

Prevalence And Associated Factors For Peripheral Neuropathy Among Patients On Stavudine Attending Meru District Hospital, Kenya 2010.

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Introduction

Peripheral neuropathy is a recognized complication of HAART. NRTI and PI are commonly implicated. Stavudine, a NRTI is widely used in Kenya and many resource poor settings. WHO has recommended discontinuation of its use due to its toxic profile. This study sought to provide local evidence on the prevalence and factors associated with development of Peripheral neuropathy.

Materials and Methods

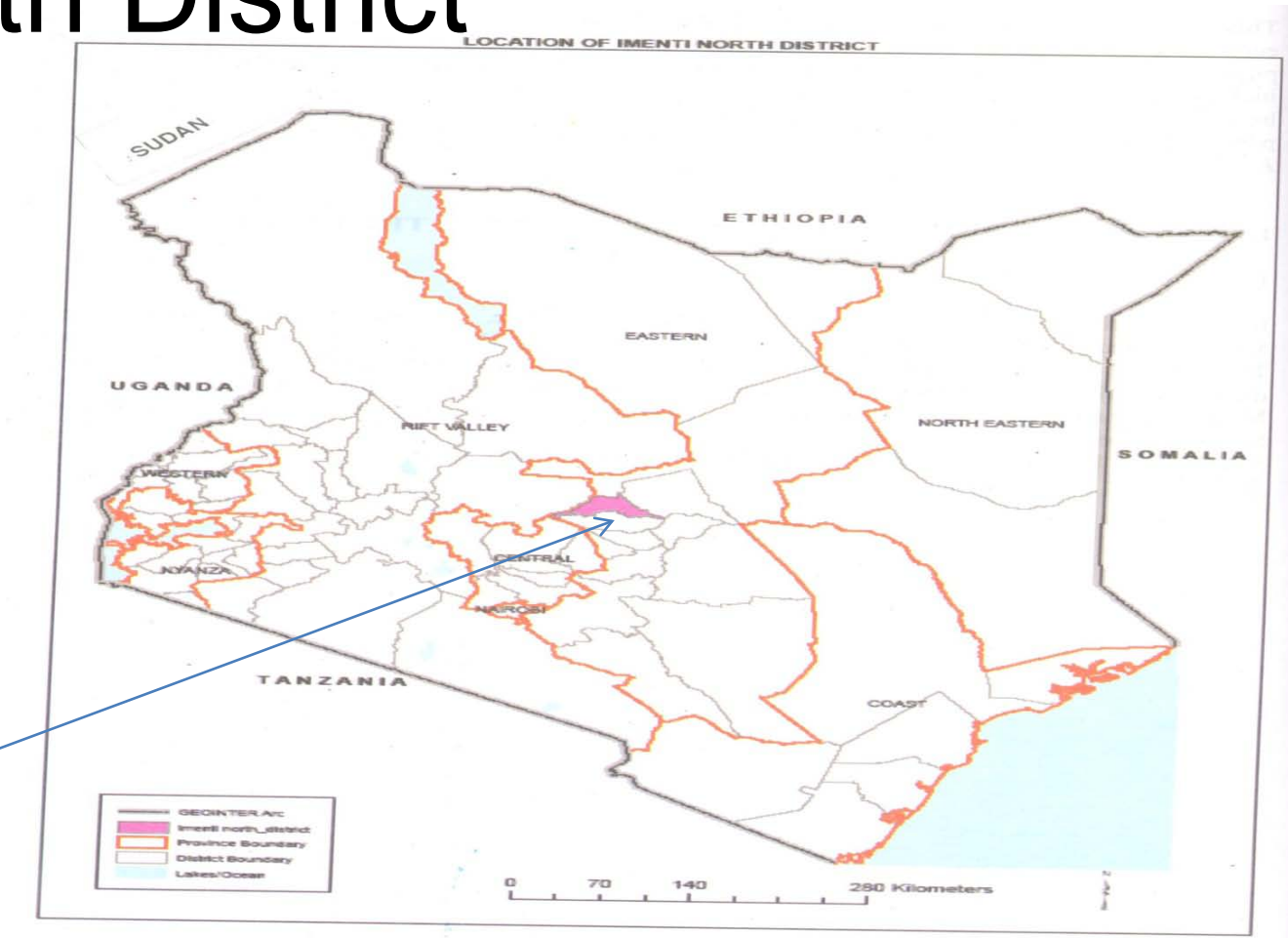
- **Study site-** Meru District Hospital Comprehensive Care Centre
- **Study period-** 1st October to 21st November 2010
- **Study design-** Cross-sectional
- **Study Population-** Patients on stavudine and attended the CCC during the Study period.
- **Enrolment-** Patients on stavudine for 6-36 months, aged ≥13 years with no positive history of neurological symptoms were included.
- Peripheral neuropathy screening tool administered to classify patients on basis of neuropathy status and grade
- Semi-structured questionnaire administered to obtain risk factor information
- Sampling done using systematic sampling method
- Sample size 275 (obtained using Cochran formula(1977))

