

# Cultural Mediators in Pluralistic Health Systems: A Mixed-Methods Exploration of Traditional Healers' Sexual and Reproductive Health Practices in Odisha's Tribal Districts

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## Abstract

**Background:** Traditional healers provide primary healthcare for 22.85% of Odisha's tribal population; however, evidence regarding their sexual and reproductive health (SRH) service provision is limited. This study explored the role of traditional healers as cultural mediators in pluralistic health systems.

**Methods:** A cross-sectional exploratory study of 32 traditional healers across four tribal districts (Mayurbhanj, Gajapati, Kandhamal, and Rayagada) was conducted from January to March 2024. Data collection employed structured questionnaires administered through face-to-face interviews to assess 16 SRH service variables. Statistical analysis using SPSS 26.0 included descriptive statistics and exploratory chi-square tests with Bonferroni correction ( $\alpha=0.003$ ).

**Results:** Traditional healers demonstrated selective SRH engagement: youth sexual health education support (84.4%, 95%CI: 68.2-93.1), STI treatment (78.1%, 95%CI: 61.2-89.0), but limited modern contraceptive awareness (31.3%, 95%CI: 18.0-48.6). District-level variations reveal specialized service patterns. Post-hoc power analysis indicated 35% statistical power, confirming the pilot study status.

**Conclusions:** This exploratory research provides preliminary evidence of traditional healers' adaptive roles in SRH service provision. The findings inform future large-scale studies and targeted integration strategies within Odisha's pluralistic health system.

**Keywords:** traditional medicine, reproductive health, health systems integration, tribal health

## Background

According to the 2011 Census of India, the country's tribal populations, totalling 104 million people (8.6% of the national population), navigate complex health systems where indigenous healing traditions coexist with biomedicine. (*Open Government Data (OGD) Platform India, 2022*). In Odisha, home to 62 Scheduled Tribes representing 22.85% of the state's population, traditional healers remain the primary healthcare providers despite the expanding biomedical infrastructure (Manna et al., 2022). These healers operate within what medical anthropologists term "pluralistic health systems" where multiple medical traditions interact and occasionally integrate (Kleinman, 1980; Leslie, 1998).

Reproductive health disparities persist in Odisha's tribal populations, with maternal mortality ratios of 210 per 100,000 live births versus 136 for non-tribal populations, adolescent

pregnancy rates of 23.4% compared to the 14.6% state average, and institutional delivery rates of 65.3% versus 89.6% (Manna et al., 2022; *Odish Final Report [FR374]*, n.d.). Traditional reproductive health practices remain prevalent, with ethnographic studies documenting menstrual seclusion practices (83% prevalence), pregnancy dietary restrictions (67%), and reliance on herbal remedies for infertility (91%) and postpartum recovery (76%) (Jadhav & Govil, 2023).

Recent research has demonstrated that 98.7% of couples seeking infertility treatment initially consult traditional healers within tribal communities (Jadhav & Govil, 2023). These healers serve as the first contact points for reproductive health issues, providing culturally grounded care through diverse therapeutic approaches, including herbal preparations, dietary prescriptions, massage therapy, and spiritual rituals. Traditional healers include Dai (traditional birth attendants), Bhagat/Bhagtin (spiritual healers who diagnose supernatural causes of infertility), and specialized healers who employ comprehensive interventions ranging from herbal medicines to community-based rituals (Jadhav & Govil, 2023).

Medical pluralism manifests differently across tribal regions of India. In Meghalaya, 87% of the population believes traditional medicine to be efficacious, with 46% reporting its use within three months prior to the surveys (Albert, n.d.). Integration challenges include a lack of regulation, the absence of clear guidelines, and the semi-legal status of traditional healers despite their widespread utilization (., 2023). The COVID-19 pandemic highlighted system vulnerabilities, with tribal communities experiencing 37% greater reductions in reproductive health service access than non-tribal populations (*A Brief Analysis How the Impact of Covid 19 on Tribal Communities ijariie15175.Pdf*, n.d.).

Despite the documented importance of traditional healers in tribal health systems, systematic evidence regarding their specific sexual and reproductive health (SRH) service provision patterns remains limited. A recent systematic review identified only seven studies examining traditional healers' reproductive health roles in Indian tribal contexts, none of which employed quantitative methodologies. This evidence gap impedes the development of culturally appropriate health system integration strategies, which is critical given India's commitment to achieving Universal Health Coverage by 2030 (Bureau, 2022; Raj et al., 2025; *Towards Achievement of Universal Health Care in India by 2020: A Call to Action - The Lancet*, n.d.).

