Multidisciplinary Journal of Academic Publications
ISSN (Online): 3107-538X
Vol. 01, Issue 02, November – December 2025

EDUCATIONAL DISPARITIES AND HIV/AIDS EXPOSURE: A DUAL-REGION STUDY OF ODISHA'S TRIBAL AND COASTAL SOCIETIES

Rasmita Mohanty[1], Dr. Soniya Rani[2]

Research Scholar, Department of Psychology, YBN University[1]

Associate professor, Department of Psychology, YBN University[2]

Abstract

HIV/AIDS remains a significant public health challenge in India, with educational disparities playing a crucial role in disease vulnerability. This study examines the relationship between educational attainment and HIV/AIDS awareness in tribal and coastal communities of Odisha. The research objectives include assessing educational levels, evaluating HIV/AIDS knowledge, comparing awareness patterns, and identifying intervention needs across both populations. A cross-sectional comparative design was employed with 400 participants from tribal districts (Koraput, Mayurbhanj) and coastal regions (Puri, Ganjam). Data collection utilized structured questionnaires and knowledge assessment tools. The hypothesis posited that lower educational attainment correlates with reduced HIV/AIDS awareness in tribal areas compared to coastal regions. Results revealed significant educational disparities, with 68% of tribal participants having primary or no formal education versus 42% in coastal areas. HIV/AIDS awareness was markedly lower among tribal populations (45% comprehensive knowledge) compared to coastal communities (71%). Discussion highlights the intersection of educational marginalization and health vulnerability. The study concludes that targeted educational interventions and culturally appropriate awareness programs are essential for bridging knowledge gaps and reducing HIV/AIDS susceptibility in educationally disadvantaged tribal populations.

Keywords: *Educational disparity[1], HIV/AIDS awareness[2], tribal communities[3], coastal populations[4], Odisha[5].*

1. Introduction

India accounts for approximately 2.3 million people living with HIV, representing the third-largest epidemic globally (National AIDS Control Organisation, 2023). Odisha, a state characterized by diverse geographical and socio-cultural landscapes, presents a unique context for examining HIV/AIDS vulnerabilities. The state's population comprises distinct demographic segments, including indigenous tribal communities residing in forested highland regions and coastal populations engaged in fishing and maritime trade. These populations face differential access to educational resources and health information, creating varied vulnerability patterns to HIV/AIDS. Educational attainment serves as a fundamental determinant of health literacy and disease prevention behaviors. Research consistently demonstrates that higher education levels correlate with improved health outcomes, including reduced HIV transmission rates (Sharma et al., 2021). However, tribal populations in Odisha face systemic educational barriers stemming from geographical isolation, linguistic diversity, economic constraints, and inadequate infrastructure. According to the Census of India 2011, tribal literacy rates in Odisha stand at 52.24% compared to the state average of 73.45%, with particularly pronounced gender disparities.

Coastal communities, while facing their own challenges related to occupational mobility and seasonal migration, generally benefit from better educational infrastructure and healthcare access due to proximity to urban centers. This geographical advantage translates into differential exposure to health information campaigns and preventive healthcare services. The juxtaposition of these two populations within the same state provides an invaluable opportunity to examine how educational disparities intersect with HIV/AIDS awareness and vulnerability. HIV/AIDS awareness encompasses knowledge about transmission routes, prevention methods, misconceptions, and attitudes toward affected individuals. Limited education constrains individuals' ability to access, comprehend, and apply health information effectively. In tribal contexts, this challenge is compounded by cultural beliefs, language barriers, and limited engagement with mainstream health systems (Pradhan & Mandal, 2020). Understanding these dynamics is crucial for developing targeted interventions that address both educational gaps and health vulnerabilities simultaneously. This research investigates the relationship between educational attainment and HIV/AIDS awareness across tribal and coastal populations in Odisha. By examining knowledge levels, misconceptions, and information sources, the study aims to identify specific educational and informational needs within each community. The findings will inform culturally appropriate intervention strategies that leverage educational pathways to enhance HIV/AIDS awareness and prevention behaviors in vulnerable populations.

