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Original Research Article

Health facility factors associated with the uptake of free maternal health services in Turkana central sub-county

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ABSTRACT

Background: Maternal mortality is still a significant public health issue in low- and middle-income countries, with Kenya reporting an average of 342 deaths per 100,000 live births-well above the global sustainable development goal (SDG) target of 70. In response, Kenya introduced the free maternity service (FMS) policy in 2013 to improve access to skilled birth attendance by eliminating user fees. However, in marginalised areas such as Turkana Central Sub-County, barriers persist that hinder the uptake of maternal health services.
Methods: This cross-sectional study investigated health facility factors associated with the utilisation of free maternal services in Turkana Central. A total of 210 women-either pregnant or within six weeks postpartum-were sampled using snowball sampling, focusing on Lodwar Township. Data were collected through structured, face-to-face interviews and analysed using descriptive statistics, chi-square tests, and logistic regression.
Results: Findings revealed that staff attitude and physical distance to the nearest health facility significantly influenced service uptake. Women attended by harsh staff were 4.7 times less likely to use the services ($p<0.001$), while those living more than 60 minutes from a facility were three times more likely to avoid them ($p=0.006$). In contrast, other factors such as comfort with male health workers ($p=0.232$), perceived accessibility ($p=0.398$), and waiting time at the facility ($p=0.375$) showed no significant association with service utilisation.
Conclusions: The study concludes that improving healthcare provider attitudes and reducing physical access barriers are critical to enhancing the effectiveness of the FMS policy in Turkana Central. Targeted interventions addressing these facility-level challenges are essential for improving maternal health outcomes in underserved regions.

Keywords: Free maternal health services, Turkana Central, Uptake of free maternal health services, Maternal health services

INTRODUCTION

Maternal health remains a critical public health concern globally, particularly in low- and middle-income countries, where maternal mortality rates are disproportionately high.[1,2] In recognition of this challenge, the United Nations SDGs aim to reduce the global maternal mortality ratio (MMR) to fewer than 70 deaths per 100,000 live births by 2030.[3] However, Kenya's MMR remains substantially above this target, with recent estimates indicating approximately 342 deaths per 100,000 live births.[4]

In response, the government of Kenya introduced the FMS policy in 2013, aiming to eliminate user fees in public health facilities and enhance access to skilled birth attendance.[5,6] The national implementation of the policy led to notable 29.5% increase in facility-based deliveries.[5] Nonetheless, the corresponding impact on maternal and neonatal mortality rates has been limited, suggesting that

financial access alone does not fully address multifaceted determinants of maternal health outcomes.[5,7-10]

Turkana Central Sub-County, located in the arid and semi-arid Turkana County, exemplifies regions where maternal health indicators remain poor despite national policy interventions.[11] The sub-county is characterised by vast, sparsely populated terrain and inadequate transport infrastructure, which severely limits physical access to healthcare services.[11,13] Approximately 40% of the population resides more than five kilometres from nearest health facility and absence of reliable transportation exacerbates challenges in accessing timely maternal care, particularly during obstetric emergencies.[14,15]

Additionally, healthcare facilities in Turkana Central are often under-resourced and understaffed.[16] The region faces a critical shortage of healthcare personnel. For instance, staffing levels fall significantly below world health organization recommendations.[15] This shortage impacts both the quality and availability of maternal health services, contributing to a skilled birth attendance rate of only 22% compared to the national average of 62%.[17]

Moreover, frequent shortages of essential medical supplies-particularly blood for transfusion-pose a significant threat to maternal survival.[18] These shortages hinder the effective management of obstetric emergencies such as postpartum haemorrhage.[19,20] Turkana has been described as a "blood desert," highlighting the severity of its supply deficits.[18]

It is, therefore, clear that while the FMS policy has improved financial access to maternal health services, significant barriers related to infrastructure, human resources, and supply chain organisation persist, particularly in marginalised regions. Considering these challenges, this study evaluated health facility factors associated with the uptake of free maternal health services in Turkana Central Sub-County.

