

CHALLENGES AND OPPORTUNITIES ASSOCIATED WITH CERVICAL CANCER SCREENING PROGRAMS IN A LOW INCOME, HIGH HIV PREVALENCE CONTEXT

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BACKGROUND

- 90% of cervical cancer deaths occurred among women in low and middle-income countries (LMICs)¹
- Cervical cancer morbidity and mortality in LMICs is mostly preventable¹
- The WHO recommends cost-saving options for women living in LMICs, including self-collection of cervicovaginal samples

THE CONTEXT IN CAMEROON

- In 2018, 2,356 new cases of cervical cancer were diagnosed²
- The uptake of cervical cancer screening is less than 20%³
- The need to identify effective strategies to eliminate these contextual challenges



AIMS OF THE STUDY

1. To explore and describe micro-, meso-, and macro-level factors that facilitate or hinder women's access to cervical cancer screening and prevention services and the implications for cervical cancer prevention among women at risk in a low-income, high HIV prevalence context
2. To highlight current challenges around women's access to cervical cancer screening in Cameroon
3. To identify potential opportunities in developing and implementing effective interventions for increasing uptake of cervical cancer screening programs

STUDY SETTING AND POPULATION



- Regional Hospital, located in the coastal town of Limbe in Southwest Cameroon
 - Otherwise known as “Mile One Hospital”
- Women living with HIV (WLWH) and not living with HIV (HIV[-])
 - Aged ≥ 25
 - Ever or currently sexually active
 - Not pregnant at enrollment into the study
 - Never screened for or diagnosed with cervical cancer
 - Was able to provide both self-collected and provider-collected biological samples for HPV testing
 - Was able to understand and sign the informed consent
- Male spouses or partners of enrolled women were recruited

Study Design

	FGD				IDI
	25-35	36-45	>=46	MEN	
WLWH	12	12	12	12	4
HIV[-]	12	12	12	12	4

- Nested within the Central Africa International Epidemiology Database to Evaluate AIDS (CA-leDEA) project in Cameroon⁴
- Exploratory, descriptive qualitative approach
- Two-stage purposive sampling strategy to systematically select the women and men for focus group discussions (FGD) and in-depth interviews (IDI)
- Semi-structured interview guide informed by the socioecological framework⁵

DATA PROCESSING & ANALYSIS

1. Daily reconciliation of notes among team in Cameroon
2. Labeling of audio recordings and field notes
3. Routine debriefings involving the team in the US
4. Translation
5. Verification
6. Identification of themes and development of an apriori codebook developed by the lead author
7. Three- stage iterative process of developing in the codebook

Table 1. Demographic characteristics of women in the study

Demographic Characteristics	%
Mean Age	42.6
<i>Marital Status</i>	
Single	34.9
Married	44.6
Other	20.5
<i>Education</i>	
None	3.2
Primary	11
Secondary	52.8
Tertiary	33
<i>Employment</i>	
None	40.6
Self Employed	49.8
Government	9.6
<i>Income</i>	
None	42.8
< 50,000 CFA	38.4
> 50,000CFA	18.8
Mean age at sex debut	17.2
<i>Lifetime sex partners</i>	
1	8.7
2-4	46
5-6	21
7-9	8.9
10 or more	11.7
Don't Know	3.7
Current oral contraceptive use	33.9

MICRO-LEVEL (INDIVIDUAL) FACTORS

	Challenges	Opportunities
Awareness and knowledge	Older women were more likely to believe myths and misconceptions about cervical cancer	Nearly all women were aware of at least one type of cancer – cervical and breast cancer most commonly
Risk perceptions and health-seeking behaviors	Limited knowledge of the relationship of HPV and cervical cancer	Younger women were more likely to demonstrate knowledge of risk factors associated with each type of cancer
	Varied perception of risk associated with age, HIV status, adherence to myths and misconceptions and perceived risk of cervical cancer	Nearly all women were aware of increased risk of cancer diagnosis in their community
	All women had never been screened for cervical cancer	Younger women and those with higher education were more likely to take preventive actions to minimize their exposure to risk Knowing someone diagnosed with cancer strongly influences perception of risk and willingness to initiate preventative behaviors Those that were aware of the risks of cervical cancer were more likely to encourage others to take preventive measures against cervical cancer
Lack of access to information about cervical cancer screening services	Women did not have access to any source to obtain information about cervical cancer which made it possible for false and negative information about cervical cancer to spread in their communities	Women sought information about cervical cancer from internet sources or private health facilities offering screening and other services related to cervical cancer
Cost as a deterrent to cervical cancer screening	Absence of publicly funded cervical cancer screening programs	Available at a few private health facilities, but these services are expensive so many women cannot access them
	Difficulties with personal finances due to high unemployment rates in the country places paying for cervical cancer prevention as low on the list of priorities	Women were likely to appear for cervical cancer screening if it was free and transportation costs were reimbursed
	The cost of transportation to health facilities is an additional financial deterrent	