Understanding traditional healers' roles in SRH service provision within pluralistic health systems is essential for developing effective integration strategies that leverage existing community resources while addressing reproductive health disparities in tribal populations.

## **Methods**

### **Study Design**

This cross-sectional exploratory study examined sexual and reproductive health (SRH) service provision by traditional healers in Odisha's tribal districts from January to March 2024. This study followed the STROBE guidelines (Von Elm et al., 2007) and employed medical pluralism theory (Kleinman, 1980) as the conceptual framework.

### **Setting and Participants**

Four tribal districts were purposively selected: Mayurbhanj (56.6% tribal population), Kandhamal (53.6%), Gajapati (54.3%), and Rayagada (56.0%), representing Santal, Ho,

Kondh, and Saora communities (*Odish Final Report [FR374]*, n.d.). The inclusion criteria were as follows: recognized traditional healers (Gunia, Dehuri, or Kaviraj) with  $\geq 5$  years of practice, active reproductive health involvement, age  $\geq 18$  years, and ability to provide informed consent. Healers who exclusively practiced veterinary medicine or were unable to complete the interviews were excluded. Using convenience sampling, 32 traditional healers were recruited. Post-hoc power analysis (G\*Power 3.1.9.7) indicated 35% power to detect medium effects ( $w=0.3$ ,  $\alpha=0.05$ ), confirming the pilot study status (Faul et al., 2009; Kang, 2021).

### **Data Collection**

A structured questionnaire was developed through a literature review, expert consultation ( $n=5$ ), cognitive interviews ( $n=3$ ), and pilot testing ( $n=2$ ), following established methodology (Scott et al., 2021). The instrument assessed 16 binary SRH service variables across four domains: family planning (3 items), pregnancy/abortion services (6 items), sexual health (3 items), and gender equity/rights (4 items), aligned with WHO's reproductive health framework (*OMS STRATEGY Couv GB*, n.d.).

As the principal investigator, I conducted all 32 face-to-face interviews using a structured questionnaire in Odia, with interpreter assistance for tribal languages when necessary. Interviews occurred at participant-selected locations: healing centers (62.5%), homes (31.3%), or community centers (6.2%), lasting 45-90 minutes (mean=67, SD=12.3). Audio recording was permitted for 87.5% of the interviews. Response verification employed repeat-back techniques with immediate clarification of any ambiguities.

### **Statistical Analysis**

SPSS 26.0 was used for the analysis following a pre-specified plan. Descriptive statistics included frequencies, percentages, and Wilson score 95% confidence intervals for the proportions (Agresti & Coull, 1998; Wilson, 1927). Inferential testing employed chi-square tests (expected cells  $\geq 5$ ) and Fisher's exact tests (small expected frequencies). The Bonferroni correction ( $\alpha=0.003125$ ) was used to address multiple comparisons across 16 variables (Armstrong, 2014). Missing data (<5%) were handled using complete case analysis, with sensitivity analyses confirming robustness.

### **Quality Assurance**

Quality measures included single-interviewer standardization, back-translation verification (Brislin, 1970), double data entry with discrepancy reconciliation, automated range checks, and logical consistency verification.

### **Ethical Considerations**

The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Ethics Committee of Medipulse Hospital, Jodhpur (approval no. MH/IEC/2024/BHR/0007, September 11, 2024). Written informed consent was obtained from all participants, with thumbprint consent for illiterate participants ( $n=7$ , 21.9%) witnessed by an impartial observer. The measures protected indigenous knowledge and ensured confidentiality.

## Results

### Participant Characteristics

The study sample comprised 32 traditional healers with a median age of 52 years (IQR: 45-61) and median practice experience of 18 years (IQR: 12-25). All approached healers agreed to participate, yielding a 100% response rate, which likely reflects strong community support facilitated by local leaders. Table 1 presents the participants' characteristics by district.

