INDIVIDUAL-RELATED FACTORS INFLUENCING THE UTILIZATION OF PUBLIC PRIMARY HEALTHCARE FACILITIES IN TETU SUB-COUNTY, NYERI COUNTY, KENYA

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Abstract

Background: Primary health care facilities are well positioned to provide person-centered and community-based care required to prevent or postpone morbidities. This realization had Nyeri County investing heavily on construction and equipping of health centers and dispensaries to bring services closer to the people

Objective: This study determine the individual-related factors influencing the utilization of public primary healthcare facilities in Tetu Sub-County, Nyeri County, Kenya

Methods: The study was carried out in Tetu Sub County. An analytical cross-sectional survey research design comprising both quantitative and qualitative data collection methods was used in the study. The study targeted adults living in Tetu Sub County. The Cochran's Sample Size Formula was used to calculate a sample size of 271 respondents. Multistage sampling was used to draw respondents in the study. The study collected both quantitative and qualitative data using a questionnaire and a focus discussion guide respectively. Descriptive statistics and chi-square tests were used in the analysis.

Results: The study found that was a significant relationship ($p=0.01$) between sex and utilization of public primary healthcare facilities. Similarly, there was a significant relationship ($p<0.01$) between education and utilization of public primary healthcare facilities. However, there was no significant relationship ($p=0.350$) between age and utilization of public primary healthcare facilities. Similarly, there was no significant relationship ($p=0.945$) between marital status and utilization of public primary healthcare facilities.

Conclusion: Respondents who had low level of education (primary) were more likely to utilise primary healthcare facilities. The study recommends the quality and accessibility of primary healthcare services to be upgraded to make them more attractive to individuals with higher educational backgrounds.

Introduction:-

Primary health care (PHC) is defined as "essential health care based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community, through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination" (WHO, 2020). They include basic health units, regional health centers, mother and child health centers, civil dispensaries, tuberculosis centers, sub-health centers or any other public health service delivery point providing primary, preventive or any other associated service.

Oyeyemi *et al.* (2023) indicate that PHC facility is the first place of consultation for all patients, which often utilize as a refuge by healthcare services consumers either in urban or rural community in any perfectly functioning healthcare system globally, and which is as a consequence of health seeking behavior of individuals at such community. Onguyemi *et al.* (2024) explain that PHC facilities are well positioned to provide person-centered and community-based care required to prevent or postpone morbidities associated with or more common with aging and reduce their impact on individuals, facilities and health systems. According to WHO (2021), health systems with stronger PHC have reduced premature and avoidable mortality from improved management of children's health, infectious and chronic diseases.

Al Janabi (2023) found that the distance of a PHC from an individual's residence was a factor in the utilization of PHCs in several governorates, mainly in the South. Similarly, a study by Srivastava *et al.* (2023) found that PHC usage was predicted by the distance patients have to travel to get there. The likelihood of visiting a PHC for treatment decreased as the distance between the village and the PHC increased. Elsewhere, a study in Ghana by Nuamah *et al.* (2023) found that the poor spatial distribution of health facilities has negative implications on access to primary health care in the district. Poor conditions of roads were a major barrier to the household's accessibility to district hospitals.

The time taken to receive medical attention at a facility has been frequently cited to influence healthcare utilization. In a study in China, Zhang *et al.* (2020) found that the time length of consultation between patients and doctors was a very important factor for their preference for PHC. Most participants thought that 15 min was the longest acceptable waiting time at the PHC facilities, and patient's dissatisfaction grew if the waiting time exceeded 15 min. The patients hoped to see the doctor soon after the registration, but this expectation was hardly realized. In addition, different patients had different levels of tolerance for waiting time. Similarly, in a study carried out in a rural community in Enugu, Nigeria by Nwokoro *et al.* (2022), long patient waiting time was one of the main reasons reported by respondents for not utilizing PHC services (Nwokoro *et al.*, 2022). In another study in Nigeria by Omage *et al.* (2024) found that *41.1%* of respondents reported experiencing long waiting times of *2 to 5 hours* when accessing maternal and child health care services at Primary Health Care (PHC) facilities in Suleja Local Government Area. This

