

Original Research Article

Barriers and enablers to postnatal care services utilization among women of reproductive age in Bosaso district, Somalia

Suad M. Mohamud^{1*}, Isaac O. Owaka¹, Joseph K. Musau²

¹Department of Environmental and Occupational Health, Kenyatta University, Nairobi, Kenya

²Department of Pharmacology and Clinical Pharmacy, Kenyatta University, Nairobi, Kenya

Received: 06 May 2025

Revised: 21 June 2025

Accepted: 01 July 2025

*Correspondence:

Dr. Suad M. Mohamud,

E-mail: susufarey4@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: The postnatal period is the period immediately following birth and up to six weeks after delivery. Quality postnatal care is important for continuity of care for the mother and the newborn. The aim of this study was to establish the barriers and obstacles to postnatal services utilization among women of reproductive age in Bosaso district, Somalia. **Methods:** The study was a cross-sectional analysis and a community-focused approach. The sample size was determined by the statistical formula proposed by Cochran (1998) and 384 women participated in the study. Questionnaires were used to obtain quantitative data. Qualitative data was obtained through key informant interviews and focus group discussions. Data was analysed using statistical package for the social sciences (SPSS) V25. Chi square test provided inferential statistics with 95% confidence intervals, and a p value cut-off of ≤ 0.05 .

Results: The response rate was 100%. 33.3% were aged 23 to 28 years while 49.0% were married. There was a statistically significant association ($\chi^2=6.007$, $df=2$, $p=0.050$, Cramer's $V=0.050$) between marital status and the utilization of postnatal care services. There was no significant association between education levels and the uptake of postnatal care services, ($\chi^2=3.497$, $df=3$, $p=0.321$, Cramer's $V=0.321$). There was a statistically significant correlation between accessibility of health facilities and utilization of postnatal care services.

Conclusions: Marital status is a significant factor in utilizing postnatal care services. Distance to health facilities impacts health seeking behaviour. Majority never attended postnatal care services as recommended.

Keywords: Barriers, Postnatal care services, Reproductive age, Bosaso district, Somalia

INTRODUCTION

The postnatal period is up to six weeks after delivery. Health care in this period includes disease prevention and treatment and, advise on diet and contraception.¹ In the immediate postnatal period, infant and, maternal morbidity and mortality is high as the infant adopts physiologically and postpartum haemorrhage risk rises.² Quality postnatal care provision is necessary for supporting maternal and child health and achieving sustainable development goal (SDG) targets on infant and maternal mortality reduction.^{3,4} Majority of maternal deaths occur in poor countries including those in sub-Saharan Africa where

health services are poor.^{4,6} Consequently two thirds of women in sub-Saharan cannot obtain postnatal care services negatively impacting the mothers and newborns.⁷ The poor uptake of postnatal services is attributed to mothers being late for appointments and not attending the recommended visits, among other reasons.⁸ Postpartum haemorrhage is among the foremost causes of maternal deaths in Africa.⁹ Postnatal care provision helps mothers cope with motherhood challenges.¹⁰ In Somalia, 4 out of 5 women deliver at home, 2 out of 3 women do not obtain postnatal care and 1 out of 5 women who miscarry do not have access to post-abortion care.¹¹ As of 2023, Somalia had among the world's highest maternal and infant mortality ratios which are way beyond the 2030 SDG

targets.¹² Expanding maternal and new-born services remains the most effective strategy to reduce maternal and neonatal mortality.¹³ The aim of this study was to determine the enablers and obstacles post-natal care services utilization among women of reproductive in Bosaso district, Somalia.

