

Hazardous alcohol use associated with higher risk sexual risk behavior among fishermen in a high HIV prevalence area of Kenya

C.S. CAMLIN¹, H. Nishimura², S.A. Gutin³, L. Sheira⁴, B. Ayieko⁵, Z. Kwena⁶, K. Agot⁵, A. Ochung⁵, J. Lewis-Kulzer¹, E.A. Bukusi⁶, H. Thirumurthy⁷, E.D. Charlebois²

¹University of California, San Francisco, Obstetrics, Gynecology & Reproductive Sciences, San Francisco, United States, ²University of California, San Francisco Medicine, San Francisco, United States, ³University of California, San Francisco, Community Health Systems, San Francisco, United States, ⁴University of California, San Francisco, Epidemiology & Biostatistics, San Francisco, United States, ⁵Impact Research & Development Organization, Kisumu, Kenya, ⁶Kenya Medical Research Institute, Nairobi, Kenya, ⁷University of Pennsylvania, Philadelphia, United States

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Background: Alcohol use among fishermen residing in Lake Victoria communities is common. Links between hazardous alcohol use and HIV-related risk behaviors including unprotected sex, transactional sex, and partnership concurrency are well-established. We sought to examine patterns of sexual risk behavior associated with hazardous alcohol use among Kenyan fishermen to inform efforts to reduce HIV transmission in this high-priority population.

Methods: Baseline survey data were collected in 2022 among 733 fishermen in three communities in Siaya County, Kenya, among whom 715 (97.5%) were sexually active in the past 6 months, in the ongoing 'Owete' study. Survey modules included the AUDIT-C 3-item alcohol screener for measurement of alcohol use disorders, and a sexual relationship history calendar. We fitted three logistic regression models to examine associations between hazardous alcohol use in past 3 months and 1) any concurrent sexual relationship, 2) concurrent relationship among non-polygamous men only, and 3) any higher-risk sexual relationship (e.g., commercial sex worker, one-night stand) in past 6 months, incorporating a random effects intercept for community and controlling for age and income level; where warranted, models adjusted for marital status and clustering at community-level.

Results: Most 89.5% were in a relationship, with 21% in polygamous marriages. Self-reported PrEP (6.6%) and condom use (<5%) in the past 6 months were low. About one-third (35.2%) reported any alcohol use, and 16.8% reported hazardous use, in past 3 months. Hazardous alcohol use (along with younger age and higher income) was significantly associated with higher-risk sexual partnerships (aOR=1.66; 95% CI 1.10,2.51) and concurrent partnerships (*all participants*: aOR=1.67; 95% CI 1.11,2.51; *non-polygamous participants only*: aOR: 2.00; 95% CI: 1.29,3.09).

Table 1: Hazardous alcohol use associated with higher risk sexual risk behavior among fishermen in Siaya, Kenya (2022)

Characteristic	N	%	Model 1: Any concurrency all men, past 6 mo.				Model 2: Any concurrency, non-polygamous men, past 6mo.*				Model 3: Any higher risk sexual partners, past 6 mo.**			
			aOR	p	95%CI	aOR	p	95%CI	aOR	p	95%CI			
Hazardous alcohol use														
AUDIT-C 0-3	610	83.2	ref.											
AUDIT-C >=4	123	16.8	1.67	0.014	1.11	2.51	2.00	0.002	1.29	3.09	1.66	0.015	1.10	2.51
Age														
Age ≥24	678	92.5	ref.				ref.							
Age <25	55	7.5	3.14	0.000	1.71	5.77	4.22	0.000	2.36	7.56	-	-	-	-
Age (continuous)			-	-	-	-	-	-	-	-	0.99	0.047	0.97	1.00
Income level														
Below median	334	45.6	ref.				ref.							
At/above median	399	54.4	1.71	0.001	1.26	2.33	1.41	0.058	0.99	2.01	1.27	0.013	1.05	1.54
Partnership status														
Single/divorced/separated	77	10.5	ref.											
In a partnership	656	89.5	1.77	0.054	0.99	3.15	-	-	-	-	0.44	0.004	0.25	0.77

Notes: Models are logistic regression or mixed-effects logistic regression models in a study population of n=733 men, n=715 of whom were sexually active in past 6 months.

*Model 2 excludes n=138 men in polygamous marriage

** Model 3 incorporates a random intercept for community and adjusts for clustering at community level (models 1 and 2 did not require)

Conclusions: Hazardous alcohol use co-occurred with higher-risk sexual behavior among fishermen residing in lakeshore communities. In this population vulnerable to HIV acquisition with low uptake of prevention services to date, HIV prevention efforts may need to address hazardous drinking.

Ethical research declaration: Yes

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