Methods:-

The study was carried out in Tetu Sub County. An analytical cross-sectional survey research design comprising both quantitative and qualitative data collection methods was used in the study. The study targeted adults living in Tetu Sub County. Therefore, a sample of 271 was used. Multistage sampling was used to draw respondents in the study. The study collected both quantitative and qualitative data using a questionnaire and a focus discussion guide respectively. A semi-structured questionnaire developed by the researcher was used to collect quantitative data from the participants.Qualitative data was collected in a focus group discussion (FGD). A discussion guide was used to collect qualitative data. The data was then coded and entered into a computer using Statistical Package for the Social Sciences (SPSS) version 28. Descriptive statistics such as frequency distribution, percentages, mean and standard deviation were used to describe and organize quantitative data. Chi-square tests were used to test for relationships such as influence of individual-related factors on PHC facility utilization and influence of health facility-related factors on PHC facility utilization. Logistic regression analysis was then performed to reveal the factors associated with PHC facility utilization.

Results:-

The mean age of the participants was 32±10 years with most of the participants (52.2%, n=84) aged 21-30 years. Majority of the participants (66.7%, n=180) in the study were female. Slightly above half 53.3% (n=144) had acquired secondary education while 32.2% (n=87) had acquires tertiary education. Most participants (58.9%, n=159) were married. As indicated in the table below.

Table 1: Individual-Related Factors

		N	%
Sex	Male	90	33.3%
	Female	180	66.7%
Age	Below 20	15	5.6%
	21-30	141	52.2%
	31-40	84	31.1%
	41-50	11	4.1%
	51-60	9	3.3%
	61-70	7	2.6%
	Over 70	3	1.1%
Highest level of education	Primary	39	14.4%
	Secondary	144	53.3%
	Tertiary	87	32.2%
Marital status	Never married	89	33.0%
	Married	159	58.9%
	Divorced/separated	22	8.1%
Religion	Catholic	114	42.2%
	Protestant	131	48.5%
	Muslim	11	4.1%
	Other	14	5.2%
Income	< 5000	62	23.0%
	5,000-9,000	49	18.1%
	10,000-14,000	63	23.3%
	15,000-19,000	39	14.4%
	>20,000	57	21.1%

There was a significant relationship (p=0.01) between sex and utilization of public primary healthcare facilities. Similarly, there was a significant relationship (p<0.01) between education and utilization of public primary healthcare facilities. However, there was no significant relationship (p=0.350) between age and utilization of public primary healthcare facilities.

Table 2: Association of Individual-Related Factors Level of Utilization of Public Primary Healthcare Facilities

Individual-Related Factor	n	%	Chi-square	Degrees of Freedom (df)	Significance (p)

				(χ2)		
Sex	Male	66	24	6.607	1	0.010
	Female	39	141			
Age	Below 20	9	6	6.690	6	0.350
	21-30	51	90			
	31-40	34	50			
	41-50	7	4			
	51-60	3	6			
	61-70	1	6			
	Over 70	0	3			
Highest level of education	Primary	19	20	26.165	2	0.000
	Secondary	64	80			
	Tertiary	22	65			
Marital status	Never married	38	51	0.113	2	0.945
	Married	58	101			
	Divorced/separated	9	13			

In terms of distance, most participants (48.5%, n=131) indicated that the distance to the dispensary/health centre was below 2 kilometres while for 36.7% (n=99) it was between2 to 4 kilometres. Slightly above half 59.2% (n=157) reported that the last time you attended a dispensary/health centre, they waited for less than 30minutes to be served while 32.1% (n-85) waited for between 30 minutes and an hour.

Table 3: health facility-related factors

		N	%
How far is the dispensary/health centre from your home?	< 2km	131	48.5%
	2-4 km	99	36.7%
	5-9 km	37	13.7%
	>10 km	3	1.1%
The last time you attended a dispensary/health center, how long did you wait to be served?	<30 min	157	59.2%
	30 min-1 hour	85	32.1%
	>1 hour	23	8.7%
How would you rate the attitude of the staff who served you?	Good	214	79.3%
	Undecided	34	12.6%
	Bad	22	8.1%
How was the cost of the health care services?	Affordable	218	80.7%
	Undecided	29	10.7%
	Expensive	23	8.5%
How would you rate the quality of service delivered?	High	175	66.5%
	Undecided	54	20.5%
	Low	34	12.9%
Were the drugs and supplies you required available?	Yes	53	20.00%
	No	212	80.0%
Did you get all the services you needed?	Yes	65	25.1%
	No	194	74.9%
On a scale of 1 to 5, with 1 being "not satisfied at all" and 5	1	158	58.5%

being "completely satisfied", how satisfied are you with the primary healthcare services available in this village?	2	44	16.3%
	3	48	17.8%
	4	11	4.1%
	5	9	3.3%
Would you recommend others to use the dispensary /health centre?	Yes	34	14.1%
	No	207	85.9%

