Source of Social support	Myself	38	24.8
	Parents	54	35.3
	Relatives	12	7.8
	The child's father	22	14.4
	No response	27	17.6

### 3.3 Social Cultural Factors among Study Respondents

#### 3.3.1 Source of social support

As indicated in Table 2, more than a quarter of the study respondents reported receiving social support from their parents, while 24.8% of the study respondents reported looking after themselves. Only a few (7.8%,14.4%) of the study participants reported receiving social support from their relatives and the child's fathers respectively.

#### 3.3.2 Association between social support and common mental disorders

As indicated in Table 3, the chi-square analysis was conducted to establish the association between social support and common mental disorder. A cell value of a specific variable was greater than or equal to 5, hence no violation of assumption. From the results, there is a significant association the social support and common mental disorder at a 95% confidence interval ( $\chi^2=2.983, df=3, P<0.005$ ).

These findings agreed with the qualitative data where the majority of the study respondents noted that lack of social support was linked with common mental disorders. For instance, most of the respondent noted that:

*“When I became pregnant, my mother told me to leave the house and go to the child’s father at night” (Respondent 5, Pregnant Teen, FGD).*

#### 3.3.3 Gender-based violence and common mental disorders

##### 3.3.3.1 Physical and sexual abuse factors among study respondents

As indicated in Table 4, study findings revealed that (73%, 77%, and 75%) of the respondents did not experience any physical form of abuse before pregnancy, during pregnancy, or after pregnancy respectively. On the other hand, study findings showed that 27% of the respondents experienced physical abuse before pregnancy, 23% were physically abused during pregnancy and 25% of the respondents were physically abused after pregnancy.

**Table 3. Association between social support and common mental disorders**

Variables		Common mental disorder		Chi-square value	P-value
		No (%)	Yes (%)		
Social support	Myself	9 (23.7)	29 (76.3)	X <sup>2</sup> = 12.983 df=3	0.005
	Parent	32 (59.2)	22 (40.7)		
	Relatives	5 (41.7)	7 (58.3)		
	Child’s father	13 (59.1)	9 (40.9)		

**Table 4. Physical and sexual abuse among study respondents**

Gender-based violence	Variable	Categories	Frequency	Valid percentage
Physical abuse	Before pregnancy	no	111	73
		yes	42	27
	During pregnancy	no	118	77
		yes	35	23
	After delivery	no	115	75
		yes	38	25
Sexual abuse	Before pregnancy	no	110	72
		yes	43	28
	During pregnancy	no	118	77
		yes	35	23
	After delivery	no	115	75
		yes	38	25
Emotional Abuse	Before pregnancy	no	98	64
		yes	55	36
	During pregnancy	no	78	51
		yes	75	49
	After pregnancy	no	108	71
		yes	45	29

Concerning sexual abuse, 28% of the respondents were sexually abused before pregnancy, 23% were sexually abused during pregnancy and 25% were sexually abused after delivery, while the study also shows that, (72%, 77%, and 75%) of the respondents were not sexually abused before pregnancy, during pregnancy and even after pregnancy respectively.

Concerning emotional abuse, 36% of the respondents were sexually abused before pregnancy, 49% were sexually abused during pregnancy and 29% were sexually abused after delivery, while the study also shows that, (64%, 51%, and 71%) of the respondents were not sexually abused before pregnancy, during pregnancy and even after pregnancy respectively.

**3.3.3.2 Association between gender-based violence and common mental disorder**

From the Chi-square analysis results in Table 5, there was a significant association between all forms of gender-based violence and common mental disorder; Physical abuse before pregnancy ( $X^2=19.006$ ,  $df=2$ ,  $p<0.001^*$ ), Physical abuse during pregnancy ( $X^2=21.169$ ,  $df=2$ ,  $<0.001^*$ ), Physical abuse after delivery ( $X^2=26.173$ ,  $df=2$ ,  $<0.001^*$ ), Sexual abuse

before pregnancy ( $X^2=13.896$ ,  $df=2$ ,  $<0.001^*$ ), Sexual abuse during pregnancy ( $X^2=5.208$ ,  $df=2$ ,  $0.035^*$ ) and Sexual abuse after pregnancy ( $X^2=8.405$ ,  $df=2$ ,  $0.003^*$ ). These findings are aligned with the focused group discussion where some respondents highlighted mistreatment by family members as a stressor to the adolescent mother.