Fig. 1: Study area

Africa Map Showing Kenya



Map of Kenya showing Imenti North District



Imenti North District

Results

Table 1: Demographic Characteristics of Study Participants

Variable	Frequency (%)	With neuropathy (n=69)		Without neuropathy (n=206)		P-Value
		%	%	%	%	
Age in Years						
Mean (SD*)	39.4	42.2	(10.8)	38.5	(10.1)	0.018
Median (IQR**)	38(13-70)					
Sex						
Male	113(41.1)	30	(26.5)	83	(73.5)	0.87
Female	162(58.9)	39	(24.1)	123	(75.9)	
Level of Education						
None	19(6.9)	8	(11.6)	11	(5.3)	0.3
Primary	174(63.3)	39	(56.5)	135	(65.5)	
Secondary	69(25.1)	18	(26.1)	51	(25.8)	
Tertiary	13(14.7)	4	(5.8)	9	(4.4)	
Marital Status						
Single	54(19.6)	14	(20.3)	40	(19.4)	0.4
Separated	35(12.7)	10	(14.5)	25	(12.1)	
Widowed	46(16.7)	11	(15.9)	35	(17.0)	
Married	127(46.2)	31	(44.9)	96	(46.6)	
Divorced	13(4.7)	3	(4.3)	10	(4.9)	
Occupation						
Farming	103(37.5)	41	(33.3)	68	(38.8)	0.5
Skilled labour	64(23.3)	17	(24.6)	47	(22.8)	
Unskilled	43(15.6)	12	(17.3)	31	(15.1)	
Housewife	7(2.5)	1	(1.4)	6	(2.9)	
Business	58(21.1)	16	(23.2)	42	(20.4)	

