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Adolescents' experience of mistreatment and abuse during childbirth: a cross-sectional community survey in a low-income informal settlement in Nairobi, Kenya

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ABSTRACT

Background Adolescent girls in Africa have poorer maternal health outcomes than older women partly because they are less likely to access antenatal and facility-based delivery care. Mistreatment and abuse of adolescents during facility-based childbirth can further negatively impact their use of maternal healthcare services. Yet studies on this topic are limited. As a result, patterns of mistreatment and abuse, their association with care satisfaction, and the intention to use health facilities for future births or recommend facilities to others are poorly understood. This study estimates the prevalence of mistreatment and abuse of adolescent girls during facility-based childbirth in low-income settlements in an urban area. It also examines whether experiencing mistreatment and abuse during facility-based childbirth is associated with care satisfaction, willingness to recommend the facility to others, and intention to use the facility for subsequent childbirths.

Methods We used cross-sectional data collected from 491 adolescent mothers recruited through a household listing in an informal settlement in Nairobi, Kenya. Girls self-reported their experience of physical and verbal abuse, stigma and discrimination, lack of privacy, detainment (baby or mother detained in the clinic due to inability to pay user fees), neglect and abandonment during childbirth. Descriptive statistics were used to summarise the categorical variables while binary logistic regression models were used to examine the association between experience of mistreatment and abuse and care satisfaction, willingness to recommend the facility to others and intention to use the facility for subsequent childbirths.

Results About one-third of adolescent mothers (32.2%) reported physical abuse, verbal abuse or stigma and discrimination from health providers. 1 in 10 reported neglect and abandonment during childbirth, and about a quarter (24%) reported a lack of privacy. Detainment was reported by approximately 17% of girls. Report of any physical abuse, verbal abuse, and stigma and discrimination was significantly associated with a lower likelihood of satisfaction with care (Adjusted Odds ration (AOR) 0.24; 95% CI 0.15 to 0.38), intention to use the facility for future births (AOR 0.32; 95% CI 0.22 to 0.48) and willingness to recommend the facility to others (AOR 0.23; 95% CI 0.15 to 0.36). Neglect and abandonment during childbirth, and lack of privacy were significantly associated with lower odds of being satisfied with the care, intention to use the facility for future births, and the willingness to recommend the facility to others. Experience of detention was associated with a lower likelihood of

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Adolescent girls are less likely to access antenatal and facility-based delivery care than older women.
⇒ Previous studies on disrespect and abuse of women during childbirth have focused primarily on women of reproductive age and only a few used a quantitative design.
⇒ These studies show that mistreatment and abuse of women during childbirth could constitute barriers to the use of institutional delivery services.

WHAT THIS STUDY ADDS

⇒ The current study shows that mistreatment and abuse during childbirth affects about a third of adolescent girls living in low-income informal settlements.
⇒ Mistreatment and abuse of adolescent girls during childbirth is associated with low satisfaction with the care, not intending to use the facility for future births and being unwilling to recommend the facility to others.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The results of this study suggest the need to reinforce providers' training on respectful maternal healthcare. In addition, it is important for countries to develop and implement guidelines for respectful maternity care that highlight the need for adolescent-responsive care. Implementing monitoring frameworks that include measures of addressing mistreatment and abuse is also warranted.

intention to use the facility for future births (AOR 0.55; 95% CI 0.34 to 90), but not with the willingness to recommend the facility to others or overall satisfaction with care.

Conclusions Mistreatment and abuse of adolescent girls during childbirth are common in the study setting and are associated with lower levels of satisfaction with care, intention to use the facility for future births, or recommend it to others. Preservice and in-service training of health workers in the study setting should address the need for respectful care for adolescents.