2. Literature Review

Existing research establishes strong linkages between educational attainment and HIV/AIDS vulnerability across diverse populations. Kumar and Singh (2022) examined HIV awareness among tribal populations in central India, finding that educational deprivation significantly predicted misconceptions about transmission routes and prevention methods. Their study revealed that individuals with less than primary education were 3.2 times more likely to harbor stigmatizing attitudes toward people living with HIV compared to those with secondary or higher education. Educational disparities in Odisha have been extensively documented, particularly regarding tribal communities. Mohanty (2021) analyzed census data and found persistent gaps in educational access, with tribal girls facing the most severe disadvantages due to intersecting factors of gender, poverty, and geographical remoteness. The study identified that only 38% of tribal females in Odisha complete primary education, compared to 67% in general populations. These educational deficits create cascading effects on health literacy and preventive healthcare utilization. Research on coastal populations reveals different patterns of educational access and health awareness. Patel and Nayak (2020) investigated health-seeking behaviors among fishing communities in Odisha's coastal districts, discovering that despite higher literacy rates, occupational mobility and seasonal migration patterns disrupted continuous engagement with health services. However, their proximity to healthcare facilities and exposure to mass media resulted in significantly higher baseline HIV/AIDS awareness compared to inland populations. The relationship between education and HIV/AIDS knowledge has been explored in various Indian contexts. Gupta et al. (2023) conducted a systematic review of studies examining HIV awareness correlates, identifying education as the strongest predictor of comprehensive HIV knowledge across 47 studies. Their meta-analysis revealed that each additional year of schooling was associated with a 12% increase in comprehensive HIV knowledge scores. The review emphasized that educational interventions must extend beyond basic literacy to include critical health literacy skills.

Cultural factors intersecting with educational disparities have been examined in tribal health research. Behera and Mishra (2021) studied health beliefs and practices among Kondh tribal communities in Odisha, finding that traditional belief systems sometimes conflicted with biomedical understandings of disease transmission. They emphasized that effective health education requires cultural competence and integration of indigenous knowledge systems rather than mere information dissemination. Gender dimensions of educational disparities and HIV vulnerability have received increasing attention. Rao et al. (2022) investigated gendered patterns of HIV awareness in rural Odisha, revealing that women with limited education faced multiple vulnerabilities, including restricted mobility, limited decision-making autonomy, and reduced access to health information. Their findings highlighted the need for gender-sensitive educational interventions addressing power dynamics within households and communities. Migration patterns influence both educational disruption and HIV risk. Das

and Sahoo (2020) examined circular migration from tribal areas to urban centers for labor, finding that educational discontinuity during migration periods increased vulnerability to HIV exposure. Migrants with incomplete education demonstrated lower negotiation skills regarding safe sexual practices and limited awareness of testing facilities in destination areas. Information sources and health literacy pathways differ significantly across populations. Swain et al. (2023) compared health information access channels among tribal and non-tribal populations in Odisha, identifying that tribal communities relied primarily on informal networks and traditional healers, while coastal populations accessed diverse sources including media, healthcare providers, and community organizations. This differential access necessitates tailored communication strategies for each population segment.

3. Objectives

1. To assess and compare educational attainment levels between tribal communities in highland districts and coastal populations in maritime regions of Odisha, examining patterns of formal schooling completion, literacy rates, and gender-based educational disparities within each demographic segment.
2. To evaluate comprehensive HIV/AIDS knowledge, including accurate understanding of transmission routes, prevention methods, testing procedures, and treatment availability among participants from both tribal and coastal communities, identifying specific knowledge gaps and misconceptions prevalent in each population.
3. To analyze the correlation between educational attainment and HIV/AIDS awareness levels within and across both populations, determining whether educational disparities translate directly into differential health literacy and examining potential mediating factors that influence this relationship.
4. To identify culturally appropriate intervention strategies and educational pathways for enhancing HIV/AIDS awareness in educationally disadvantaged populations, considering community-specific barriers, preferred information channels, and existing knowledge systems that could facilitate effective health education programs.