METHODS

The study was a cross-sectional analysis and a community-focused approach to evaluate the usage of postpartum care by women in their reproductive years residing in Bosaso district, Somalia. This allowed for both quantitative and qualitative analysis and reporting of gathered data. The study was carried out in Bosaso district in Bari province Puntland state of Somalia. Bosaso district's economy is extremely reliant upon business exchange through its seaport. The district had an estimated 190,000 residents in 2017 which is the highest population of any district in the Southern region. It has one of the highest rates of infant and maternal mortality in the Somalia.¹³ The target population was females within the reproductive age bracket of 15-49 years who were residing in the Bosaso district and with children who were by the time of study aged 0-6 months old. Cochran's formula was used to determine the sample size.¹⁴ Stratified random sampling was used to select the respondents, the district has four sections: New Bosaso, Laantahawada, Biyo Kullule and Raf Iyo Raaxo where the area was divided into two locations; New Bosaso and Biyo kulule. A total of 384 women were utilized in the study. Questionnaires were used to obtain quantitative data. Qualitative data was obtained through key informant interviews and focus group discussions. Pre-testing was done a Caluula, city of Puntland Somalia, which is around 30 km from Bosaso and has same characteristics with study area. Pretesting was done by taking 10% of the sample size.

Data analysis

Data was processed, cleaned, coded and entered into Microsoft Excel® before being exported and analysed using statistical package for the social science (SPSS) version 25. A Chi square test was used to provide inferential statistics with a 95% level of confidence to ascertain the association between independent and dependent variables.

Ethical considerations

The study was granted approval and authority from Kenyatta University Graduate School and ethical approval from Kenyatta university Ethical Review Committee, Nairobi, Kenya vide Ref: Q139F/CTY/PT/21103/2020. Further clearance and authorization to carry out the research was obtained from the Ministry of Health and Human Services, Somali Federal Republic, ref TIX: XAG/421/23. Authority was also sought from the Bosaso district commissioner. Consent was sought from each

respondent on voluntary participation, privacy and confidentiality.

RESULTS

There was a comprehensive and complete response from the entire sample size signifying a high level of engagement and participation from the participants in the study. The participants were evenly distributed between Biyo Kulule and New Bosaso.

Socio-demographic factors

Social demographic characteristics of the participants were identified as indicated in Table 1. The socio-demographic attributes were age, marital status, educational level, and location of residence. Majority of participants, accounting for 33.3% of the entire sample, were aged 23 to 28 years while those aged 17 to 22 years were 26.6%. Regarding marital status, a substantial proportion of the participants (49.0%) were married while the separated were 32.8%. the widowed were 18.2%. There was a statistically significant association ($\chi^2=6.007$, $df=2$, $p=0.050$, Cramer's $V=0.050$) between marital status and the utilization of postnatal care services. About thirty percent (30.5%) of the participants had completed primary level of education while 18.8% had tertiary level of education. Those with basic education and secondary level accounted for 27.1% and 23.7% respectively. The study found no significant association ($\chi^2=3.497$, $df=3$, $p=0.321$, Cramer's $V=0.321$) between education levels and the uptake of postnatal care services.

Socioeconomic characteristics

Majority (74.5%) of respondents were housewives. The husbands' occupations had casual laborers constituting the largest group at 37.8%, followed by businesspersons and salaried employees. Regarding income, majority of the families (58.9%) reported monthly income ranging from 150-250 USD while 23.2% had a monthly income of more than 250 USD. About 3.6% were unemployed. The examination of occupation in relation to postnatal care uptake displayed a moderate association, yet it did not reach statistical significance ($\chi^2=7.206$, $df=3$, $p=0.066$, Cramer's $V=0.066$).

Accessibility of health facilities for postnatal care services

Slightly less than two percent (1.8%) of respondents reported that facilities with postnatal care services were situated less than 1 kilometer from their homes, 15.9% mentioned that the distance ranged from 1 to 2 kilometers while 49.2% indicated that these facilities were within a distance of 2 to 3 kilometers. Twenty-five percent (25.3%) reported the distance to the nearest health facilities were 3 to 4 kilometers from their residences. Almost eight percent (7.8%) reported this distance was more than 5 kilometers. About 71.4% of the respondents delivered at home while 28.6% of the respondents delivered at healthcare facility.