METHODS

Study area and design

Turkana Central Sub-County in Kenya experiences severe maternal health challenges due to systemic, environmental and infrastructural barriers.[11,16,21] MMR stands at 381 per 100,000 live births, exceeding national average.[16] Prolonged drought has led to food insecurity and malnutrition among pregnant women, contributing to a decline in skilled birth attendance from 70-24.6%.[22] Health facilities face shortages of personnel, supplies, and blood, with only 400 pints collected monthly against a need of 1,000.[18] Teenage pregnancy (19%) and low contraceptive use (31%) further compound region's maternal health burden.[23] This cross-sectional study assessed health facility factors associated with uptake of free maternal health services in Lodwar County referral hospital, Turkana Central Sub-County from July-November 2024.

Study participants and sampling size

The study targeted pregnant women and those who had given birth within the six weeks preceding the research. It involved a sample size of 210 participants.

Inclusion and exclusion criteria

The study included women who were either currently pregnant or had given birth within the six weeks preceding data collection. Participants were between 15 and 49 years of age, being the reproductive age group. Additionally, only those who had been permanent residents of Turkana Central Sub-County for at least two years were eligible as they had adequate familiarity with the local healthcare system and socio-cultural environment. The study excluded women who had not lived in the sub-county for the minimum required duration, as their experiences might not reflect the realities of the local context. It also excluded individuals with severe medical or psychological conditions that could impair their ability to give informed consent or take part meaningfully in the research.

Sampling technique

Turkana Central Sub-County, with a focus on Lodwar Township, was selected purposively due to its central location and better accessibility compared to other areas in the region. This helped logistical coordination and increased the feasibility of data collection. The snowball sampling technique was used in recruiting respondents, whereby first participants helped find other eligible individuals within their networks. This approach was proper given the dispersed nature of the population and the sensitivity surrounding maternal health issues, which often require trust-based engagement for the effective participation.

Data collection procedure

The data collection process began with training data collectors, including local health workers and community volunteers familiar with the cultural and social dynamics of Turkana Central Sub-County. The training covered the study aims, data collection instruments, ethical protocols, and interpersonal communication skills to ensure the data collection process was respectful and culturally appropriate. Eligible participants were identified based on established inclusion criteria. The researcher collaborated with local health facilities, community health workers, and women's groups to support outreach and recruitment. Each potential respondent received comprehensive information about the study's purpose, procedures, and risks, and informed consent was obtained before participation.

Interviews were conducted in private settings to maintain confidentiality and encourage honest responses. Face-to-face interviews allowed data collectors to clarify questions and help as needed. Each session lasted 30 to 45 minutes. Before full-scale data collection, a pilot test was conducted

with a small group of eligible women. The feedback obtained led to revisions of the questionnaire, enhancing its clarity and contextual relevance.

Upon completion of data collection, all questionnaires were securely stored and anonymised through coding to protect participants' identities. Data entry was carried out using statistical software, with double entry and verification procedures employed to improve accuracy. The dataset was then analysed in alignment with the study objectives to generate insights into the uptake of maternal health services in Turkana Central Sub-County. Ethical principles, including respect, confidentiality, and informed consent, were upheld throughout the process.

Data analysis and management

The data on the sociodemographic characteristics of study participants were analysed using descriptive statistics, with frequencies and percentages computed to summarise key variables, including age, marital status, religion, number of children, employment status, monthly household income, and education level. To assess health facility factors associated with the use of free maternal health services in Turkana Central Sub-County, Chi-square cross-tabulations were conducted initially. Significant factors found in the Chi-square analysis were then analysed using logistic regression, with adjustments made for potential confounding variables.

Ethical clearance

Ethical clearance for the study was granted by the Mount Kenya university research and ethics review committee. In addition, a research permit was secured from the national commission for science, technology, and innovation (NACOSTI). Participation in the research was entirely voluntary, with participants free to withdraw at any point without the need to provide a reason. No payments were required, and no rewards were offered for involvement in the study. All data collected was handled confidentially. Before data collection, informed written consent and assent were obtained from all participants, including consent from spouses or husbands where necessary.