4. Methodology

This research employed a cross-sectional comparative study design to examine educational disparities and HIV/AIDS awareness across tribal and coastal populations in Odisha. The study was conducted between January 2024 and August 2024 in four districts representing distinct geographical and demographic characteristics. Tribal populations were sampled from Koraput and Mayurbhanj districts, which have substantial Scheduled Tribe populations including Kondh, Santhal, and Bonda communities. Coastal populations were sampled from Puri and Ganjam districts, representing fishing communities and maritime trade populations along the Bay of Bengal coast. The sample comprised 400 participants, with 200 from tribal communities and 200 from coastal populations. Participants were selected using stratified random sampling to ensure representation across age groups, gender, and educational backgrounds. Inclusion criteria specified individuals aged 18-55 years, permanent residents of selected districts for at least five years, and willingness to provide informed consent. Exclusion criteria included individuals with cognitive impairments affecting comprehension and those employed in healthcare or education sectors whose professional knowledge might bias responses.

Data collection utilized a structured questionnaire developed through extensive literature review and pilot testing. The instrument comprised four sections: demographic information including age, gender, occupation, and household characteristics; educational attainment measured through years of formal schooling, literacy status, and functional literacy assessment; HIV/AIDS knowledge assessment with 25 items covering transmission routes, prevention methods, testing, treatment, and misconceptions; and information sources exploring channels through which participants obtained health information. The questionnaire was developed in English, translated into Odia, and back-translated to ensure linguistic accuracy. For tribal populations with distinct languages, local translators facilitated data collection while maintaining conceptual equivalence. Knowledge assessment employed a validated HIV/AIDS awareness scale adapted from previous studies in

Indian contexts, with modifications for cultural appropriateness. Questions addressed comprehensive knowledge including awareness that HIV can be transmitted through unprotected sexual contact, sharing of needles, mother-to-child transmission, and blood transfusion; knowledge that HIV cannot be transmitted through mosquito bites, sharing food, casual contact, or toilet seats; awareness of prevention methods including condom use, single partner relationships, and avoiding needle sharing; knowledge of testing availability and voluntary counseling services; and understanding of antiretroviral therapy and treatment access. Responses were scored on a three-point scale: correct, incorrect, or don't know, with comprehensive knowledge defined as correctly answering at least 80% of items.

Data collection was conducted by trained field investigators familiar with local languages and cultural contexts. Each interview lasted approximately 45-60 minutes and was conducted in private settings ensuring confidentiality. Prior to data collection, informed consent was obtained from all participants, with procedures approved by the Institutional Ethics Committee. Participants received information about study objectives, voluntary participation, confidentiality provisions, and their right to withdraw without consequences. Statistical analysis employed SPSS version 26.0, with descriptive statistics calculating frequencies, percentages, means, and standard deviations for demographic variables and knowledge scores. Chi-square tests examined associations between categorical variables including educational attainment categories and HIV/AIDS awareness levels across populations. Independent t-tests compared mean knowledge scores between tribal and coastal groups. Logistic regression analysis identified predictors of comprehensive HIV/AIDS knowledge, with education, gender, age, and population type entered as independent variables. Statistical significance was set at $p<0.05$. Data were analyzed separately for each population and comparatively across groups to identify distinct patterns and common themes relevant to intervention development.

5. Results

Table 1: Demographic Characteristics of Study Participants

Characteristics	Tribal (n=200)	Coastal (n=200)	Total (n=400)
Age (years)			
18-25	62 (31.0%)	58 (29.0%)	120 (30.0%)
26-35	71 (35.5%)	68 (34.0%)	139 (34.8%)
36-45	45 (22.5%)	48 (24.0%)	93 (23.3%)
46-55	22 (11.0%)	26 (13.0%)	48 (12.0%)
Gender			
Male	108 (54.0%)	112 (56.0%)	220 (55.0%)
Female	92 (46.0%)	88 (44.0%)	180 (45.0%)
Marital Status			
Unmarried	58 (29.0%)	54 (27.0%)	112 (28.0%)
Married	142 (71.0%)	146 (73.0%)	288 (72.0%)

Table 1 presents the demographic distribution of study participants across tribal and coastal populations. The age distribution shows relatively balanced representation across both groups, with the largest proportion falling in the 26-35 years category representing 35.5% of tribal and 34.0% of coastal participants. Gender distribution demonstrates slight male predominance in both populations, with males constituting 54.0% of tribal and 56.0% of coastal samples. The similarity in demographic composition across groups enables valid comparisons, minimizing confounding effects of age and gender differences. Marital status patterns were comparable, with approximately 71-73% of participants being married across both populations, reflecting traditional family structures predominant in rural Odisha communities.

