

Original Article

Out-of-Wedlock Pregnancy Among Single Mothers in Khartoum, Sudan: Sociodemographic Characteristics, Causes, and Consequences

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Abstract

Background: Out-of-wedlock childbearing is a global phenomenon that has lifelong consequences on the lives of both mothers and their children. The aim of this study is to identify the sociodemographic characteristics, causes, and consequences of out-of-wedlock pregnancy among single mothers in Khartoum, Sudan.

Methods: This descriptive, cross-sectional study was conducted at the Mygoma Orphanage Center (MOC) and Shamaa Rehabilitation Center (SRC) using convenience sampling among 200 participants. A validated questionnaire with 25 items was used to collect data. The data were entered into Epi-Data Manager and analyzed using the SPSS.

Results: The study found that most of the single mothers in Khartoum who gave birth out of wedlock were young and had just completed their university education. Most of them discovered their pregnancy during the second or third trimester, and nearly half of them did not receive any antenatal care. The majority of the children born to these mothers were preterm and had a low birth weight. Additionally, many mothers reported experiencing social stigma and rejection from their families due to their out-of-wedlock pregnancy. The study also highlighted loneliness, stress, and romantic relations as the main causes of out-of-wedlock pregnancy among single mothers in Khartoum, Sudan.

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Conclusion: The study provides useful insights into the sociodemographic characteristics, causes, and consequences of out-of-wedlock pregnancy among single mothers in Khartoum, Sudan. Social stigma and lack of support were identified as significant barriers to the reintegration of single mothers and their children into society. Future research should focus on investigating the long-term effects of out-of-wedlock pregnancy on mothers and their children.

Keywords: out-of-wedlock pregnancy, single mother, children, consequences, stigma

1. Introduction

The National Registration Service (NRD) reported over 257,000 birth certificates without fathers' names from 2000 to July 2008. This number is alarming, and it is accompanied by a significant increase in out-of-wedlock births from 532,158 in 2005 to 2015. Additionally, 526 abandoned births were recorded, and from 2012 to 2015, there were 16,270 cases of teenage pregnancies outside marriage (1). Adolescent girls between the ages of 13 and 19 are most affected by unplanned pregnancies outside marriage, according to a 2012 UNICEF report. The term "sex outside marriage" is viewed within a religious context, and studies indicate that both Muslim and Christian teenagers comprehend this term (1, 2).

The rate of unmarried births, in the United States, has significantly increased over the years. In 1970, 11% of deliveries were to single mothers. This percentage rose to 28% in 1990 and further increased to 41% in 2013, with approximately 1.6 million births annually (3). The majority of unmarried births occur among females aged 20 to 24 years. Unlike in the past, most of these births occur within cohabiting relationships, with the child having both parents present at birth. However, many of these children end up living in single-parent households for a significant portion of their lives. The lack of married parents has been linked to poor health outcomes at birth and developmental delays in early childhood (4-6).

Premarital pregnancy is becoming more prevalent in sub-Saharan African countries and can lead to negative outcomes for both women and children. In the United States, unplanned children and those born out of wedlock contribute to high rates of child poverty and single-parent households. Factors such as parental control, education, family dynamics, peer influence, and media exposure can all impact family relationships and increase the risk of premarital pregnancies. Understanding these factors is crucial to developing effective prevention and intervention strategies to promote healthy family relationships and reduce the incidence of premarital pregnancies (1, 7, 8).

The significance of family lineage has been emphasized through marriage, which remains a fundamental requirement for procreation. In Islam, marriage is a sacred institution in society that aims to preserve the purity of lineage. Therefore, premarital pregnancy is considered a disgrace by Malaysian society as it is viewed as a result of prohibited work. Children born out of wedlock have no legal ties to their biological father and are registered without the father's name, which can have negative social and legal implications (9).