INTRODUCTION

Adolescent pregnancy is a global public health concern with approximately 14% of adolescent girls giving birth before age 18 in 2021.[1] Over 90% of global adolescent pregnancies occur in low-income and middle-income countries.[2] In Kenya, 15% of adolescent girls become mothers before the age of 18.[1]

Adolescent mothers face unique challenges including a higher risk of mistreatment and abuse during facility-based childbirth, a form of enacted stigma and discrimination, compared with adult mothers. Findings from a WHO multicountry study showed that adolescent mothers aged 15–19 years were nearly twice as likely to report experiencing physical abuse during childbirth compared with mothers aged 20–24 years.[3] Further, adolescent mothers were more likely to report experiencing physical and verbal abuse, stigma and discrimination during childbirth than mothers older than 29 years.[4]

Qualitative studies have highlighted contributing factors of mistreatment and abuse during childbirth, such as facility limitations (eg, limited staffing, limited resources, lack of policies), normalisation of mistreatment and abuse among health workers and the mother's characteristics (eg, young age and low socioeconomic status).[5 6] The increased risk of mistreatment and abuse during facility-based childbirth among adolescent mothers is likely due to their intersecting identities. In one study, adolescent mothers aged 15–19 years with no or some education were more likely to experience verbal abuse compared with older mothers.[4]

Existing studies, in Kenya and other countries, have shown that experiencing mistreatment and abuse during childbirth can be a deterrent for seeking facility-based deliveries for subsequent births.[7–9] Since facility-based childbirths have a lower neonatal mortality rate than home childbirths in Kenya,[10] mistreatment and abuse during facility-based childbirth can potentially have adverse consequences for future pregnancies and births. Further, experiencing mistreatment and abuse during facility-based childbirth can negatively impact postpartum healthcare utilisation.[5]

Notwithstanding the stigma attached to adolescent childbearing and the socioeconomic challenges faced by adolescent mothers in Kenya,[11–14] mistreatment and abuse during facility-based childbirth of adolescent mothers have been underexplored. Studies in Kenya on mistreatment and abuse during facility-based childbirth aggregate adolescent and adult mothers into a single sample, despite the potential differences in their childbirth experiences and socioeconomic vulnerabilities arising from age at childbirth.[15 16] Previous qualitative studies in Kenya have highlighted various forms of mistreatment and abuse while seeking maternity care, including verbal and physical abuse, and neglect of adolescent girls.[9 17] However, there is a gap in research on the prevalence of mistreatment and abuse during facility-based childbirth among adolescent mothers in Kenya, and whether experiences of mistreatment and abuse impact adolescent mothers' clinic care satisfaction and intention to seek facility-based care in the future. It is imperative to investigate the mistreatment and abuse during facility-based childbirth and the potential repercussions for future utilisation of facility-based care among adolescent mothers in Kenya as this population may be particularly susceptible to mistreatment and abuse, given their age and socioeconomic challenges. Our study is also important given that it focuses on adolescent mothers in a low-income informal settlement whose experiences may differ from adolescent mothers from higher-income backgrounds. This study addresses gaps in the literature by (1) estimating the prevalence of mistreatment and abuse during facility-based childbirth and (2) examining whether experiencing mistreatment and abuse during facility-based childbirth is associated with clinical care satisfaction, likelihood of recommending the facility to others and intention to use the facility for subsequent childbirths among adolescent mothers in Kenya.

METHODS

Study design and setting

We used data from a cross-sectional mixed-methods study that explored the lived experiences of pregnant and parenting adolescents in a Kenyan urban informal settlement.[18] The quantitative survey included questions adapted from existing surveys, including the Protecting the Next Generation questionnaire, Adolescent Girls Initiative-Kenya, the Global Early Adolescent Study and the community-based survey component of the WHO multicountry study 'How women are treated during facility-based childbirth'. Originally designed to measure the mistreatment of women during childbirth in four countries (Ghana, Guinea, Myanmar and Nigeria), the WHO tool contains questions that examine birth experiences in public facilities, including experiences of physical and verbal abuse, stigma and discrimination, lack of privacy, detainment, neglect and abandonment during childbirth.[19] This analysis focused on responses to the questions adapted from the community-based survey.

Data collection took place in Kenya in November and December 2022. The study site (Korogocho) is an informal settlement (slum) located on the outskirts of the Nairobi Metropolitan area that comprises nine villages covering an area of about 1.5 km^2. Korogocho is inhabited by approximately 200 000 people. Korogocho

is characterised by overcrowding, poor infrastructure and limited access to water and sanitation as well as education and employment. In addition, residents are often exposed to violence and social unrest.