Table 2: Educational Attainment Levels

Education Level	Tribal (n=200)	Coastal (n=200)	Chi-square	p-value
No formal education	54 (27.0%)	28 (14.0%)	48.73	<0.001
Primary (1-5 years)	82 (41.0%)	56 (28.0%)		
Middle (6-8 years)	38 (19.0%)	62 (31.0%)		
Secondary (9-10 years)	18 (9.0%)	38 (19.0%)		
Higher secondary & above	8 (4.0%)	16 (8.0%)		
Mean years of education	3.8±2.9	6.2±3.4	t=7.82	<0.001

Table 2 reveals significant educational disparities between tribal and coastal populations. Among tribal participants, 27.0% reported no formal education compared to 14.0% in coastal areas, demonstrating substantially higher educational exclusion in tribal regions. The majority of tribal participants (68.0%) possessed only primary level education or less, contrasting sharply with coastal populations where 58.0% had completed middle school or higher education. Mean years of formal schooling differed significantly between groups, with tribal participants averaging 3.8 years compared to 6.2 years among coastal participants. Statistical analysis confirmed these differences were highly significant (chi-square=48.73, $p<0.001$), indicating systematic educational disadvantage in tribal communities. These disparities reflect longstanding structural barriers including geographical remoteness, inadequate school infrastructure, economic constraints requiring child labor, and cultural factors affecting educational participation, particularly among tribal girls.

Table 3: HIV/AIDS Awareness Levels

Knowledge Component	Tribal (n=200)	Coastal (n=200)	Chi-square	p-value
Heard about HIV/AIDS	156 (78.0%)	188 (94.0%)	23.45	<0.001
Correct transmission knowledge	74 (37.0%)	134 (67.0%)	36.12	<0.001
Aware of prevention methods	82 (41.0%)	152 (76.0%)	50.24	<0.001
Knowledge of testing facilities	48 (24.0%)	118 (59.0%)	51.36	<0.001
Aware of treatment availability	36 (18.0%)	98 (49.0%)	43.67	<0.001
Comprehensive knowledge	90 (45.0%)	142 (71.0%)	28.18	<0.001

Table 3 demonstrates substantial disparities in HIV/AIDS awareness between populations. While basic awareness of HIV/AIDS existence was relatively high in both groups, deeper knowledge components showed marked differences. Only 37.0% of tribal participants possessed correct comprehensive understanding of HIV transmission routes compared to 67.0% of coastal participants, a statistically significant difference ($p<0.001$). Prevention method awareness followed similar patterns, with 41.0% of tribal versus 76.0% of coastal participants demonstrating accurate knowledge. Knowledge gaps were particularly pronounced regarding healthcare access, with only 24.0% of tribal participants aware of testing facilities compared to 59.0% in coastal areas. Treatment awareness showed the widest disparity, with merely 18.0% of tribal participants knowing about antiretroviral therapy availability versus 49.0% of coastal participants. Comprehensive knowledge, defined as correctly answering at least 80% of assessment items, was achieved by 45.0% of tribal participants compared to 71.0% of coastal participants. These findings underscore how educational disadvantages translate directly into health knowledge deficits, potentially increasing HIV vulnerability among educationally marginalized tribal populations.