Most of the respondents (55.2%) indicated that they walked to the health facilities. Twenty-seven percent (27.1%) used motorcycles, 16.1% utilized cars and 1.6%, used bicycles as their mode of transport. About 94.0% of the participants reported not having health insurance thus they paid for the services by cash. Ninety-four percent (94%) of the respondents preferred and sought their postnatal care services from public health facilities. Almost ninety-two percent (91.6%) perceived the accessibility to postnatal care services as good or excellent while only 0.3% reported the accessibility as poor. Regarding effect of accessibility of health facilities on utilization of postnatal care services, the Pearson correlation coefficient of 0.73 suggested a robust positive association between the two variables. The obtained p value of 0.000, which is less than the predetermined significance level of 0.05, suggested a statistically significant correlation between accessibility of health facilities on utilization of postnatal care services.

Obstacles in accessing health care

The predominant challenge, reported by 77.9% of the respondents, was the high cost associated with accessing healthcare services. Additionally, 20.8% identified poor service as a significant obstacle. Only 1.3% highlighted challenges related to the poor design of systems and processes in healthcare facilities as obstacle to accessing postnatal care services.

Uptake postnatal care services

Majority of the respondents, almost eighty-six percent (85.9%) of the respondents did not seek postnatal care services. The remaining 14.1% had sought or attended postnatal care services. Of those who sought and attended postnatal care services, 82.1% indicated that they attended only once while 17.9% attended twice. Noteworthy, none of the respondents visited the facilities for postnatal care services to the required four times.

Pregnancies and delivery

The majority of respondents (52.8%) reported having had five or more pregnancies. 14.8%, reported having had two pregnancies, while 10.4% reported three pregnancies. Almost twenty-six percent (25.8%) of the respondents had 0 to 2 live births, 62.2% had 3 to 5 live births and 11.9% had a history of 6 to 9 live births. Normal vaginal delivery was the most frequently reported method of delivery, accounting for 44.5% of the respondents and caesarean delivery was the second most common method, reported by 29.7% of the participants. 25.8% of the respondents had assisted vaginal delivery. A significant one hundred and twenty-four (124) participants representing 32.3% received aid from health professionals, 66 participants (17.2%) reported the involvement of relatives or friends during the delivery process and 3 participants (0.8%), sought assistance from traditional birth attendants. A

considerable 191 participants (49.7%) indicated that no one specifically assisted during the delivery, indicating a significant number of unaided childbirths in the surveyed population. Two hundred and seventy-four (274) respondents, accounting for 71.4%, experienced complications during their pregnancies and 110 respondents, constituting 28.6% of the total did not encounter any complications. Postpartum hemorrhage was the most frequently reported complication post-delivery, accounting for 173 cases or approximately 63.1% of the total reported complications. Following this, early water breaking was cited by 62 respondents, comprising 22.6% of the reported cases. Other reported complications include slow progress of labor (24 cases, 8.8%), ectopic pregnancy (9 cases, 3.3%), abnormal heart rate of the baby (4 cases, 1.5%), and problems with the umbilical cord (2 cases, 0.7%).

Post-delivery clinic visit timeline

Majority of respondents, accounting for approximately 68.8%, visited the clinic within one day after delivery. A significant proportion, about 27.3%, attended the clinic within two days post-delivery. A small number of participants reported visiting the clinic three to four days after childbirth, comprising 3.4% and 0.6%, respectively. When asked about the recommended post-delivery clinic visits, 29.9% of participants suggested visiting the clinics during the third week, 24% indicated the second week, 18.8% the fourth week, 13.0% advised the first week and 14.3% of participants were unsure about the recommended time.

Cultural factors

Majority of the participants (52.1%), indicated having awareness of cultural factors that affect postnatal care seeking behaviour especially myths and attitudes while 47.9% did not understand many cultural barriers to postnatal services seeking behaviour. 35.9% of the respondents, reported making health care decisions themselves, 31.8% indicated joint decision-making by both parties (self and husband). and 12.5% mentioned that the decision-making responsibility lay with their husbands/partners. The remaining 19.8% specified other decision-making arrangements. Regression model was adopted to assess and quantify the relationship between a cultural factors and utilization of postnatal care services. The R square value was 0.81 (81%) for the model, indicating that approximately 81% of the variability in the utilization of postnatal care services among women of reproductive age can be explained by the included predictors, namely myths and family decision makers. The R square denotes the proportion of variance in the dependent variable, in this case, the utilization of postnatal care services, that can be accounted for by the predictors within the model. The R value was 0.9, suggesting a strong positive correlation between the predicted values from the model and the actual observed values.