Study population

The main study focused on adolescent girls ranging in age from 10 to 19, who were pregnant or had a biological child at the time of interviews. To be included, girls had to be mentally competent to provide consent and respond to questions in English or Kiswahili. However, the analysis in this paper is limited to adolescent mothers who gave birth in the past 5 years (2018–2022) and who delivered in a healthcare facility. Those who gave birth at home were excluded from the analysis.

Sampling

Participants were recruited from all nine villages in the community after a household listing exercise to identify eligible participants. A total of 678 pregnant and parenting adolescent girls were listed and 594 (87.6%) were interviewed. Migration outside the settlement (n=39), refusals (n=10), ineligible because her hospital card showed she was older than 19 years(n=16), enrolment in boarding school (n=12), away at work (n=6) and death (n=1) were reasons others could not be interviewed. The analysis in this paper was limited to data from 491 girls who had given birth in health facilities. The sample size of 491 is sufficient to achieve 80% statistical power at the following parameters: infinite population, 33% (±4) prevalence of mistreatment and abuse,[3] 95% confidence level and margin of error limits of 4.16%.

Data collection

Interviewers were trained field assistants with research experience in quantitative research. They were trained on the study tools, obtaining consent, building rapport, safeguarding measures and the qualities of a good interviewer. All eligible participants identified during household listing received a study coupon with a unique identifier, as well as possible dates for interviews to take place. The purpose of the coupons was to identify the participants and limit the possibility of a participant being interviewed more than once. The girls were contacted through the telephone numbers they provided. The survey tool was administered to the girls by the field assistants in secure and private spaces at the study site. The data were collected on a SurveyCTO platform programmed on Android electronic tablets. Data were electronically submitted daily to the organisation's central server.

Patient and public involvement

The main study was presented to community stakeholders during an inception meeting and the findings were shared with them during a validation meeting. They had an opportunity to comment on the study objectives, design and findings and also made recommendations on how to address issues the study uncovered. The stakeholder groups involved were adolescent boys and girls, parents, teachers, policy-makers from the county government, community-based organisation representatives, village leaders, the community chief and religious leaders.

Measures

Outcomes measure

The study outcomes were mistreatment and abuse, overall satisfaction with clinical care, intention to use the facility for future births and recommend the facility to others. Mistreatment and abuse encompass physical and verbal abuses, stigma and discrimination, detainment and lack of privacy. Nine questions were used to assess the experience of physical abuse. Fourteen questions were used to examine verbal abuse while seven questions were used to measure stigma and discrimination (see details in online supplemental table 1). All questions were previously validated.[19] Overall satisfaction was measured using one question asking participants to strongly agree, agree, disagree or strongly disagree with a statement indicating they were satisfied with the services received during their stay at the health facility. Intention to use the facility for future births was measured using one question with a dichotomous response (yes/no). The intention to recommend the facility to others was measured with one question with a yes or no response.

Covariates

The main covariates in this study were participants' sociodemographic characteristics, including age, education, marital status (current and at the time of pregnancy), living arrangements, employment status and the number of total births. We included age, which was classified as 14–17, 18 and 19. Only a few participants were aged 14 (n=3), 15 (n=3) and 16 (n=26). The education level was classified into primary/no education and secondary/postsecondary. We classified participants who never attended school (n=4) together with those with primary education and participants with postsecondary education (n=6) with those who had secondary education. We measured the school status at the time of pregnancy as a categorical variable (out of school vs still in school).

Current marital status and at the time of getting pregnant were measured as categorical variables with the following categories: married or cohabiting, separated or divorced as well as single. Orphanhood status was categorised as both parents' dead, one parent dead and both parents alive. Living arrangements were categorised as not living with both parents, living with one parent or living with both parents.

Statistical analysis

We analysed data using Stata V.16. We summarised sociodemographic characteristics and experiences of mistreatment using frequencies and percentages. Multivariable logistic regression models were fitted to examine the association between individual characteristics and experience of mistreatment and abuse. Multivariable models

were also fitted to examine the association between each of the domains of mistreatment and abuse and overall satisfaction, intention to use the health facility for future births and willingness to recommend the health facility to others, adjusting for sociodemographic characteristics.