Fig. 2: Distribution of peripheral neuropathy among participants

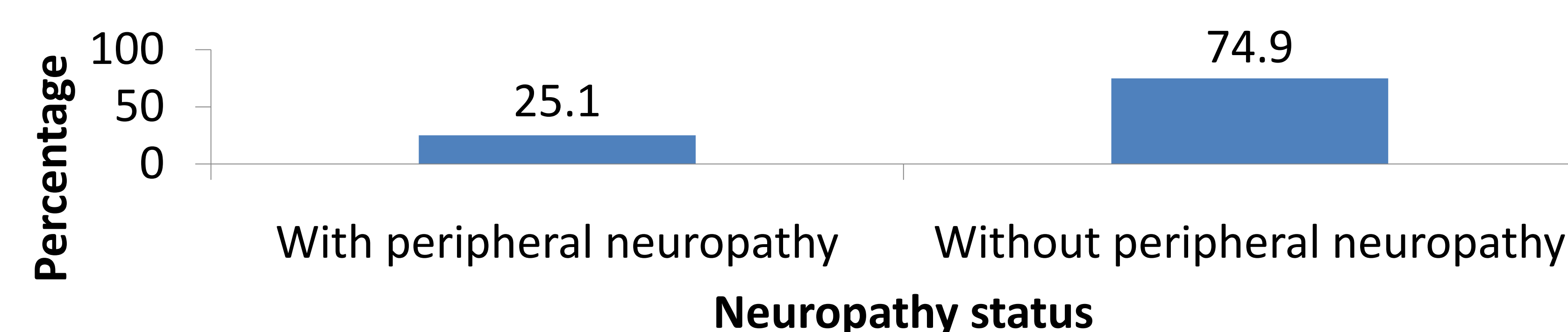


Fig. 3: Distribution of peripheral neuropathy cases by grade

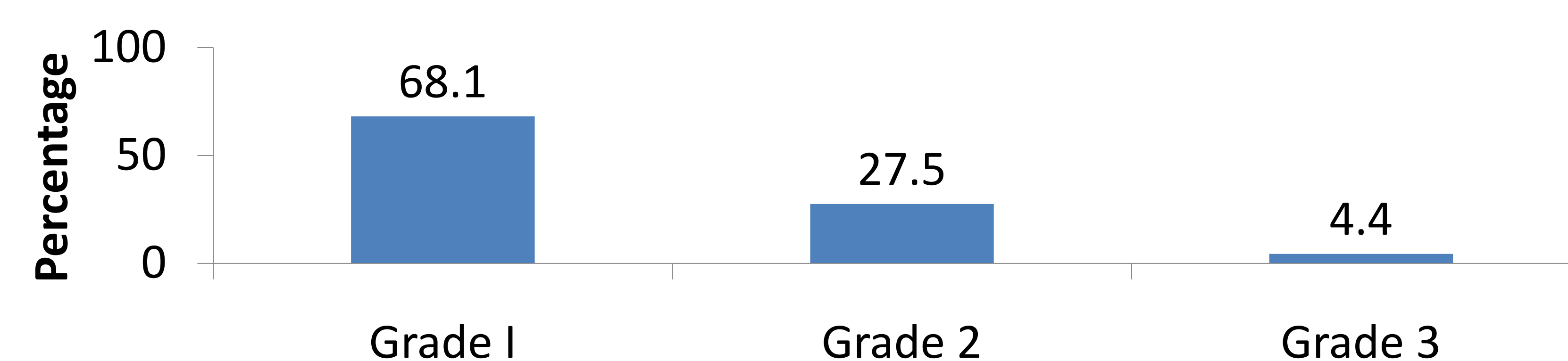


Table 2: Bivariate analysis of factors associated with peripheral neuropathy

Exposure Variable	Crude odds Ratio	95% CI	P-value
CD4+ cell count ≤ 130 cells/mm ³	2.52	1.35-4.70	0.003*
Age ≥ 42 years	1.93	1.10-3.40	0.02*
Duration on ARV treatment	1.27	0.74-2.23	0.37
Weight at start of treatment	1.5	0.52-4	0.9
Higher WHO stage	3.75	1.1-12.7	0.024*
Prior ARV therapy	0.4	0.05-3.46	0.4
Alcohol Consumption	1.5	0.41-5.47	0.5
Height of Patient	0.97	0.56-1.68	0.9

Table 3: Multivariate analysis of factors associated with peripheral neuropathy

Exposure Variable	Adjusted Odds Ratio	95% CI	P value
CD4+ cell count ≤ 130 cells/mm ³	2.3	1.20-4.38	0.012
Age ≥ 42 years	1.8	1.03-23.20	0.04

Discussion

- Prevalence of peripheral neuropathy was 25.1%
- A low CD4+ count and advancing age were significantly associated with peripheral neuropathy

Conclusions

- Peripheral neuropathy is common among patients on stavudine
- Low CD4+ and advancing age are significant risk factors for Peripheral neuropathy

Recommendations

- Closely monitor Patients on stavudine so they can be changed to alternative regimes before nerve damage or impairment of their quality of life
- prioritize patients above 42 years for other regimens where stavudine use cannot be avoided due to resource constraints.
- Local Health authorities should consider discontinuing stavudine use in the country

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