Table 4: Common Misconceptions about HIV/AIDS

Misconception	Tribal (n=200)	Coastal (n=200)	Chi-square	p-value
HIV spreads through mosquito bites	118 (59.0%)	64 (32.0%)	29.44	<0.001
HIV spreads by sharing food	96 (48.0%)	48 (24.0%)	24.96	<0.001
HIV spreads through casual touch	102 (51.0%)	52 (26.0%)	26.32	<0.001
HIV spreads by using public toilets	88 (44.0%)	42 (21.0%)	23.76	<0.001
HIV affected persons should be isolated	124 (62.0%)	68 (34.0%)	31.68	<0.001
HIV is a curse or punishment	76 (38.0%)	32 (16.0%)	24.12	<0.001

Table 4 highlights prevalent misconceptions contributing to stigma and inadequate prevention behaviors. Among tribal populations, 59.0% incorrectly believed HIV could be transmitted through mosquito bites, compared to 32.0% in coastal communities, reflecting limited access to accurate health information. Misconceptions about transmission through sharing food affected 48.0% of tribal participants versus 24.0% of coastal participants. Beliefs that casual touch could transmit HIV were held by 51.0% of tribal respondents compared to 26.0% in coastal areas. These misconceptions contribute to social stigma and discrimination against people living with HIV. Particularly concerning was the finding that 62.0% of tribal participants believed affected persons should be isolated, compared to 34.0% in coastal populations, indicating substantial stigmatizing attitudes. Cultural interpretations viewing HIV as divine punishment or curse were expressed by 38.0% of tribal participants versus 16.0% of coastal participants. All differences were statistically significant ($p<0.001$), demonstrating how educational disadvantages perpetuate misinformation and potentially harmful attitudes toward HIV-affected individuals in tribal communities.

Table 5: Sources of HIV/AIDS Information

Information Source	Tribal (n=200)	Coastal (n=200)	Chi-square	p-value
Health workers/Doctors	52 (26.0%)	112 (56.0%)	38.04	<0.001
Television/Radio	48 (24.0%)	124 (62.0%)	60.32	<0.001
Friends/Family	94 (47.0%)	82 (41.0%)	1.44	0.230
School/Educational institutions	28 (14.0%)	76 (38.0%)	31.68	<0.001
Community meetings	68 (34.0%)	54 (27.0%)	2.32	0.128
Posters/Print materials	22 (11.0%)	58 (29.0%)	21.48	<0.001

Table 5 reveals differential access to health information channels between populations. Tribal communities relied significantly less on healthcare workers as information sources (26.0%) compared to coastal populations (56.0%), reflecting limited healthcare infrastructure in tribal areas. Access to mass media information was markedly lower among tribal participants, with only 24.0% receiving information through television or radio compared to 62.0% in coastal communities. This disparity reflects both infrastructural limitations and economic constraints affecting media access in remote tribal regions. Educational institutions served as information sources for merely 14.0% of tribal participants versus 38.0% of coastal participants, consistent with lower educational enrollment and attendance in tribal areas. Interestingly, friends and family represented a primary information source for 47.0% of tribal participants, not significantly different from coastal populations, suggesting the importance of peer networks. However, reliance on informal networks without professional health education may perpetuate misconceptions. Print materials reached only 11.0% of tribal participants compared to 29.0% of coastal populations, indicating literacy-related barriers to information access in tribal communities.

Table 6: Educational Attainment and HIV/AIDS Knowledge Correlation

Education Level	Comprehensive HIV Knowledge	
	Tribal	Coastal
No formal education	12 (22.2%)	8 (28.6%)
Primary (1-5 years)	28 (34.1%)	34 (60.7%)
Middle (6-8 years)	26 (68.4%)	48 (77.4%)
Secondary & above	24 (92.3%)	52 (96.3%)
Correlation coefficient (r)	0.68**	0.72**

Table 6 demonstrates strong positive correlations between educational attainment and comprehensive HIV/AIDS knowledge within both populations. Among tribal participants with no formal education, only 22.2% possessed comprehensive HIV knowledge, increasing progressively to 92.3% among those with secondary or higher education. Similarly, coastal participants showed improvement from 28.6% comprehensive knowledge among those without formal education to 96.3% among those with secondary or higher education. The correlation coefficients were statistically significant and substantial in both groups (tribal $r=0.68$, coastal $r=0.72$, both $p<0.01$), confirming that educational attainment strongly predicts HIV/AIDS awareness regardless of population type. However, notable differences emerged at comparable education levels, with coastal participants consistently demonstrating higher knowledge percentages than tribal counterparts at primary and middle school levels. This suggests that beyond formal schooling years, additional factors such as educational quality, community health infrastructure, and information environment contribute to knowledge acquisition, with coastal populations enjoying advantages in these supplementary factors.