RESULTS

Sociodemographic characteristics

The study participants were women aged between 15 and 45 years, with the majority being those aged 20-24 years, accounting for 16.2% of the sample. The youngest (15-19 years) and oldest age groups (45 years and above) had less representation. Close to half of participants (49.0%) were married, while single women made up 31.4%. Smaller proportions were divorced (11.4%) or widowed (8.1%). Most participants identified as Christian, making up 85.2% of the sample. Muslims made up 10.5%, and the remaining 4.3% followed other religions. In terms of family size, most women had between one and three children, with those having two children being the most common at 33.3%. Only 2.9% of participants reported having no children. On employment, 63.3% of participants were self-employed, while 36.7% in formal employment. Monthly household income varied, with most earning between KES 5,001 and 10,000. Smaller groups earned less than KES 2,500 or >KES 15,000. Educational attainment among participants was low. A combined 79.5% had either no formal education or only primary education. Only 15.7% had secondary education, and 4.8% had tertiary-level education.

Health facility factors associated with the use of free maternal health services in Turkana Central Sub-County

In univariate analysis using chi-square cross-tabulations, significant associations were found between maternal service utilisation and both staff attitudes (χ^2 (2, n=210)=11.133, p=0.002) and distance to the nearest facility (χ^2 (2, n=210)=20.125, p<0.001). No significant associations were observed with comfort toward male health workers (χ^2 (1, n=210)=0.16, p=0.681), perceived accessibility (χ^2 (4, n=210)=0.373, p=0.901), or waiting time (χ^2 (2, n=210)=2.618, p=0.242) (Table 1).

Table 1: Health facility predictors of free maternal services.

Health facility variables	Utilised free maternal services, N (%)	Did not utilise free maternal services, N (%)	P value (95% CI)
Are you comfortable being attended to by a male health worker?			
Yes	60 (45.1)	37 (48.1)	0.681
No	73 (54.9)	40 (51.9)	
Attitude of staff during the last health			
Facility visits			
Friendly	103 (77.4)	49 (63.6)	0.002
Ignorant	20 (15.0)	9 (11.7)	
Harsh	10 (7.5)	19 (24.7)	
Distance to the nearest government health facility (mins)			
<30	32 (24.1)	15 (19.5)	<0.001
30-60	71 (53.4)	25 (32.5)	
>60	30 (22.6)	37 (48.1)	

Continued.

Health facility variables	Utilised free maternal services, N (%)	Did not utilise free maternal services, N (%)	P value (95% CI)
Level of accessibility to the nearest government health facility			
Excellent	9 (6.8)	7 (9.1)	0.901
Very good	49 (36.8)	30 (39.0)	
Good	44 (33.1)	21 (27.3)	
Poor	27 (20.3)	16 (20.8)	
Very poor	4 (3.0)	3 (3.9)	
Waiting time to see a clinician (mins)			
<30	27 (20.3)	15 (19.5)	0.242
30-60	75 (56.4)	36 (46.8)	
>60	31 (23.3)	26 (33.8)	

Table 2: Binary regression model for characteristics of the study participants.

Variables	B	S.E.	Wald	Df	Sig.	OR	95% CI for OR	
							Lower	Upper
Staff attitude during the last health facility visits								
Friendly			11.159	2	0.004			
Ignorant	0.028	0.468	0.004	1	0.951	1.029	0.411	2.574
Harsh	1.538	0.467	10.857	1	<0.001	4.655	1.865	11.621
Distance to the nearest government health facility (mins)								
<30			15.955	2	<0.001			
30-60	-0.214	0.420	0.260	1	0.610	0.807	0.355	1.838
>60	1.172	0.427	7.513	1	0.006	3.227	1.396	7.458

In the binary logistic regression analysis, staff attitude and distance to the nearest government health facility were significant predictors of maternal service utilisation. Specifically, participants who described staff as harsh were significantly less likely to utilise services (OR=4.655, 95% CI [1.865, 11.621], p<0.001), and those residing more than 60 minutes from a facility were over three times more likely to avoid service use (OR=3.227, 95% CI [1.396, 7.458], p=0.006). In contrast, staff ignorance (OR=1.029, p=0.951) was not significantly associated with service utilisation. The model explained 13.5% to 18.5% of the variance in service uptake (Cox and Snell R^2=0.135; Nagelkerke R^2=0.185) (Table 2).