RESULTS

Most participants were aged 18 and older (77%), not married (71%), had ever worked (64%), were not living with their parents (60%), single at the time of their first pregnancy (71.9%) and had only one child (86%). Seven adolescent mothers reported postsecondary education, 5 had no formal education and 17 were engaged at the time they became pregnant (table 1). Nearly all girls gave birth in a level three facility (health centre).

Nearly all the girls (98%) attended level three health facilities (health centres). Only a few attended level four facilities, mostly after referral. As shown in table 2, about one-third of girls reported any physical abuse, verbal abuse or stigma and discrimination from health providers. Verbal abuse (26.7%) was more common than physical abuse (7.5%) and stigma and discrimination (15.1%). One in 10 girls reported neglect and abandonment during childbirth. About a quarter of girls reported lack of privacy. Detainment was reported by approximately 17% of girls. While 87% of girls intended to have another child, only 57% intended to have a future birth in the same hospital they had their previous births.

Multivariable findings

As shown in table 3, older adolescents (aged 18) were more likely to report physical abuse than younger adolescents (aged 14–17). However, age was not related to verbal abuse, stigma and discrimination, neglect and abandonment during childbirth, lack of privacy and detention. Similarly, experiences of verbal abuse, stigma and discrimination, neglect and abandonment during childbirth, lack of privacy, and detention did not significantly differ by education level and parity. Girls who were separated or divorced were more likely to report verbal abuse than married girls. However, marital status was not significantly associated with physical abuse, stigma and discrimination, neglect and abandonment, lack of privacy and detention. Girls who previously worked (Adjusted Odds ration (AOR) 0.61; 95% CI 0.39 to 0.97) were less likely to report any physical or verbal abuse, or stigma and discrimination. Adolescent mothers who were currently working were more likely to report having experienced detention (AOR 2.87, 95% CI 1.51 to 5.46).

As presented in table 4, girls who experienced physical abuse were significantly less likely to report being satisfied with care. However, the experience of physical abuse was not associated with the intention to use the facility for future births or willingness to recommend the facility to others. Girls who reported having experienced verbal abuse were significantly less likely to be satisfied with the care received, to intend to use the facility for future births or to be willing to recommend the facility to others. Experience of stigma and discrimination was significantly associated with overall satisfaction, intention to use the facility for future births and willingness to recommend the facility to others. Report of

Table 1 Sociodemographic characteristics of study participants

Variables	Frequency (n=491)	%
Age		
14–17	113	23.0
18	191	38.9
19	187	38.1
Education		
Primary and no education	230	46.8
Secondary and post-secondary	261	53.2
Marital status		
Married or cohabiting	140	28.5
Separated or divorced	123	25.1
Single	228	46.4
Marital status at the time of getting pregnant		
Single	352	71.9
Married, engaged, cohabiting	139	28.1
School status at the time of pregnancy		
Out of school	237	48.3
Still in school	254	51.7
Orphanhood status		
Both parents dead	50	10.2
One parent dead	177	36.1
Both parents alive	264	53.8
Living arrangement		
Not living with both parents	293	59.7
Lives with one parent	145	29.5
Lives with both parents	53	10.8
Ever work for pay		
Never worked	175	35.6
Previously worked	187	38.1
Currently working for pay	129	26.3
No of births		
1	423	86.2
2 or more	68	13.8
Most recent birth year		
2018	40	8.2
2019	58	11.8
2020	92	18.7
2021	166	33.8
2022	135	27.5
Birth outcome		
Stillborn	6	1.2
Neonatal death	1	0.2
Live birth	492	98.6

Only six girls were aged 14 and 15, and therefore, grouped as 14–17. Four girls had no formal education.