6. Discussion

This study reveals substantial educational disparities between tribal and coastal populations in Odisha, with corresponding differentials in HIV/AIDS awareness levels. The findings align with previous research documenting systematic educational disadvantages faced by tribal communities across India (Mohanty, 2021; Kumar & Singh, 2022). The mean difference of 2.4 years of schooling between populations represents not merely quantitative difference but qualitative disparities in educational experiences, infrastructure quality, and continuity of learning opportunities. Tribal communities face compounded barriers including geographical isolation limiting school access, economic pressures necessitating child labor, linguistic barriers where instruction occurs in non-native languages, and cultural factors sometimes viewing formal education as incompatible with traditional livelihoods. The translation of educational disparities into health knowledge gaps demonstrates concerning implications for HIV vulnerability. Comprehensive HIV/AIDS knowledge was achieved by only 45% of tribal participants compared to 71% of coastal participants, a 26-percentage-point gap that potentially increases disease susceptibility. This finding corroborates Gupta et al. (2023) who identified education as the strongest predictor of HIV awareness across diverse Indian populations. The particularly low awareness regarding testing facilities (24% tribal vs 59% coastal) and treatment availability (18% tribal vs 49% coastal) suggests that even when tribal individuals recognize risk, they face informational barriers to accessing preventive and care services.

Misconceptions about HIV transmission remain alarmingly prevalent, especially within tribal populations. The belief that HIV spreads through mosquito bites (59% tribal), casual touch (51% tribal), or sharing food (48% tribal) reflects fundamental gaps in understanding disease etiology. These misconceptions stem from limited exposure to scientifically accurate health information and potentially from analogical reasoning based on experiences with other diseases. Behera and Mishra (2021) emphasized that effective health education in tribal contexts requires understanding indigenous conceptual frameworks rather than merely transmitting biomedical facts. The finding that 62% of tribal participants believed HIV-affected persons should be isolated indicates how misinformation translates into stigma, potentially discouraging testing and disclosure behaviors. Information

access disparities emerged as a critical mediating factor between education and awareness. Tribal populations demonstrated markedly lower access to healthcare workers, mass media, and print materials as information sources. The heavy reliance on informal peer networks (47%) among tribal participants, while culturally appropriate, becomes problematic when community knowledge levels are low, potentially creating echo chambers of misinformation. Swain et al. (2023) documented similar patterns, emphasizing the need for targeted communication strategies utilizing channels accessible to marginalized populations. The low penetration of educational institutions as information sources (14% tribal) represents a missed opportunity, suggesting schools could serve as strategic platforms for health education if tribal educational participation improves.

The strong correlations between educational attainment and HIV knowledge within both populations (r=0.68 tribal, r=0.72 coastal) confirm education's pivotal role in health literacy. However, the finding that coastal participants demonstrate higher knowledge than tribal counterparts at comparable education levels indicates that schooling alone is insufficient. Educational quality, relevance of curriculum content, teacher training in health education, and availability of supplementary information sources all contribute to knowledge acquisition. This suggests interventions must address both educational access and quality simultaneously while leveraging alternative channels for populations with limited formal education. Gender dimensions, while not extensively analyzed in this paper, warrant consideration given that tribal females face intersecting disadvantages of gender, ethnicity, and geography (Rao et al., 2022). Future research should examine how educational gender gaps within tribal populations specifically affect women's HIV vulnerability, recognizing that women often face restricted mobility, limited autonomous decision-making, and reduced access to health information compared to men in these communities. The study's findings have important policy implications. First, educational interventions targeting tribal populations must address structural barriers beyond individual motivation, including infrastructure development, culturally appropriate pedagogy, and economic support enabling school attendance. Second, HIV/AIDS awareness programs cannot rely solely on print media, mass media, or healthcare facility-based education given limited access among tribal populations. Community-based peer education utilizing local languages and cultural frames may prove more effective. Third, integration of health education, including HIV/AIDS awareness, into existing tribal welfare programs, self-help groups, and community meetings could leverage existing social networks for information dissemination. Limitations of this study include its cross-sectional design preventing causal inference, reliance on self-reported data potentially affected by social desirability bias, and focus on two specific geographical contexts limiting generalizability to all tribal and coastal populations. Additionally, the study did not assess actual HIV risk behaviors, focusing solely on knowledge, though knowledge represents a necessary if insufficient precondition for behavior change. Future longitudinal research tracking how educational interventions translate into sustained knowledge improvements and behavioral changes would strengthen evidence for intervention effectiveness.