Table 1: Socio-demographic information.

Demographics	Frequency	Percent
Age (years)		
17-21	96	25.0
22-24	122	31.7
25-29	75	19.5
30-34	52	13.5
35-39	21	5.4
40 and above	18	4.7
Total	384	100.0
Marital status		
Married	188	49.0
Widowed	70	18.2
Separated	126	32.8
Total	384	100.0
Level of education		
Basic education	104	27.1
Primary level	117	30.5
Secondary level	91	23.7
Tertiary level	72	18.8
Total	384	100.0

Table 2: Socio-demographic factors associated with postnatal care among women of reproductive age in Bosaso district, Somalia.

Socio-demographic factors	Post-natal care service uptake		Total	Chi-square	df	P value	Cramer's V
	Yes	No					
Marital status							
Married	31	157	188	6.007 ^a	2	0.050	0.050
Widowed	13	57	70				
Separated	10	116	126				
Total	54	330	384				
Level of education							
Basic education	19	85	104	3.497 ^a	3	0.321	0.321
Primary level	16	101	117				
Secondary level	13	78	91				
Tertiary level	6	66	72				
Total	54	330	384	384			
Education							
House wife	34	252	286	7.206 ^a	3	0.066	0.066
Business women	5	28	33				
Unemployed	4	21	25				
Salaried employed	11	29	40				
Total	54	330	384				

a: statistical significance

Table 3: Correlations.

Variables	Accessibility of health facilities	Utilization of postnatal care services
Pearson correlation	1	0.73
Sig. (2-tailed)		0.000
N	384	384

Table 4: Model summary.

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.9 ^a	0.81	0.03	3.48

a: statistical significance

DISCUSSION

The response rate was 100% and majority of the respondents were aged between the ages of 23 and 28 years. Similarly, most of the respondents were married. Similar findings on postnatal services utilization were reported which indicated high response rates with married women being majority of the respondents.¹⁵

The uptake of postnatal care differed significantly across marital statuses. The study revealed notable variations in service utilization between married, widowed, and separated individuals. The unmarried, those of older age, the separated and widowed did not seek for postnatal services as much as the married and those aged 23-28 years. Similar associations have been observed in Rwanda in which older women, the unmarried women, the widowed had poor health seeking behaviors.¹⁶ There was no significant association between education levels and the uptake of postnatal care services. Similarly, the examination of occupation in relation to postnatal care uptake displayed a moderate association, yet it did not reach statistical significance. Sociodemographic factors such as education level, no doubt enhance health seeking behaviour.¹⁷ Emphasis should be on the multifaceted nature of socio-demographic factors and they must be considered in designing interventions.¹⁸ In this study, there was an association between marital status and postnatal service utilization thus emphasizing the need for family-centric approaches. Distance to health facilities for postnatal services was indicated as a major challenge towards uptake of those services. Most of those who changed the health facilities did so because of distance. This is similar to a study in Ethiopia which established that the farther the distance to health services, the lower the utilization of antenatal, perinatal and postnatal counselling services.¹⁹ This study affirms that enhanced accessibility to healthcare facilities has a beneficial impact on the consumption of postnatal care services, hence promoting their uptake as observed by other researchers.²⁰ High cost of services and poor design of systems and processes in healthcare facilities were the predominant challenges to postnatal service utilization. None of the respondents visited the health facilities for the required four times. Equally, none was aware of the required number of postnatal visits. Cultural factors and beliefs including myths on postnatal care services utilization were established as barriers to accessing and utilizing postnatal care services in Bosaso district, Somalia. Key barriers to the utilization of maternal health services in low and lower middle-income countries include access barriers, knowledge barriers and cultural beliefs.²¹ Pregnancy, mode of delivery and complications during pregnancy and

delivery impact significantly on uptake of postnatal services.²²

In this study, majority of respondents reported having had five or more pregnancies and 3 to 9 live births. In addition, caesarean delivery was reported by a third of the respondents. More than seventy percent of the respondents experienced complications during pregnancy and delivery. High number of pregnancies and births are associated with postpartum complications. Such complications as reported in this study include post-partum haemorrhage, slow progress of labour, premature rupture of membranes and problems with umbilical cord. All these complications meant that most of the affected mothers sought for postnatal care services of a healthcare provider as was established by this study that a third of the respondents received aid from health professionals. Only a negligible number of respondents who had postpartum complications sought the services of a traditional birth attendant.