Table 2 Mistreatment of adolescent mothers during childbirth, privacy, detainment and intention to use the facility for future childbirths

Variables	Frequency	%
Any physical abuse, verbal abuse or stigma and discrimination	158	32.2
Physical abuse	37	7.5
Verbal abuse	131	26.7
Stigma and discrimination	74	15.1
Neglect and abandonment		
Staff member was not present during childbirth admission	25	5.1
Staff member was not present when the baby came out	50	10.2
Health system		
Curtains, partitions or other privacy measures not used	118	24.0
Did not have a bed to herself during labour	62	12.6
Did not have a bed to herself during childbirth	34	6.9
Shared bed with another woman or women at any time	144	29.3
Detainment (baby or woman detained in the hospital due to inability to pay hospital bills)	81	16.5
Future birth intention (would like to have another child)	426	86.8
Place to have future childbirth based on recent experience		
Same hospital	242	56.8
Different hospital	172	40.4
At home	1	0.2
I don't know	6	1.4
Other	5	1.2

any physical abuse, verbal abuse and stigma, and discrimination was significantly associated with a lower likelihood of satisfaction with care, intention to use the facility for future births, and willingness to recommend the facility to others. Neglect and abandonment during childbirth and lack of privacy were associated with lower odds of being satisfied with the care received, intention to use the facility for future births, and willingness to recommend the facility to others. Experience of detention was associated with a lower likelihood of intention to use the facility for future births but not with the willingness to recommend the facility to others or overall satisfaction with care.

DISCUSSION

This study examined adolescent mothers' experiences of mistreatment and abuse during childbirth in clinics. Reports of physical abuse, verbal abuse, or stigma and discrimination by health providers were common in our study setting (32.2%). A similar study reported a higher proportion of any physical abuse, verbal abuse, or stigma and discrimination in Ghana (48.3%), Guinea (47.4%) and Nigeria (60%) but a lower prevalence in Myanmar (17.9%).[3] While the design of these studies is similar, Irinyenikan *et al*'s study was a secondary analysis, with a small sample limitation (sample of fewer than 200 girls), unlike our study.

Even though it has been previously reported that adolescents are more likely than older women to report physical abuse, verbal abuse, and stigma and discrimination,[4] there is overall limited research and programmatic intervention attention on the issue. We found that stigma and discrimination were mainly based on age. Stigma and discrimination against adolescent mothers may occur because of the cultural expectation that girls should postpone having sex until adulthood and marriage. Pregnancy is evidence of girls' failure to meet this cultural expectation. Qualitative studies among health workers have explained why women and girls experience physical and verbal abuse during childbirth.[20 21] Literature shows that providers use and justify using physical and verbal abuse to 'gain compliance'[20] from uncooperative women during childbirth and ensure good outcomes for mothers and babies. Also, studies have highlighted facility limitations like staffing and resources, lack of policies, normalisation of mistreatment and abuse among health workers, and the mothers' characteristics including young age and low socioeconomic status as contributing factors to mistreatment and abuse during childbirth.[5 6] Respectful care is central to ensuring good outcomes for mothers and babies contrary to health workers' opinions on why they verbally or physically abuse women.

Unsurprisingly and consistent with a previous study,[3] we found that girls who experienced physical and/or verbal abuse, or stigma and discrimination were less likely to report being satisfied with the care received, to intend to use the facility for future births or to be willing to recommend the facility to others. Exclusion of adolescents from clinics—voluntarily and involuntarily– has implications for their health and that of their babies. We know from previous studies that adolescents are more susceptible

Table 3 Adjusted model showing association between individual characteristics and experience of mistreatment and abuse in clinics