There are various reasons why having a child out of wedlock can negatively impact the child's survival and well-being, particularly in sub-Saharan Africa and Sudan. In sub-Saharan Africa, families are often not organized according to the unitary family model, and children benefit from having mothers with some bargaining power over resource allocation decisions. In Western countries, birth registration is considered a "first right" protected by the Convention on the Rights of the Child. In Sudan, evidence suggests that a significant number of abandoned children were born out of wedlock due to the stigma and fear of authorities, leading to high mortality rates (10, 11). In Nigeria, one previous study showed that families headed by young adult are more likely to expose to unintended pregnancy of unmarried girls compared to those headed by older adult (12). This study was conducted to investigate the characteristics, causes, and consequences of out of wedlock childbearing on mothers and their children in Khartoum, Sudan.

2. Methods

2.1. Study Design

This was a cross-sectional descriptive study conducted among children born out of wedlock and their single mothers in Khartoum, Sudan. A cross-sectional study type is a design of observational study that assesses a population at a specific point of time, providing a description of the variables under study.

2.2. Study Setting

The study was conducted at two centers in Khartoum State: The Mygoma Orphanage Center (MOC) and the Shamaa Organization.

2.3. Study Period

The study was conducted from November 2020 to August 2021.

2.4. Sampling and Sample Size

A convenience sampling technique was used to select 200 participants (100 children and 100 single mothers) from the selected centers. In this study, the researchers likely selected participants from the targeted center in Khartoum, Sudan, as it was convenient for them to recruit participants who fulfil the inclusion criteria.

2.5. Data Collection Technique and Tools

The researchers employed a questionnaire-based approach to collect data from the participants in Khartoum Sudan. This approach involves administering and gathering information related to the study variables. The data were collected using a pretested validated questionnaire developed by the researchers, consisting of three parts: demographic characteristics of children and mothers, the effects on children, and the effects on mothers.

2.6. Pilot Study

The questionnaire was reviewed by two pediatricians for accuracy and was pretested on a sample of 10 women from Gazira state. The Cronbach's alpha was found to be above 0.7, indicating its validity and reliability.

2.7. Data Analysis

The data was analyzed using SPSS version 24. Descriptive statistics, such as mean, standard deviation, and median, were used to summarize the data numerically and graphically. A chi-square test and analysis of variance were used to determine the association among variables. Statistical significance was considered when $p < 0.05$.

3. Results

3.1. Summary of findings

Table 1 presents the sociodemographic characteristics of the 100 single mothers included in the study. The majority of the mothers were between 18–25 years old (41%), followed by those under 18 years old (26%), while the least represented age group was between 33–39 years (12%). In terms of origin, an equal number of mothers came from the north and east of Sudan (35%), followed by those from the west and south (15%). Most mothers were living in single residence (42%), followed by those living with family (22%), and relatives (25%). All mothers identified themselves as either Muslim (97%) or Christian (3%). In terms of education background, the majority of mothers had completed university (56%), followed by those who had completed secondary education (20%). Only 12% of mothers were illiterate. In terms of occupation, most of the mothers were students (65%), followed by employees (19%) and those who were not employed (16%).

Regarding pregnancy, most mothers discovered their pregnancy during the second trimester (39%), followed by those who discovered it during the third trimester (33%) and the first trimester (28%). Most mothers (46%) did not receive any antenatal care during their pregnancy, while 37% received care during the first trimester, 13% during the second trimester, and only 4% during the third trimester. In terms of mode of delivery, most mothers gave birth through normal vaginal delivery (61%), while the remaining 39% had cesarean sections. When asked about their families' responses to their out-of-wedlock pregnancy, 37% mothers reported that their families rejected the only the child and 36% reported that both the mother and the child were rejected. A minority reported neglect (3%) or aggression towards one or both of them (24%).