Limitations

The study faced challenges of poor road network especially in accessing many of the areas. Besides, the study was limited to New Bosaso and Biyo kulule of Bosaso district. Although the study recognized the existence of cultural challenges, it did not quantitatively analyse the specific characteristics or magnitude of these obstacles towards utilization of postnatal services.

CONCLUSION

Marital status emerged as a significant factor, with married individuals exhibiting a higher likelihood of utilizing postnatal care services. Education levels and occupational categories did not show statistically significant associations with utilization of postnatal services. While proximity to health care facilities has a role in health seeking behaviour, this study did not find a straightforward linear relationship between distance and service utilization. This suggests that other factors, such as transportation infrastructure and perceived quality of services also influence accessibility. A substantial majority never attended postnatal care services as recommended. There is need for targeted interventions to enhance awareness and utilization of postnatal care services. These involve customizing healthcare services to meet the specific needs of mothers and infants during the postpartum period. By addressing factors such as maternal health status, socioeconomic background, cultural beliefs, individual health related factors and geographic accessibility, targeted postnatal care can better meet the diverse needs of women in their reproductive years, ultimately leading to improved health outcomes for both mothers and infants. Targeted

postnatal care interventions enhance patient satisfaction, increase adherence to healthcare recommendations, and facilitate better continuity of care, leading to more positive birth experiences and improved long-term health outcomes for mothers and infants.

ACKNOWLEDGEMENTS

The authors would like to thank the participants for taking part in the study. They would also like to thank the Somali federal republic and Bosaso district administration for enabling this study to be carried out.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