Chi-square tests were also used to compare health facility-related factors and participants' utilization of public primary healthcare facilities. Availability of medication ($p<0.001$) was significant. However, distance ($p=0.065$), waiting time ($p=0.546$), staff attitude ($p=0.206$) and quality of care ($p=0.790$) were not significant.

Table4: Association of Health Facility-Related Factors Level of Utilization of Public Primary Healthcare Facilities

Health-Facility Related Factor		n	%	$\chi 2$	df	p
Distance	< 2km	56	75	7.237	3	0.065
	2-4 km	31	68			
	5-9 km	17	20			
	>10 km	1	2			
Waiting time	<30 min	69	88	1.212	2	0.546
	30 min-1 hour	27	58			
	>1 hour	9	14			
Staff attitude	Good	86	128	1.597	1	0.206
	Undecided	10	24			
	Bad	9	13			
Availability of medication	Yes	40	13	22.412	1	0.000
	No	65	147			
Quality of care	High	73	102	0.071	1	0.790
	Undecided	20	34			
	Low	12	22			

The omnibus tests of model coefficients indicated that the overall model was statistically significant, $\chi^2(3) = 31.064$, $p < .001$. This result suggests that the predictors significantly improved the fit of the model in explaining the likelihood of public primary healthcare utilization.

Table5: Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.

Step	31.064	3	.000
Block	31.064	3	.000
Model	31.064	3	.000

Individuals with low education levels were approximately 2.5 times more likely to utilize the facilities. However, sex was not a significant factor in this model (p = .108).

Table 6: Regression of selected factors and utilization of public primary health care facilities

	B	S.E.	Wald	df	Sig.	Exp(B)
What is your sex?	.780	.485	2.586	1	.108	2.181
What is your highest level of education?	.914	.345	6.999	1	.008	2.494
Were the drugs and supplies you required available?	1.690	.402	17.710	1	.000	5.422
Constant	.518	.818	.402	1	.526	.595

Discussion:-

The study sought to determine the individual-related factors influencing the utilization of public primary healthcare facilities in Tetu Sub-County, Nyeri County, Kenya. There was a significant relationship (p=0.01) between sex and utilization of public primary healthcare facilities. This result is similar to findings of Pillay and Mahomed (2019) in South Africa where gender was also associated with PHC utilisation. However, the result differs with findings of studies by Grustam et al., (2020), Lin et al. (2020) and Mokaya (2021) where gender was not significant. This might be due to cultural or social factors that influence health-seeking behaviour differently between men and women. Men may be more inclined to seek medical care at primary healthcare facilities due to greater autonomy in decision-making or fewer household responsibilities compared to women.

Similarly, there was a significant relationship ($p<0.01$) between education and utilization of public primary healthcare facilities. This result is similar to findings of a study in Indonesia showed that education level was related to primary healthcare utilization in Java Region in Indonesia (Wulandari et al., 2023). A study conducted in Ethiopia also showed that patients who attended formal education were more likely to be self-referred to general hospitals compared to those who did not attend formal education (Abere et al., 2021). However, the result differs with findings of a study in South Africa did not find any significant association between a patient's level of education and utilization of PHC (Pillay & Mahomed, 2019). Those with secondary education or less might also have fewer resources or knowledge about higher-level facilities, leading them to utilize nearby dispensaries and health centres. Conversely, individuals with tertiary education may have greater awareness of specialized care or the perceived quality differences in higher-tier health facilities, prompting them to seek services elsewhere.

Conclusion:-

The level of education was the individual-related factor influencing the utilization of public primary healthcare facilities in Tetu Sub-County, Nyeri County, Kenya. Respondents who had low level of education (primary) were more likely to utilise primary healthcare facilities.The study recommends the quality and accessibility of primary healthcare services to be upgraded to make them more attractive to individuals with higher educational backgrounds.

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Competing Interests

The authors declare that they have no competing interests whatsoever

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