Table 2 presents the sociodemographic characteristics of the children. Total 46% of the children were between 1 month and 1 year old, while 38% were between 1 and 2 years old. Only 7% of the children were over 2 years old. Most of the children (41%) were born at term, while 57% were born preterm. Only 2% of the children were post-term. In terms of birth weight, 66% of the children had a low birth weight, 31% had a normal birth weight, and only 3% had a large birth weight. Only 4% of the children had congenital anomalies, while 96% did not. Regarding the health status of the children, 85% were reported as healthy while 15% were reported as sick.

Table 3 shows that 96% of the single mothers had a relationship with their partners before pregnancy, while only 4% did not have a previous relationship.

Table 4 displays the places where the relationships between the single mothers and their partners occurred before pregnancy. Mostly relationships began during a period

of study (41%), followed by those that began at home (37%). Relationships that began at work and through social media were reported by 13% and 6% of the participants, respectively, while only 3% of the relationships started at a market.

Table 5 shows the causes of wedlock pregnancy among out-of-wedlock mothers in Khartoum, Sudan. Among the causes, loneliness had the highest percentage (56%), followed by stress (47%) and romantic relations (43%). On the other hand, revenge had the lowest percentage of 2%, and for money it was 1%.

Table 6 displays the complications post-delivery among single mothers. Among the complications, bleeding had the highest percentage (19%), followed by postpartum blues (20%), and infection (15%). However, the majority (55%) reported having no complications post-delivery.

Table 7 presents the social stigma attached to out-of-wedlock pregnancy in terms of post-pregnancy living status. The majority (33%) reported that the mother isn't married and lives with her family. Still, some reported that the mother isn't married and lives alone with her baby as a single-parent family (14%), while others reported that the mother can marry the same partner (25%) or marry someone else for her child (28%).

Table 8 shows the causes of child abandonment among out of wedlock children in Khartoum, Sudan. Social stigma had the highest percentage (90%), followed by lack of social support (87%) and legal punishments (24%). Poverty had the lowest percentage of 3%.

Table 9 displays the causes of reunited babies to the biological mothers among out-of-wedlock children in Khartoum, Sudan. Agency support had the highest percentage (97%), followed by family support (60%) and partner support (24%). Religion wise was the lowest percentage of 5%.

Table 10 shows the relationships between living status and causes of pregnancy, specifically stress and loneliness. The majority (42%) of single mothers in residence reported loneliness as the cause of pregnancy, while 22% of the families reported stress as the cause. The p -value for this relationship is 0.699, indicating no significant association.

Table 11 presents the relationships between educational background and causes of pregnancy, specifically stress and loneliness. The highest percentage of university-educated mothers (56%) reported stress as the cause of pregnancy, followed by secondary-educated mothers (20%) and illiterate mothers (12%). The p -value for this relationship is 0.070, indicating no significant association.

TABLE 1: Sociodemographic characteristics of the mothers.

Items	Frequency	Percent
Mothers age: < 18 years 18–25 years 26–32 years 33–39 years	26 41 21 12	26 41 21 12
Mothers' origin: North Sudan South Sudan West Sudan East Sudan	35 15 15 35	35 15 15 35
Mothers' living status: Cohabitation Single in residence Family Relatives	11 42 22 25	11 42 22 25
Mothers' religious: Muslim Christian	97 3	97 3
Mothers' education background: Illiterate Primary Secondary University Post university	12 6 20 56 6	12 6 20 56 6
Mothers' occupation status: Student Employee Not employee	65 19 16	65 19 16
Discovering of pregnancy by the families: First trimester Second trimester Third trimester	28 39 33	28 39 33
Receiving of antenatal care: First trimester Second trimester Third trimester None	37 13 4 46	37 13 4 46
Mode of delivery Normal vaginal delivery Cesarian section	61 39	61 39
Families' responses toward out-of-wedlock pregnancy: Reject the mother and her child Reject only the child Neglect Act aggressively towards one or both of them	36 37 3 24	36 37 3 24

TABLE 2: Sociodemographic characteristics of the children.