Variables	Physical abuse	Verbal abuse	Stigma and discrimination	Any physical or verbal abuse, or stigma and discrimination	Felt neglected and abandoned during childbirth	No privacy	Experienced detention
Age							
14–17	1	1	1	1	1	1	1
18	6.94 (1.58–30.65)*	1.47 (0.85–2.55)	1.13 (0.59–2.15)	1.41 (0.84–2.36)	1.16 (0.54–2.52)	0.65 (0.38–1.12)	1.23 (0.65–2.32)
19	4.51 (0.98–0.87)	1.39 (0.78–2.46)	0.87 (0.43–1.73)	1.21 (0.71–2.07)	1.03 (0.46–2.32)	0.82 (0.47–1.43)	0.79 (0.40–1.56)
Education							
Primary and no education	1	1	1	1	1	1	1
Secondary and post-secondary	0.98 (0.48–1.99)	0.77 (0.51–1.17)	0.94 (0.56–1.8)	0.83 (0.56–1.23)	0.62 (0.34–1.15)	0.92 (0.59–1.42)	0.95 (0.57–1.58)
Marital status							
Married or cohabiting	1	1	1	1	1	1	1
Separated or divorced	0.85 (0.34–2.12)	1.77 (1.003–3.14)*	1.33 (0.64–2.76)	1.37 (0.80–2.34)	1.29 (0.54–3.07)	1.09 (0.61–1.95)	1.48 (0.71–3.06)
Single	0.81 (0.35–1.86)	1.49 (0.88–2.52)	1.53 (0.80–2.94)	1.25 (0.77–2.03)	1.64 (0.76–3.55)	1.15 (0.68–1.94)	1.68 (0.87–3.27)
Ever work for pay							
Never worked	1	1	1	1		1	1
Previously worked	0.59 (0.26–1.33)	0.66 (0.41–1.07)	0.66 (0.36–1.19)	0.61 (0.39–0.97)*	1.03 (0.52–2.06)	0.90 (0.54–1.91)	1.55 (0.82–2.93)
Currently working for pay	0.80 (0.33–1.91)	0.86 (0.51–1.45)	0.87 (0.46–1.63)	0.80 (0.49–1.32)	0.82 (0.37–1.80)	0.71 (0.41–1.25)	2.87 (1.51–5.46)*
No of births							
1	1	1	1	1	1	1	1
2 or more	1.10 (0.42–2.90)	0.87 (0.47–1.62)	1.22 (0.58–2.56)	0.91 (0.51–1.64)	0.79 (0.31–2.02)	1.01 (0.54–1.91)	1.22 (0.59–2.51)

*p<0.05

than women in their early 20s to maternal deaths.[22 23] Adolescent girls are reluctant to seek antenatal care due to fear of stigma and discrimination.[24–26] Consequently, they are less likely than older women to receive antenatal care, initiate antenatal care early and complete eight visits as recommended by the WHO.[27]

Reports of neglect and abandonment were more prevalent in our setting than previously reported in Ghana, Guinea, Nigeria and Myanmar.[3] Specifically, 10.2% of adolescent mothers in our study reported not having staff present when the baby came out; whereas reports were much lower in Ghana (3.8%), Guinea (0.7%), Nigeria (6.3%) and Myanmar (3.4%).[3] Neglect and abandonment of women can have grave implications for birth outcomes. It puts the mother and baby at risk of serious complications and even death. A study has shown that half of maternal deaths in Africa are due to low quality of care.[28] Neglect and abandonment during childbirth was associated with lesser satisfaction with the care, intention to use the facility for future births and willingness to recommend the facility to others.

The detainment prevalence in our study was similar to what was previously reported in Ghana, Guinea and Myanmar, but higher than in Nigeria.[3] Detainment has been previously reported in Kenya and the government's free maternal healthcare policy is meant to address it. However, the detainment of mothers and their babies persists despite the policy. More qualitative studies are needed to shed light on the circumstances of girls' detainment. Detainment was associated with a lower likelihood of intention to use the facility for future births but was not associated with adolescent mothers' willingness to recommend the facility to others or with overall satisfaction with care.

The proportion of girls reporting a lack of privacy in our study was much lower compared with a previous study among adolescent girls in Ghana, Guinea, Nigeria and Myanmar. No privacy was associated with lower odds of being satisfied with the care, intention to use the facility for future births and willingness to recommend the facility to others. Young girls value privacy and it is a critical consideration for seeking sexual and reproductive healthcare. It is important to protect girls' privacy during childbirth to improve their care experience and satisfaction.

Policy implications

The results of our study suggest the need to reinforce providers' training on respectful maternal healthcare in the study setting. In addition, it is important for countries to develop and implement guidelines for respectful maternity

Table 4 Adjusted logistic regression models showing the association between experience of mistreatment and abuse and satisfaction with care, intention to use the facility for future births or recommend the facility to others