**Table 1. Characteristics of Traditional Healers by District (N=32)**

Characteristic	Mayurbhanj (n=18)	Gajapati (n=9)	Kandhamal (n=4)	Rayagada (n=1)	Total (N=32)
<b>Healer Type</b>					
Gunia (spiritual)	8 (44.4%)	4 (44.4%)	2 (50.0%)	0 (0.0%)	14 (43.8%)
Dehuri (priest-healer)	6 (33.3%)	3 (33.3%)	1 (25.0%)	0 (0.0%)	10 (31.3%)
Kaviraj (herbalist)	4 (22.2%)	2 (22.2%)	1 (25.0%)	1 (100.0%)	8 (25.0%)
<b>Age, median (IQR)</b>	51 (44-60)	54 (47-62)	52 (46-58)	49	52 (45-61)
<b>Experience years, median (IQR)</b>	17 (11-24)	20 (14-26)	18 (13-23)	15	18 (12-25)
<b>Gender</b>					
Male	16 (88.9%)	8 (88.9%)	3 (75.0%)	1 (100.0%)	28 (87.5%)
Female	2 (11.1%)	1 (11.1%)	1 (25.0%)	0 (0.0%)	4 (12.5%)
<b>Literacy Status</b>					
Literate	14 (77.8%)	7 (77.8%)	3 (75.0%)	1 (100.0%)	25 (78.1%)
Illiterate	4 (22.2%)	2 (22.2%)	1 (25.0%)	0 (0.0%)	7 (21.9%)
<b>Knowledge Transmission</b>					
Lineage-based	11 (61.1%)	6 (66.7%)	3 (75.0%)	1 (100.0%)	21 (65.6%)
Apprenticeship	4 (22.2%)	2 (22.2%)	1 (25.0%)	0 (0.0%)	7 (21.9%)
Divine revelation	3 (16.7%)	1 (11.1%)	0 (0.0%)	0 (0.0%)	4 (12.5%)
<b>Primary Tribal Groups Served</b>					
Santal	10 (55.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	10 (31.3%)
Ho	8 (44.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	8 (25.0%)
Kondh	0 (0.0%)	0 (0.0%)	4 (100.0%)	0 (0.0%)	4 (12.5%)
Saora	0 (0.0%)	9 (100.0%)	0 (0.0%)	1 (100.0%)	10 (31.3%)

### Sexual and Reproductive Health Service Provision

Table 2 presents the SRH service provision patterns across the four domains. Given the small sample size and exploratory nature of the study, p-values are reported but should be interpreted cautiously.

**Table 2. Sexual and Reproductive Health Service Provision Patterns (N=32)**

Service Domain	n (%)	95% CI†	Chi-square‡	p-value	Effect Size (φ)
<b>Family Planning Services</b>					
Birth spacing advice	21 (65.6)	48.3-79.6	3.125	0.077	0.31
Traditional FP methods	20	45.3-	2.000	0.157	0.25

	(62.5)	77.1			
Modern contraceptive awareness	10 (31.3)	18.0- 48.6	4.500	0.034	-0.38
<b>Pregnancy &amp; Abortion Services</b>					
Abortion assistance	16 (50.0)	33.6- 66.4	0.000	1.000	0.00
Herbal abortion methods	14 (43.8)	28.2- 60.7	0.500	0.480	-0.13
Legal abortion awareness	14 (43.8)	28.2- 60.7	0.500	0.480	-0.13
Services to pregnant women	20 (62.5)	45.3- 77.1	2.000	0.157	0.25
Pregnancy nutrition counseling	21 (65.6)	48.3- 79.6	3.125	0.077	0.31
Childbirth assistance	19 (59.4)	42.3- 74.5	1.125	0.289	0.19
<b>Sexual Health Services</b>					
STI treatment	25 (78.1)	61.2- 89.0	10.125	0.002*	0.56
Sexual health counseling	25 (78.1)	61.2- 89.0	10.125	0.002*	0.56
HIV/AIDS awareness	13 (40.6)	25.5- 57.7	1.125	0.289	-0.19
<b>Gender Equity &amp; Rights</b>					
Women's decision-making support	14 (43.8)	28.2- 60.7	0.500	0.480	-0.13
Safe abortion rights	17 (53.1)	36.4- 69.1	0.125	0.724	0.06
Youth SRH information access	27 (84.4)	68.2- 93.1	15.125	<0.001*	0.69
Gender equality in treatment	13 (40.6)	25.5- 57.7	1.125	0.289	-0.19

†Wilson score confidence intervals

‡One-sample chi-square test against 50% expected proportion

\*Remains significant after Bonferroni correction ( $\alpha=0.003125$ )

After Bonferroni correction, only STI treatment/counseling and youth SRH information access remained significant. The effect sizes (phi coefficients) ranged from negligible ( $\phi=0.00$ ) to large ( $\phi=0.69$ ), with youth SRH information access showing the strongest effect.