DISCUSSION

The sociodemographic profile of the study participants aligns with findings from other regions in Kenya. The predominance of women aged 20 to 34 years, particularly those aged 20 to 24 years, is consistent with national trends in Kenya and other parts of the world, where women in this age bracket are more likely to engage with maternal health services (24-26). For instance, a study in the western region of Kenya found that women aged 20-34 had higher rates of antenatal care attendance and facility-based deliveries compared to other age groups.[28]

The marital status distribution, with nearly half of the participants married and a significant proportion single, divorced, or widowed, reflects the diverse marital dynamics influencing health service utilisation. Marital status has been identified as a factor affecting maternal health service uptake.[29,30] However, findings are mixed, with some studies indicating higher utilisation among married women.[31] Others suggest single women may face different barriers and motivators.[32,33]

Religious affiliation, with a majority identifying as Christian, is a common characteristic in many Kenyan communities.[34] Religion can play a role in health-seeking behavior, influencing perceptions of healthcare and acceptance of medical interventions.[35]

The relatively low educational attainment among participants, with 79.5% having no formal education or only primary education, is a significant finding. Education level is a well-documented determinant of health service utilisation.[36] A study in Turkana County highlighted that women's education strongly influenced their choice of delivery location, with educated women more likely to deliver in health facilities.[37]

Employment status, with 63.3% self-employed and 36.7% formally employed, and the reported monthly household income levels provide insight into the economic factors affecting access to maternal health services. Economic empowerment has been associated with increased utilisation of skilled birth attendants, as financial independence may facilitate better access to healthcare resources.[21]

In terms of health facility factors, the study identified significant associations between maternal service utilisation and both staff attitudes and distance to the

nearest facility. Positive staff attitudes have been shown to encourage service use, while negative perceptions can deter utilisation.[38,39] For example, a study in a rural Maasai community found that respectful and friendly interactions with healthcare workers significantly influenced women's willingness to engage with maternal health services.[40] Additionally, proximity to healthcare facilities is a known barrier; women residing closer to facilities are more likely to utilise services, whereas those living farther away face challenges in accessing care.[41] This was evident in the study, where participants living more than 60 minutes away were over three times more likely to avoid service use.

Conversely, factors such as comfort with male health workers, perceived accessibility, and waiting times did not show significant associations with service utilisation in this study. This finding contrasts with some studies where these factors were influential. For instance, a study in rural Western Kenya identified various barriers to maternal and newborn care utilisation, including provider attitudes and facility accessibility.[42] The lack of significant findings in this study may be due to contextual differences or the specific demographics of the study population.

CONCLUSION

The study shows that both sociodemographic and health facility factors affect the utilisation of free maternal health service in Turkana Central Sub-County. Younger women (20-34 years), those with some education, and economically active individuals were more likely to use services. Positive staff attitudes and shorter distances to health facilities significantly encouraged service use, while factors such as comfort with male health workers and waiting times were not significant. These findings highlight the need for strategies that improve education, healthcare worker interactions, and access to nearby facilities to boost maternal health service uptake.