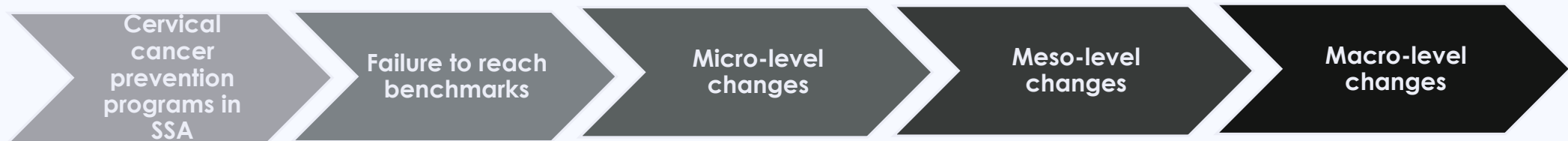
MESO-LEVEL (COMMUNITY NORMS & SOCIAL NETWORKS) FACTORS

	Challenges	Opportunities
Social networks and social norms	The type of information about cervical cancer is determined by the amount of cervical cancer knowledge that community has and how much they are attached to myths and misconceptions about cervical cancer	Community education and stigma reduction around cervical cancer is likely to have a high impact because individual's knowledge and behaviors are shaped by and conform to expectations is set by the level of awareness in their community
Cultural norms and the role of men	Men do not take much interest in women's health issues or encourage preventative behaviors as a result of cultural expectations of how men should conduct themselves	Younger women are encouraging men to be proactive in taking concrete action to help prevent their spouses from getting cervical cancer (ie: not having multiple partners, encouraging their wives to participate in regular screening, etc.)
	Men with negative attitudes about cervical cancer believe there is very little to be done to prevent cervical cancer	Men with higher levels of education demonstrated better knowledge of risk factors and was more likely to demonstrate a positive attitude to cervical cancer prevention
HIV and health-related social stigma	Ignorance and fear of death contribute to the stigma surrounding cervical cancer	Lots of opportunity for stigma reduction activities in communities
	The belief that cervical cancer is untreatable fuels stigma	
	Disease associated with women's reproductive organs contribute to stigma given cultural norms around female sexuality	
Lack of cancer prevention policies	Rural-urban disparities in health care infrastructure and supplies	Interest from age-eligible women to be educated on cervical cancer prevention

MACRO-LEVEL (STRUCTURAL: HEALTH SYSTEMS & POLICY) FACTORS

	Challenges	Opportunities
Weak health system and lack of infrastructure	Lack of cervical cancer screening facilities in the regional hospital requires travel to large urban centers for screening	Private clinics have made cervical cancer screening
	Limited basic equipment for screening	
	Shortage of trained health care workers who can keep up with demand	
	Weak health care system and poor condition of physical health centers	
	Emphasis on HIV/AIDS within the health system leaving little space for competing health priorities	
	Shift to private facilities leading to higher costs for patients with limited trust in providers' skills	
Lack of cancer prevention policies	Lack of comprehensive policies that can aid awareness and encourage positive attitudes to cervical cancer screening	
Cervical cancer screening in the context of HIV/AIDS care and treatment program	Women not living with HIV or of unknown status did not want to seek screening from services integrated with HIV/AIDS care because of potential HIV-related stigma they may face	Integration of cervical cancer screening within HIV care and treatment programs
		Interest in community-based cervical cancer screening programs which can be accessed in community settings or done in their own homes
Lack of cancer prevention policies	Limited commitment from government and politicians to improve population health	Interest from age-eligible women to be educated on cervical cancer prevention
	Rural-urban disparities in health care infrastructure and supplies	

DISCUSSION



STRENGTHS & LIMITATIONS

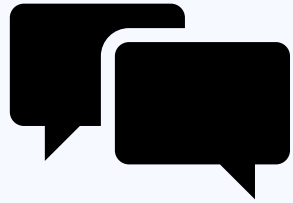
STRENGTHS

- Knowledge of the socio-contextual barriers to women's access cervical cancer screening and care in a high HIV prevalence, low-income contexts