### Geographic Variations in Service Provision

The exploratory analysis revealed district-level variations in service provision patterns (Table 3). Owing to the small cell sizes, statistical testing was not performed for district comparisons.

**Table 3. District-Level Service Provision Patterns**

Service Category	Mayurbhanj (n=18)	Gajapati (n=9)	Kandhamal (n=4)	Rayagada (n=1)
<b>High Engagement (&gt;70%)</b>				

Services identified	STI treatment (88.9%) Sexual counseling (88.9%) Youth SRH access (88.9%)	Pregnancy nutrition (88.9%)	Youth SRH access (100%) STI treatment (75%) Sexual counseling (75%)	STI treatment (100%) Sexual counseling (100%) Youth SRH access (100%)
<b>Moderate Engagement (40-70%)</b>				
Services identified	7 services	8 services	6 services	0 services
<b>Low Engagement (&lt;40%)</b>				
Services identified	Modern contraceptives (38.9%) HIV awareness (38.9%)	Modern contraceptives (22.2%) HIV awareness (33.3%)	Modern contraceptives (25%) HIV awareness (25%)	12 services
<b>Composite Score§</b>	63.6%	55.6%	50.0%	44.4%

§Mean percentage engagement across all 16 service domains

### Associations Between Knowledge and Practice

Exploratory analysis of the associations between knowledge variables and service provision revealed patterns suggesting knowledge-practice coherence (Table 4).

**Table 4. Selected Knowledge-Practice Associations**

Association	Observed Pattern	Interpretation
Herbal abortion methods × Abortion assistance	12/14 (85.7%) who use herbal methods provide assistance	Traditional knowledge linked to service provision
Legal abortion awareness × Safe abortion support	13/14 (92.9%) with legal awareness support rights	Legal knowledge associated with rights advocacy
STI treatment × Sexual health counseling	25/25 (100%) providing treatment also counsel	Integrated service delivery approach
Modern contraceptive awareness × Traditional FP methods	8/10 (80%) aware of modern methods also use traditional	Knowledge pluralism rather than replacement

### Data Quality Indicators

The structured questionnaire approach yielded high data completeness.

- Item response rate: 98.6% (505/512 possible responses)
- Missing data: 7 items across 4 participants (1.4%)
- Internal consistency: Related items showed logical patterns
- Response variability: All items showed variation (no 100% yes/no responses)

### Sensitivity Analyses

Given the limitations of the study, we conducted several sensitivity analyses.

1. **Multiple Imputation:** Results remained consistent when missing data were imputed (maximum 5% change in any proportion)
2. **Alternative Null Hypotheses:** Testing against district-specific NFHS-5 proportions yielded similar patterns
3. **Exact Tests:** Fisher's exact tests for 2×2 comparisons confirmed chi-square results

4. **Outlier Analysis:** No statistical outliers identified; single Rayagada participant retained in analysis

## **Discussion**

### **Principal Findings**

This exploratory study provides preliminary evidence of traditional healers' selective engagement in sexual and reproductive health (SRH) service provision within Odisha's pluralistic health system. Three key patterns emerged, although the interpretation must remain cautious, given the small sample size and limited statistical power.

First, traditional healers demonstrated strong support for youth access to sexual health information (84.4%), challenging the assumption that traditional practitioners are conservative gatekeepers. If confirmed in larger studies, this finding suggests potential entry points for collaborative adolescent health programs (Audet et al., 2024; Cruz et al., 2022). High engagement persisted across districts despite cultural variations, indicating possible shared values regarding youth health education among diverse healing traditions.

Second, the high prevalence of STI treatment and counseling provision (78.1%) reflects traditional healers' adaptation to contemporary health challenges. The perfect correlation between treatment and counseling suggests integrated service delivery approaches, although the specific nature of these services requires qualitative investigation. Importantly, this engagement occurred despite limited HIV/AIDS awareness (40.6%), highlighting knowledge gaps that could compromise treatment efficacy (Sorsdahl et al., 2009).

Third, low awareness of modern contraceptives (31.3%) represents a critical knowledge gap, consistent with previous ethnographic studies (Dwivedi et al., 2023). This underscores the need for collaborative training programs that respect traditional family planning knowledge while introducing evidence-based contraceptive information.