- World Health Organization. Trends in maternal mortality. 2018. Available at: <https://documents1.worldbank.org/curated/en/793971568908763231/pdf/Trends-in-maternal-mortality-2000-to-2017-Estimates-by-WHO-UNICEF-UNFPA-World-Bank-Group-and-the-United-Nations-Population-Division.pdf>. Accessed on 15 May 2025.
- World Health Organization. WHO Technical Consultation on Postpartum and Postnatal Care. 2010. Available at: <https://www.who.int/publications/i/item/WHO-MPS-10.03>. Accessed on 15 May 2025.
- World Health Organization. WHO recommendations on maternal and newborn care for a positive postnatal experience: executive summary. 2022. Available at: <https://www.who.int/publications/i/item/9789240045989>. Accessed on 15 May 2025.
- World Health Organization. Trends in Maternal Mortality: 1990 to 2015. Estimates by WHO, UNICEF, UNFPA, the World Bank and the United Nations Population Division. 2015. Available at: https://iris.who.int/bitstream/handle/10665/193994/WHO_RHR_15.23_eng.pdf. Accessed on 15 May 2025.
- Faruk N, Surajudeen-Bakinde NT, Abdulkarim A, Oloyede AA, Olawoyin L, Bello OB, et al. Rural Healthcare Delivery in Sub-Saharan Africa: An ICT-Driven Approach. *Int J Healthc Inf Syst Inform*. 2020;15(3):21.
- Samuel O, Zewotir T, North D. Decomposing the urban–rural inequalities in the utilisation of maternal health care services: evidence from 27 selected countries in Sub-Saharan Africa. *Reprod Health*. 2021;18(1):216.
- Mekonen EG, Workneh BS, Zegeye AF, Tamir TT. Only three out of ten women received adequate postnatal care in sub-Saharan Africa: evidence from 20 countries demographic and health surveys (2015–2022). *BMC Pregnancy Childbirth*. 2025;25:138.
- Tumwizere G, Mbonye MK, Ndugga P. Determinants of late antenatal care attendance among high parity women in Uganda: analysis of the 2016 Uganda demographic and health survey. *BMC Pregnancy Childbirth*. 2024;24:32.
- Negesa Beyene B, Jara Boneya D, Gelchu Adola S, Abebe Sori S, Dinku Jiru H, Sirage N, et al. Factors associated with postpartum hemorrhage in selected Southern Oromia hospitals, Ethiopia, 2021: an unmatched case-control study. *Front Glob Womens Health*. 2024;5:1332719.
- Tesfahun F, Worku W, Mazengiye F, Kifle M. Knowledge, Perception and Utilization of Postnatal Care of Mothers in Gondar Zuria District, Ethiopia: A Cross-Sectional Study. *Matern Child Health J*. 2014;18(10):2341-51.
- SHDS. The Somali Health and Demographic Survey 2020. Directorate of National Statistics, The Federal Republic of Somalia. 2020. Available at: https://somalia.unfpa.org/sites/default/files/pub-pdf/FINAL%20SHDS%20Report%202020_V7_0.pdf. Accessed on 15 May 2025.
- EQUAL. 2024 Somalia: Maternal & Newborn Health Country Profile. EQUAL research consortium funded by UK aid from the UK government. Available at: <https://equalresearch.org/somalia>. Accessed on 15 May 2025.
- The Ministry of Health and Human Services, Federal Government of Somalia. Reproductive, Maternal, Neonatal, Child and Adolescent Health Strategy 2019-23. 2020. Available at: <https://moh.gov.so/en/wp-content/uploads/2020/07/Reproductive-Maternal-Neonatal-Child-And-Adolescent-Health-Strategy-2019-2023-1.pdf>. Accessed on 15 May 2025.
- Cochran WG. Sampling techniques. 3rd edition. New York: John Wiley & Sons. 1998.
- Yosef Y, Demissie M, Abeje S, Walle F, Geze S, Beyene A, et al. Prevalence of early postnatal care services usage and associated factors among postnatal women of Wolkite town, Gurage zone, Southern Ethiopia: a community-based cross-sectional study. *BMJ Open*. 2023;13(1):e061326.
- Rurangirwa AA, Mogren I, Nyirazinyoye L, Ntaganira J, Krantz G. Determinants of poor utilization of antenatal care services among recently delivered women in Rwanda; a population-based study. *BMC Pregnancy Childbirth* 2017;17:142.
- Mou TJ, Afroz KA, Haq A, Jahan D, Ahmad R, Islam T, et al. The Effect of Socio-Demographic Factors in Health-Seeking Behaviors among Bangladeshi Residents during the First Wave of COVID-19. *Healthcare (Basel)*. 2022;10(3):483.
- Chompikul J, Isaranurug S. Factors related to the utilization of antenatal care services among pregnant women at health centers in Aceh Besar district, Nanggroe Aceh Darussalam Province, Indonesia. *J Public Health Dev*. 2008;6(2):99-108.

19. Kibret GD, Demant D, Hayen A. The effect of distance to health facility on neonatal mortality in Ethiopia. *BMC Health Serv Res*. 2023;23:114.
20. Alkema L, Chou D, Hogan D, Zhang S, Moller A-B, Gemmill A, et al. Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario- based projections to 2030: a systematic analysis by the UN maternal mortality estimation inter-agency group. *Lancet*. 2016;387(10017):462-74.
21. Sarikhani Y, Najibi SM, Razavi Z. Key barriers to the provision and utilization of maternal health services in low-and lower-middle-income countries; a scoping review. *BMC Womens Health*. 2024;5(24):325.
22. Konje ET, Hatfield J, Sauve R, Kuhn S, Magoma M, Dewey D. Late initiation and low utilization of postnatal care services among women in the rural setting in Northwest Tanzania: a community-based study using a mixed method approach. *BMC Health Serv Res*. 2021;21:635.

Cite this article as: Mohamud SM, Owaka IO, Musau JK. Barriers and enablers to postnatal care services utilization among women of reproductive age in Bosaso district, Somalia. *Int J Community Med Public Health* 2025;12:3466-72.