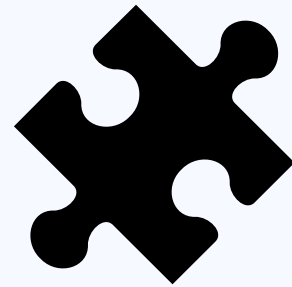
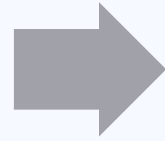
LIMITATIONS

- Elements of the study design may impact the extent to which results are generalizable to women in dissimilar settings:
 - the qualitative nature of the data
 - the participants selected
 - the setting of the study within the context of a larger ongoing clinical-based study

CONCLUSION



The importance of the individual, familial, community and structural factors



These issues should be considered to increase access to cervical cancer screening



Our results highlight gaps in the uptake of cervical cancer screening programs, which must be addressed



References

1. World Health Organization. Cervical cancer. Available at: <https://www.who.int/cancer/prevention/diagnosis-screening/cervicalcancer/en/>
2. Global Cancer Observatory. Cameroon Cancer Statistics. Available at: <http://gco.iarc.fr/today/data/factsheets/populations/120-cameroon-fact-sheets.pdf>
3. Donatus L, Nina FK, Sama DJ, et al. Assessing the uptake of cervical cancer screening among women aged 25–65 years in Kumbo West Health District Cameroon. *Pan Afr Med J.* 2019;33:106. <https://doi.org/10.11604/pamj.2019.33.106.16975>.
4. The International Epidemiology Databases to Evaluate AIDS. Available at: <https://www.iedea.org/>
5. Kristin AR, Judith KO, Lori P. *The Handbook of Health Behavior Change, 4th Edition.* (2013). Springer Publishing Company.
6. Black E, Richmond R. Prevention of cervical cancer in Sub-Saharan Africa: the advantages and challenges of HPV vaccination. *Vaccines (Basel);*6(3):61. <https://doi.org/10.3390/vaccines6030061>
7. Rahman R, Clark MD, Collins Z, Traore F, Dioukhane EM, Thiam H, Ndiaye Y, De Jesus EL, Danfakha N, Peters KE, Komarek T, Linn AM, Linn PE, Wallner KE, Charles M, Hasnain M, Peterson CE, Dykens JA. Cervical cancer screening decentralized policy adaptation: an African rural-context-specific systematic literature review, *Global Health Action*, 2019. Vol 12:1, 1587894, <https://doi.org/10.1080/16549716.2019.1587894>
8. Delany-Moretlwe S, Kelley KF, James S, et al. Human papillomavirus vaccine introduction in South Africa: implementation lessons from an evaluation of the National School-Based Vaccination Campaign. *Glob Health Sci Pract.* 2018;6(3):425–38. <https://doi.org/10.9745/GHSP-D-18-00090>.
9. Nkfusai NC, Cumber SN, Anchang-Kimbi JK, Nji KE, Shirinde J, Anong ND. Assessment of the current state of knowledge and risk factors of cervical cancer among women in the Buea Health District Cameroon. *Pan Afr Med J.* 2019;33:38. <https://doi.org/10.11604/pamj.2019.33.38.16767>.
10. Gatumo M, Gacheri S, Sayed AR, Scheibe A. Women's knowledge and attitudes related to cervical cancer and cervical cancer screening in Isiolo and Tharaka Nithi counties, Kenya: a cross-sectional study. *BMC Cancer.* 2018;18(1):745. <https://doi.org/10.1186/s12885-018-4642-9>.
11. Shiferaw S, Addissie A, Gizaw M, et al. Knowledge about cervical cancer and barriers toward cervical cancer screening among HIV-positive women attending public health centers in Addis Ababa city. *Ethiopia Cancer Med.* 2018;7(3):903–12. <https://doi.org/10.1002/cam4.1334>.
12. Musa J, Achenbach CJ, O'Dwyer LC, et al. Effect of cervical cancer education and provider recommendation for screening on screening rates: A systematic review and meta-analysis [published correction appears in *PLoS One.* 2017 Dec 29;12(12):e0190661]. *PLoS One.* 2017;12(9):e0183924. Published 2017 Sep 5. <https://doi.org/10.1371/journal.pone.0183924>
13. Bingham A, Bishop A, Coffey P, Winkler J, Bradley J, Dzuba I, Agurto I. Factors affecting utilization of cervical cancer prevention services in low-resource settings. *Salud Publica Mex.* 2003;45(Suppl 3):S408–16.
14. Devarapalli P, Labani S, Nagarjuna N, Panchal P, Asthana S. Barriers affecting uptake of cervical cancer screening in low and middle income countries: A systematic review. *Indian J Cancer.* 2018;55(4):318-26. https://doi.org/10.4103/ijc.IJC_253_18.



Questions?