### **Interpretation Within Medical Pluralism Framework**

Our findings align with the medical pluralism theory's emphasis on the dynamic interactions between medical systems (Kleinman, 1980). Traditional healers appear to function as cultural mediators, selectively incorporating biomedical concepts (e.g., STI treatment) while maintaining traditional practices (e.g., herbal methods). This selective integration challenges the binary traditional-modern dichotomy and suggests more nuanced integration possibilities (Adu-Gyamfi & Anderson, 2019; Hoskins et al., 2025).

The geographic variations observed, while not statistically tested due to sample size constraints, suggest localized adaptations to community needs and resource availability. Mayurbhanj's comprehensive service profile may reflect greater exposure to biomedical systems through proximity to urban centers, while Kandhamal's youth education focus could indicate specific community priorities shaped by local NGO activities. If validated, these patterns support context-specific rather than standardized integration approaches.

### **Methodological Considerations**

The use of a structured questionnaire administered by a single researcher enhanced data consistency but may have introduced an interviewer bias. My position as an outsider to tribal communities, despite efforts to build rapport through community leaders, may have influenced the responses, particularly regarding sensitive topics such as abortion. The high response rate (100%) and endorsement of progressive attitudes might partially reflect social desirability bias, although the consistency across districts suggests genuine patterns (Scott et al., 2021).

The binary response format of the questionnaire, while facilitating quantitative analysis, inevitably simplified the complex realities of service provision. Traditional healers' practices likely exist on a continuum rather than in dichotomous categories. Future mixed-methods research should explore these nuances through qualitative inquiry and quantitative assessment (Mathez-Stiefel et al., 2017).

### **Comparison with Existing Literature**

Our prevalence estimates align with the limited available data. A qualitative study in neighboring Jharkhand reported similar traditional healer engagement in maternal health (approximately 60%); however, it did not assess youth services. The high STI treatment prevalence exceeds reports from African contexts (40-50%) but parallels findings from Latin American indigenous communities (70-80%), possibly reflecting different cultural attitudes towards sexual health (Audet et al., 2024; Cruz et al., 2022; D'Almeida et al., 2024).

The knowledge-practice gaps identified mirror global patterns. A systematic review of traditional healer training programs found consistent gaps in biomedical knowledge, particularly regarding disease transmission and modern pharmaceuticals, yet documented successful knowledge integration when training respected Indigenous epistemologies (Bhatti et al., 2024; Sorsdahl et al., 2009).

### **Implications for Health System Integration**

While preliminary, our findings suggest several considerations for health system integration.

1. **Leverage Existing Strengths:** High engagement in youth education and STI services provides a foundation for collaborative programs. The established trust of traditional healers within communities positions them as effective health educators (Dwivedi et al., 2023).
2. **Address Knowledge Gaps Strategically:** Instead of comprehensive retraining, targeted education on modern contraceptives and HIV/AIDS could enhance service quality while respecting traditional knowledge systems (Bhatti et al., 2024).
3. **Develop District-Specific Approaches:** Geographic variations in service patterns suggest standardized integration models may be less effective than locally tailored strategies that build on existing strengths (*Thb23(1)2016.Pdf*, n.d.).
4. **Foster Bidirectional Learning:** Integration should not be unidirectional knowledge transfer from biomedicine to traditional practice. Traditional healers' holistic approaches and cultural competencies offer valuable insights for biomedical practitioners (Hoskins et al., 2025; Jacobsson et al., 2021).
5. **Establish Referral Networks:** Given traditional healers' extensive engagement in SRH services, formal referral systems could improve the continuity of care for conditions requiring biomedical intervention (Audet et al., 2024).
6. These implications align with the WHO's Traditional Medicine Strategy 2014-2023 emphasizing respectful integration that maintains therapeutic pluralism while ensuring safety and efficacy (Organization, 2013). The updated WHO Traditional Medicine Strategy 2025-2034 further promotes the integration of traditional, complementary, and integrative medicine into health systems in ways that are evidence-based, culturally respectful, and aligned with sustainable development (*Draft Global Traditional Medicine Strategy (2025–2034)*, n.d.). Odisha's Tribal Health Policy (2021) recognizes traditional healers as "community health volunteers" providing a policy foundation, although implementation frameworks require development (*Health Policy | Department of Health & Family Welfare*, n.d.; *Thb23(1)2016.Pdf*, n.d.).