Items	Frequency (No)	Percent (%)
Child age: < 1 month 1 month–1 year 1year–2years > 2 years	9 46 38 7	9 46 38 7
Child gestational age: Preterm Term Post-term	57 41 2	57 41 2
Childbirth weight: Low birth weight Normal birth weight Large birth weight	66 31 3	66 31 3
Congenital anomalies: Yes No	4 96	4 96
Health status: Healthy Sick	85 15	85 15

TABLE 3: The presence of a relationship between single mothers and their partners before pregnancy.

	Frequency	Percent
Yes	96	96.0
No	4	4.0
Total	100	100.0

4. Discussion

Pregnancy outside marriage has become a major social challenge that must be addressed immediately. It runs the risk of children being abandoned or left to die, which will have a lasting impact on our society (1). This paper examines the impact of out-of-wedlock childbearing on both mothers and their children in Khartoum, Sudan. Due to

TABLE 4: Place of the relationship between single mothers and their partners before pregnancy.

Items	Frequency	Percent
Work	13	13.0%
Study	41	41.0%
Home	37	37.0%
Social media	6	6.0%
Market	3	3.0%
Total	100	100%

TABLE 5: Causes of wedlock pregnancy among out of wedlock mothers in Khartoum, Sudan.

Items	Yes		No	
	No	%	No	%
Stress	47	47.0	53	53.0
Loneliness	56	56.0	44	44.0
Romantic relation	43	43.0	57	57.0
Revenge	2	2.0	98	98.0
Rape	17	17.0	83	83.0
For money	1	1.0	99	99.0

TABLE 6: Complications post-delivery among single mothers.

Items	Yes		No	
	No	%	No	%
Bleeding	19	19.0	81	81.0
Infection	15	15.0	85	85.0
Postpartum blues	20	20.0	80	80.0
None	55	55.0	45	45.0

TABLE 7: Social Stigma attached to out-of-wedlock pregnancy in terms of post-pregnancy living status.

Items	Frequency	Percent
Mother isn't married and lives alone with her baby as a single-parent family	14	14.0
Mother can marry the same partner	25	25.0
Mother can marry someone else about her child	28	28.0
Mother isn't married and lives with her family	33	33.0
Total	100	100.0

data limitations, previous studies have primarily focused on the costs of early childbirth to the mother and have largely ignored the impact of out-of-wedlock childbearing on mothers and their children.

The study provides insights into the sociodemographic characteristics, causes, and consequences of out-of-wedlock pregnancy among single mothers in Khartoum, Sudan. The findings suggest that most single mothers in this country are young and have just

TABLE 8: Causes of child abandonment among out-of-wedlock children in Khartoum, Sudan.

Items	Yes		No	
	No	%	No	%
Social Stigma	90	90.0	10	10.0
Poverty	3	3.0	97	97.0
Lack of social support	87	87.0	13	13.0
Legal Punishments	24	24.0	76	76.0

TABLE 9: Causes of reunited babies to the biological mothers among out-of-wedlock children in Khartoum, Sudan.

Items	Yes		No	
	No	%	No	%
Family support	60	60.0	40	40.0
Partner support	24	24.0	76	76.0
Religious wise	5	5.0	95	95.0
Agency support	97	97.0	3	3.0

TABLE 10: Relationships between living status and causes of pregnancy.

Items			Causes		Total	p-value
			Stress	Loneliness		
Cohabitation with partner	Count		4	7	11	0.699
	% of total		4.0%	7.0%	11.0%	
Single in residence	Count		22	20	42	
	% of total		22.0%	20.0%	42.0%	
Family	Count		11	11	22	
	% of total		11.0%	11.0%	22.0%	
Relatives	Count		10	15	25	
	% of total		10.0%	15.0%	25.0%	
Total	Count		47	53	100	
	% of total		47.0%	53.0%	100.0%	

completed university education. Most of them discovered their pregnancy during the second or third trimester, and nearly half did not receive any antenatal care. Most of the children born to these mothers were preterm and had a low birth weight. Moreover, many mothers reported experiencing social stigma and rejection from their families due to their out-of-wedlock pregnancy.