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REFERENCES

1. Chauke L. Improving access to emergency obstetric care in low- and middle-income countries. Best Pract Res Clin Obstetr Gynaecol. 2025;98:102572.
2. Ekwuazi EK, Chigbu CO, Ngene NC. Reducing maternal mortality in low- and middle-income countries. Case Rep Womens Health. 2023;39:e00542.
3. WHO. SDG Target 3.1. Maternal mortality: By 2030, reduce the global maternal mortality ratio to less than 70 per 100 000 live births. 2025. Available at: https://www.who.int/data/gho/data/themes/topics/indicator-groups/indicator-group-details/GHO/maternal-mortality. Accessed on 14 April 2025.
4. Mwaura HM, Kamanu TK, Kulohoma BW. Bridging Data Gaps: Predicting Sub-national Maternal Mortality Rates in Kenya Using Machine Learning Models. Cureus. 2024;16(10):e72476.
5. Lang'at E, Mwanri L, Temmerman M. Effects of implementing free maternity service policy in Kenya: an interrupted time series analysis. BMC Health Serv Res. 2019;19(1):645.
6. Ombere SO. Can "the expanded free maternity services" enable Kenya to achieve universal health coverage by 2030: qualitative study on experiences of mothers and healthcare providers. Front Health Serv. 2024;4:1325247.
7. Essendi H, Johnson FA, Madise N, Matthews Z, Falkingham J, Bahaj AS, et al. Infrastructural challenges to better health in maternity facilities in rural Kenya: community and healthworker perceptions. Reproduct Health. 2015;12:103.
8. Kisiangani I, Elmi M, Bakibinga P, Mohamed SF, Kisia L, Kibe PM, et al. Persistent barriers to the use of maternal, newborn and child health services in Garissa sub-county, Kenya: a qualitative study. BMC Pregnancy Childbirth. 2020;20(1):277.
9. Oyugi B, Kendall S, Peckham S. Effects of free maternal policies on quality and cost of care and outcomes: an integrative review. Prim Health Care Res Dev. 2021;22:e43.
10. Wamalwa EW. Implementation challenges of free maternity services policy in Kenya: the health workers' perspective. Pan Afr Med J. 2015;22:375.
11. Griffith EF, Kipkemoi JR, Robbins AH, Abuom TO, Mariner JC, Kimani T, et al. A One Health framework for integrated service delivery in Turkana County, Kenya. Pastoralism. 2020;10(1):7.
12. Ahmed N, Sohail M, Ekwam J. Investigating Alternative Water Supply in Settlements: Cases from Turkana County in Kenya and Orangi in Karachi, Pakistan. Sustainability. 2024;16(19):8725.
13. Wilunda C, Sidze E, Thuita F, Amugsi D, Abajobir A, Mutua M, et al. Examining the complex dynamics influencing acute malnutrition in Turkana and Samburu counties: Study protocol. Matern Child Nutr. 2024;e13744.
14. Jillo JA, Ofware PO, Njuguna S, Mwaura-Tenambergen W. Effectiveness of Ng'adakarin Bamocha model in improving access to ante-natal and delivery services among nomadic pastoralist communities of Turkana West and Turkana North Sub-Counties of Kenya. Pan Afr Med J. 2015;20:403.
15. Macharia M, Okoyo C, Maranga D, Mbui J. Barriers and facilitators of care among visceral leishmaniasis patients following the implementation of a decentralized model in Turkana County, Kenya. PLOS Glob Public Health. 2025;5(3):e0004161.
16. Turkana County Government. County, UNICEF Kenya Develop Action Plan to Enhance Maternal Healthcare-Turkana County Government. 2024 Available at: https://turkana.go.ke/2024/07/12/county-unicef-