*“The majority of suicidal cases in my areas among teenage mothers are as a result of mistreatment from their parents.....”* (KII, Chief)

Another focused group discussant noted that:

*“Because of my husband’s disapproval to support the daughter, I became harsh to her and hence while the teen felt discriminated from family.....”* (Parent, FGD)

**3.3.4 Association between Intimate Partner Violence and Common Mental Disorders**

As indicated in Table 6 below, when the bivariate analysis was done there was a statistically significant association between intimate partner violence and common mental disorders ( $X^2=25.970$ ;  $df=1$ ,  $P\text{-value}<0.000$ ).

**Table 5. Association between gender-based violence and Common mental disorder**

Gender-based violence and CMD	Chi-square Value	P-value
Physical abuse before pregnancy	19.006	<0.001*
Physical abuse during pregnancy	21.169	<0.001*
Physical abuse after delivery	26.173	<0.001*
Sexual abuse before pregnancy	13.896	<0.001*
Sexual abuse during pregnancy	5.208	0.035*
Sexual abuse after pregnancy	8.405	0.003*

**Table 6. Association between intimate partner violence and common mental disorders**

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	27.755	1	.000		
Continuity Correction	25.970	1	.000		
Likelihood Ratio	29.512	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	27.560	1	.000		
N of Valid Cases	142				

a. 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 25.29.  
 b. Computed only for a 2x2 table

#### 4. DISCUSSION

From this study, the prevalence of common mental health disorders among the pregnant and parenting teenagers in Korogocho slums was at 55% indicating this is a real public health concern that needs to be addressed. However, another study done in Zurich reported a higher(73.9%) prevalence of common mental health disorders [12]. Similarly, two other studies conducted in Rwanda and Ethiopia reported a lower prevalence of common mental health disorders standing at 12% and 27.2% respectively [13,14]. The difference between reported prevalence could be linked to differences in study areas, different sampling techniques, and different study populations.

In this study, the absence of social support was significantly associated with common mental health disorders among the study respondents. These findings were in agreement with two studies done in Singapore and Iran which revealed an association between the two parameters [15,16]. Young pregnant and parenting teenagers often require social support from their relatives to cope with this situation. Where this social support is not sufficiently provided it predisposes them to common mental health disorders. The presence of intimate partner violence was found to be significantly associated with common mental health disorders, these findings were in agreement with another study done in Sweden [17], However, another study in the USA found no association between the two parameters [18]. The presence of intimate partner violence has been linked to a form of mental torcher that often leads to CMD.

In regard to the presence of physical abuse, there was a statistically significant association between physical violence and common mental health disorders. These findings were in agreement with two studies conducted in South Africa and Australia [19,20]. Physical abuse is a form of gender-based violence that causes mental health problems which often leads to low self-esteem among the affected persons. lastly, concerning Sexual abuse, there was a statistically significant association between sexual violence and common mental health disorder, this finding was concurrent with another study conducted in Brazil [21]. Sexual abuse has been found to hinder seeking mental health support due to shame linked with this act.

#### 5. CONCLUSION

The prevalence of common mental health disorders in this study was high indicating this is a real public health concern that needs immediate intervention. The following social-cultural factors were found to be statistically significantly associated with common mental health disorders, absence of social support, presence of physical violence, presence of sexual abuse, and the presence of intimate partner violence. There is a need to develop psychosocial and legal support programs targeting pregnant and parenting teenagers to prevent them from CMDs. Furthermore, the community including parents, teachers, and policymakers should support adolescents during their growth and development stages and protect them against teenage pregnancies which will ultimately lead to a healthier population.

#### ETHICAL APPROVAL AND CONSENT

Ethical approvals were sought from the Post Graduate Studies of KeMU, KeMU Ethical Review Committee, and NACOSTI. The researcher also obtained permission from the National and County Administration to conduct the study in the study location. The study recognized that teenagers less than 18 years are not adults according to the Constitution of Kenya. In line with standard ethical research guidelines, written informed consent was sought from the participant's parents/guardians before interviewing and audio recording the pregnant and parenting teenagers. Participation of the respondents in the study was purely voluntary where the respondents assented before participating in the interview. Participants who manifested symptoms of common mental disorders were advised to seek medical attention in the nearest health facility while their details were handled confidentially.

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#### COMPETING INTERESTS

Authors have declared that no competing interests exist.



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