	Overall satisfaction		Use facility for future births		Recommend the facility to others	
	n (%)	AOR‡ (95% CI)	n (%)	AOR (95% CI)	n (%)	AOR (95% CI)
All	390 (79.4)		276 (56.7)		370 (75.4)	
Physical abuse						
No	366 (80.6)	1	258 (57.3)	1	346 (76.2)	1
Yes	24 (64.9)	0.42 (0.20 to 0.87)*	18 (48.7)	0.66 (0.33 to 1.30)	24 (64.9)	0.56 (0.27 to 1.15
Verbal abuse						
No	311 (86.4)	1	299 (64.2)	1	300 (83.3)	1
Yes	79 (60.3)	0.22 (0.14 to 0.35)†	47 (36.2)	0.30 (0.20 to 0.46)†	70 (53,4)	0.21 (0.13 to 0.33)†
Stigma and discrimination						
No	348 (83.5)	1	252 (60.9)	1	331 (79.4)	1
Yes	42 (56.8)	0.25 (0.15 to 0.43)†	24 (32.9)	0.30 (0.18 to 0.52)†	39 (52.7)	0.27 (0.16 to 0.46)†
Any physical or verbal abuse, or stigma and discrimination						
No	290 (87.1)	1	215 (65.2)	1	280 (84.1)	1
Yes	100 (63.3)	0.24 (0.15 to 0.38)†	61 (38.9)	0.32 (0.22 to 0.48)†	90 (57.0)	0.23 (0.15 to 0.36)†
Felt neglected and abandoned during childbirth						
No	370 (83.9)	1	266 (60.9)	1	355 (80.5)	1
Yes	20 (40.0)	0.12 (0.06 to 0.22)†	10 (20.0)	0.15 (0.07 to 0.32)†	15 (30.0)	0.09 (0.04 to 0.19)†
No privacy						
No	328 (87.7)	1	235 (63.3)	1	316 (84.5)	1
Yes	62 (53.0)	0.15 (0.09 to 0.25)†	41 (35.3)	0.31 (0.20 to 0.48)†	54 (46.2)	0.14 (0.09 to 0.23)†
Experienced detention						
No	331 (80.7)	1	240 (59.1)	1	315 (76.8)	1
Yes	59 (72.8)	0.61 (0.35 to 1.08)	36 (44.4)	0.55 (0.34 to 0.90)*	55 (67.9)	0.64 (0.37 to 1.09)

Model adjusted for age, education level, marital status, employment and parity.
*P values <0.05.
†P values <0.001.
‡AOR, Adjusted Odds Ratio

care that highlight the need for adolescent-responsive care. Implementing monitoring frameworks that include measures of mistreatment and abuse is also warranted.

Limitations

This study is based on girls' self-reports of mistreatment and abuse. Health workers' views on the topic would also be valuable in contextualising the findings and having a holistic picture of the issue. Because our study was conducted in an informal settlement in Nairobi, the findings are not generalisable to adolescent girls seeking care in resource-rich settings in Kenya.

CONCLUSION

Mistreatment and abuse of adolescent girls during childbirth are common in the study setting and are associated with lower levels of satisfaction with care, intention to use the facility for future births or willingness to recommend the facility to others. All women and girls have the right to respectful, quality, safe and comprehensive maternal healthcare, and this right should be respected to improve maternal health outcomes in Africa, where most maternal deaths occur.[29] In-service training of health workers on respectful care and systems to identify and respond to mistreatment and abuse in maternity care are warranted. Given that social norms around girls becoming pregnant so early can influence how girls are treated in clinics, in-service training of health providers should be tailored to tackle discrimination driven by these norms.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Consent obtained directly from patient(s).

Ethics approval The Amref Health Africa Ethics and Scientific Review Committee (ESRC) approved the study. The National Commission for Science, Technology and Innovation authorised the study (Licence No: NACOSTI/P/222116). Written and verbal consent were obtained from parents of minors and girls aged 18 and over. Also, girls younger than 18 years gave their assent verbally and in written forms. Field assistants informed participants of their rights to privacy, confidentiality, respect, anonymity and voluntary participation. They also informed them about the procedures to protect these rights and safeguard the safety and confidentiality of the data collected. In line with the ESRC recommendation, each participant received 300 Kenya Shillings (~US$2.50) after completing the interview to cover their transport and time. A distress protocol was developed for the study and used to train field workers on signs of distress and referral pathways. A total of six girls received the services of a clinical psychologist.

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