7. Conclusion

This study establishes substantial educational disparities between tribal and coastal populations in Odisha, with tribal communities experiencing significantly lower educational attainment. These educational gaps directly correspond to marked differentials in HIV/AIDS awareness, with tribal populations demonstrating limited knowledge about transmission routes, prevention methods, testing availability, and treatment options. Prevalent misconceptions, particularly regarding transmission through casual contact, contribute to stigmatizing attitudes potentially deterring individuals from seeking testing and care. The strong correlation between educational attainment and HIV knowledge within both populations confirms education's critical role as a social determinant of health literacy. However, disparities persist even at comparable education levels, indicating that educational quality, information environment, and healthcare access collectively shape awareness patterns. Addressing HIV vulnerability in tribal populations requires comprehensive approaches combining educational infrastructure development, culturally appropriate health communication utilizing accessible channels, and integration of health literacy into existing community programs. Bridging educational and informational gaps represents an essential strategy for reducing health inequities and HIV susceptibility among marginalized tribal populations in Odisha.

8. References

1. Behera, S. K., & Mishra, P. (2021). Health beliefs and practices among Kondh tribes of Odisha: Implications for health interventions. *Indian Journal of Community Health, 33*(2), 289-296. https://doi.org/10.47203/IJCH.2021.v33i02.012
2. Das, M., & Sahoo, H. (2020). Circular migration and HIV risk: Educational discontinuity among tribal migrants in India. *Journal of Biosocial Science, 52*(4), 565-578. https://doi.org/10.1017/S0021932019000677
3. Gupta, R., Sharma, A., & Kumar, V. (2023). Education and HIV/AIDS awareness in India: A systematic review and meta-analysis. *International Journal of Health Sciences, 17*(1), 48-62. https://doi.org/10.53730/ijhs.v17n1.8745
4. Kumar, A., & Singh, P. (2022). HIV awareness and educational deprivation among tribal populations in central India. *Indian Journal of Social Psychiatry, 38*(3), 245-253. https://doi.org/10.4103/ijsp.ijsp_142_21
5. Mohanty, R. K. (2021). Educational disparities among tribal populations in Odisha: An analysis of census data. *Journal of Educational Planning and Administration, 35*(4), 315-330. https://doi.org/10.1177/09719045211045623
6. National AIDS Control Organisation. (2023). *Annual Report 2022-23*. Ministry of Health and Family Welfare, Government of India. https://naco.gov.in/annual-report-2022-23
7. Patel, S., & Nayak, R. (2020). Health-seeking behavior among fishing communities in coastal Odisha. *Indian Journal of Public Health, 64*(2), 156-162. https://doi.org/10.4103/ijph.IJPH_419_19
8. Pradhan, S., & Mandal, R. K. (2020). Cultural barriers to HIV prevention in tribal communities of eastern India. *Culture, Health & Sexuality, 22*(7), 823-837. https://doi.org/10.1080/13691058.2019.1632489
9. Rao, S., Patel, V., & Deshmukh, P. R. (2022). Gendered patterns of HIV awareness in rural Odisha: The role of education and empowerment. *BMC Public Health, 22*(1), 1456. https://doi.org/10.1186/s12889-022-13856-w
10. Sharma, B., Singh, R., & Negin, J. (2021). Educational attainment and HIV transmission: Evidence from India's National Family Health Survey. *PLoS ONE, 16*(4), e0249992. https://doi.org/10.1371/journal.pone.0249992
11. Swain, P. K., Mohanty, S. K., & Nanda, S. (2023). Health information access and utilization: Comparing tribal and non-tribal populations in Odisha. *Journal of Health Management, 25*(1), 78-94. https://doi.org/10.1177/09720634221145789