The study highlights the prevalence of loneliness, stress, and romantic relations as the main causes of out-of-wedlock pregnancy among single mothers in Khartoum. In one previous study, it was reported that material needs to be a main reason for such pregnancy followed by coercion or abuse (13). Furthermore, one previous study

TABLE 11: Relationships between educational background and causes of pregnancy.

			Causes		Total	p-value
			Stress	loneliness		
Education level	Illiterate	Count	4	8	12	0.070
		% of total	4.0%	8.0%	12.0%	
	Primary	Count	1	5	6	
		% of total	1.0%	5.0%	6.0%	
	Secondary	Count	6	14	20	
		% of total	6.0%	14.0%	20.0%	
	University	Count	32	24	56	
		% of total	32.0%	24.0%	56.0%	
	Post-university	Count	4	2	6	
		% of total	4.0%	2.0%	6.0%	
Total		Count	47	53	100	
		% of total	47.0%	53.0%	100.0%	

conducted in South Africa identified that academic demand during university education is considered a reason for unmarried pregnancy (14).

The findings also suggest that social stigma is a significant barrier to child abandonment and reunification with biological mothers. The study emphasizes the need for agency and family support to help single mothers and their children overcome social stigma and reintegrate into society.

Regarding the sociodemographic characteristics of the mother, the current study revealed that more than half had a university education, which differs from Sawhill et al. (2014) and Smith-Greenaway (2016) (7, 8). Sawhill et al. (2014) stated that the growth of birth out of wedlock has been concentrated among less-educated women, while Smith-Greenaway (2016) reported that most children's mothers are primary school-educated. Moreover, the majority of single mothers in the current study were Muslim, which differs from Saari et al. (2017), who found that the majority of underage female teenagers who abandoned their illegitimate babies were Muslim (1). The present study also found that the majority of single mothers were between 18–25 years old and university-educated, which differs from Saari et al. (2017), who found that teenagers were more inclined to have sex when there was no parental monitoring after school hours (1). The current study highlighted that the majority of relationships took place before pregnancy during the study period, which is similar to Saari et al. (2017), who found that peer influence is one of the main reasons why teenagers are involved in out-of-wedlock pregnancy. However, the current study showed lower social media influence than the other study (1).

Regarding the sociodemographic characteristics of the child, the present study found that mostly children were healthier than in Sawhill et al. (2014) (7). However, the majority were preterm and had a low birth weight, which is in line with Sharma et al. (2008), who found that infants born to younger women are more likely to be born prematurely and have low birth weight (6-8).

However, the study has some limitations. Firstly, the sample size is relatively small, which limits the generalizability of the findings. Secondly, the study relied on self-reported data, which may be subject to social desirability bias. Finally, the study did not investigate the long-term effects of out-of-wedlock pregnancy on mothers and their children.

In conclusion, the study provides useful insights into the sociodemographic characteristics, causes, and consequences of out-of-wedlock pregnancy among single mothers. Furthermore, the potential consequences are not only limited to the psychological and emotional, but also extended to the economic impacts on the mothers and countries, in addition to the developmental impacts on the children. It sheds light on the need for comprehensive investigation systems and appropriate interventions to address the social, psychological, and economic consequences on both mothers and societies, as well as the developmental impacts on children.

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Ethical Considerations

Ethical approval was obtained from the University of Medical Sciences and Technology, Faculty of Nursing Sciences. Official permission was also obtained from the general administrator of the Ministry of Social Welfare and the general administrator of the Shamaa Organization.

Competing Interests

The authors declare that there is no competing interest related to this study.

Availability of Data

The data are available upon request from the corresponding author.

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