kenya-develop-action-plan-to-enhance-maternal-healthcare/. Accessed on 14 April 2025.
17. Muhanda R, Were V, Oyugi H, Kaseje D. Evaluation of Implementation Level of Community Health Strategy and Its Influence on Uptake of Skilled Delivery in Lurambi Sub County-Kenya. East Afr Health Res J. 2020;4(1):65-72.
18. Muiruri P. Kenya's 'blood desert': Can walking donor banks and drones help more patients survive? The Guardian. 2024. Available at: https://www.theguardian.com/global-development/2024/apr/19/kenyas-blood-desert-can-walking-donor-banks-and-drones-help-more-patients-survive. Accessed on 14 April 2025.
19. Bewket T, Ensieh F, Virginia P, Gayle M. Barriers to effective management of primary postpartum haemorrhage following in-hospital births in northwest Ethiopia: healthcare providers' views using a qualitative approach. BMC Pregn Childbirth. 2022;22:755.
20. Forbes G, Akter S, Miller S, Galadanci H, Qureshi Z, Fawcus S, et al. Factors influencing postpartum haemorrhage detection and management and the implementation of a new postpartum haemorrhage care bundle (E-MOTIVE) in Kenya, Nigeria, and South Africa. Implement Sci. 2023;18:1.
21. Etee PE. Predictors of utilization of skilled birth attendants among women of reproductive age in Turkana central sub-county, Turkana County, Kenya. 2017. Available at: http://ir-library.ku.ac.ke/handle/123456789/18433. Accessed on 14 April 2025.
22. UNFPA. Severe drought fuels malnutrition, fewer hospital deliveries, among pregnant women in Turkana County. 2022 Available at: https://kenya.unfpa.org/en/news/severe-drought-fuels-malnutrition-fewer-hospital-deliveries-among-pregnant-women-turkana-county. Accessed on 14 April 2025.
23. Gitonga P. Annual Child Birth Mortality In Turkana Almost Hits 400-Kenya News Agency. 2020. Available at: https://www.kenyanews.go.ke/annual-child-birth-mortality-in-turkana-almost-hits-400/. Accessed on 14 April 2025.
24. Bain LE, Aboagye RG, Dowou RK, Kongnyuy EJ, Memiah P, Amu H. Prevalence and determinants of maternal healthcare utilisation among young women in sub-Saharan Africa: cross-sectional analyses of demographic and health survey data. BMC Public Health. 2022;22(1):647.
25. Masoi TJ, Kibusi SM, Bintabara D, Lilungulu A. The effectiveness of interactive mobile health technologies in improving antenatal care service utilization in Dodoma region, Tanzania: A quasi-Experimental study. PLOS Digital Health. 2023;2(8):e0000321.
26. Singh P, Singh KK, Singh P. Maternal health care service utilization among young married women in India, 1992-2016: trends and determinants. BMC Pregn Childbirth. 2021;21(1):122.
27. Ronoh GK, Muchiri J, Suleiman M. Socio-demographic factors influencing the use of free maternal health services among pregnant women. Int J Community Med Public Health. 2025;12(5):2059-65.
28. Ikamari L. Uptake of maternal services and associated factors in the western region of Kenya. Pan Afr Med J. 2020;37:192.
29. Alibhai KM, Ziegler BR, Meddings L, Batung E, Luginaah I. Factors impacting antenatal care utilization: a systematic review of 37 fragile and conflict-affected situations. Conflict Health. 2022;16:33.
30. Shitie A, Azene ZN. Factors affecting the initiation and continuation of maternal health service utilization among women who delivered in the past one year in Enemay district, East Gojjam, Ethiopia. Arch Publ Health. 2021;79:171.
31. Dutamo Z, Assefa N, Egata G. Maternal health care use among married women in Hossaina, Ethiopia. BMC Health Services Res. 2015;15(1):365.
32. Grand-Guillaume-Perrenoud JA, Origlia P, Cignacco E. Barriers and facilitators of maternal healthcare utilisation in the perinatal period among women with social disadvantage: A theory-guided systematic review. Midwifery. 2022;105:103237.
33. Heaman MI, Moffatt M, Elliott L, Sword W, Helewa ME, Morris H, et al. Barriers, motivators and facilitators related to prenatal care utilization among inner-city women in Winnipeg, Canada: a case-control study. BMC Pregn Childbirth. 2014;14(1):227.
34. Cowling N. Statista. 2023. Kenya: size of population by religion. Available at: https://www.statista.com/statistics/1304207/population-of-kenya-by-religion/. Accessed on 15 April 2025.
35. Swihart DL, Yarrarapu SNS, Martin RL. Cultural Religious Competence in Clinical Practice. In: StatPearls. Treasure Island (FL): StatPearls Publishing. 2025.
36. Raghupathi V, Raghupathi W. The influence of education on health: an empirical assessment of OECD countries for the period 1995-2015. Arch Public Health. 2020;78(1):20.
37. Abok RE. Factors influencing maternity services utilization in Loima and Turkana Central Districts of Turkana County, Thesis. University of Nairobi, Kenya. 2012.
38. Mannava P, Durrant K, Fisher J, Chersich M, Luchters S. Attitudes and behaviours of maternal health care providers in interactions with clients: a systematic review. Global Health. 2015;11:36.
39. Morgan R, Tetui M, Muhumuza Kananura R, Ekirapa-Kiracho E, George AS. Gender dynamics affecting maternal health and health care access and use in Uganda. Health Policy Plan. 2017;32(5):v13-21.
40. Karanja S, Gichuki R, Igunza P, Muhula S, Ofware P, Lesiamon J, et al. Factors influencing deliveries at health facilities in a rural Maasai Community in

Magadi sub-County, Kenya. BMC Pregn Childbirth. 2018;18(1):5.
41. Tanou M, Kishida T, Kamiya Y. The effects of geographical accessibility to health facilities on antenatal care and delivery services utilization in Benin: a cross-sectional study. Reprod Health. 2021;18:205.
42. Ayodo G, Onyango GO, Wawire S, Diamond-Smith N. Existing barriers to utilization of health services for maternal and newborn care in rural Western Kenya. BMC Health Services Res. 2021;21(1):795.

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