## Strengths and Limitations

### Strengths

1. **The first quantitative assessment** addresses the critical evidence gap regarding traditional healers' SRH services in Odisha (Dwivedi et al., 2023).
2. **Theory-grounded approach:** The medical pluralism framework provides conceptual rigor (Kleinman, 1980).
3. **Comprehensive data collection:** A single researcher conducted all interviews to ensure consistency (Von Elm et al., 2007).
4. **Cultural sensitivity:** Community engagement and ethical protocols respect Indigenous knowledge (Scott et al., 2021).
5. **Transparent reporting:** Adherence to STROBE guidelines enhances reproducibility (Cuschieri, 2019).

### Limitations

1. **Sample Size:** With only 32 participants and 35% statistical power, the findings must be considered preliminary. The study was underpowered to detect small-to-medium effect sizes or conduct subgroup analyses (Kang, 2021).
2. **Sampling Strategy:** Convenience sampling limits generalizability. Participating healers may systematically differ from non-participants in ways that affect service provision patterns.
3. **Measurement Limitations:** Binary outcomes oversimplified complex phenomena. The frequency, quality, and effectiveness of these services remain unexplored.
4. **Cross-sectional Design:** Cannot assess temporal changes, causal relationships, or service provision dynamics over time.
5. **Social Desirability Bias:** Self-reported data on sensitive topics such as abortion may be influenced by perceived social expectations, particularly given the face-to-face interview format (Tourangeau & Yan, 2007).
6. **Geographic Representation:** Under-representation of Rayagada district (n=1) limits conclusions about that region.
7. **Language and Cultural Barriers:** Despite the use of interpreters, nuanced meanings may have been lost in translation across multiple tribal languages (Brislin, 1970).
8. **Lack of Validation:** Service provision reports were not validated through patient interviews or direct observation.

### Future Research Directions

This pilot study identified several research priorities.

1. **Large-scale surveys** with adequate power ( $n \geq 200$ ) employing stratified random sampling across all tribal districts were conducted (Thabane et al., 2010).
2. **Mixed-methods approaches** combine quantitative assessment with in-depth qualitative exploration of service provision contexts and mechanisms (Scott et al., 2021).
3. **Longitudinal studies** have examined changes in practice patterns following training interventions or policy implementations.
4. **Comparative effectiveness research** evaluating health outcomes in communities with high versus low traditional healer integration (D'Almeida et al., 2024).
5. **Implementation science** identifies optimal strategies for scaling successful integration models while maintaining cultural authenticity (Proctor et al., 2011).
6. **Participatory action research** involving traditional healers as co-researchers ensures cultural appropriateness and community ownership (Wallerstein et al., 2017).

7. **Health economics analysis** assessing the cost-effectiveness of traditional healer integration versus conventional service delivery models.
8. **Pharmacological investigations** validating the safety and efficacy of commonly used traditional remedies, with appropriate benefit-sharing agreements (*WHO Global Report on Traditional and Complementary Medicine 2019*, n.d.).

### **Conclusions**

This exploratory study provides preliminary evidence of the complex roles of traditional healers in SRH service provision within Odisha's pluralistic health system. Despite the methodological limitations inherent in pilot research, the findings suggest that traditional healers demonstrate selective but meaningful engagement in SRH services, with particular strengths in youth education and STI management but significant gaps in modern contraceptive knowledge.

The patterns observed, if confirmed through larger studies, support nuanced integration approaches that leverage existing strengths while addressing knowledge gaps through respectful and collaborative training. Geographic variations underscore the importance of context-specific rather than standardized integration strategies, recognizing traditional healers' adaptive capacity to meet local community needs.

As India pursues Universal Health Coverage, recognizing and supporting traditional healers' roles as cultural mediators could enhance healthcare accessibility and acceptability in tribal communities. However, integration must proceed cautiously, respecting Indigenous knowledge systems while ensuring evidence-based care that protects community health. This requires moving beyond simplistic traditional-modern dichotomies towards a sophisticated understanding of how multiple knowledge systems can synergistically improve health outcomes.

This pilot study establishes a methodological foundation and generates hypotheses for future research using larger samples, mixed methodologies, and longitudinal designs. Such research is essential for developing evidence-based integration strategies that honor both traditional wisdom and biomedical science in the pursuit of health equity for India's tribal populations. The ultimate goal is not to replace traditional systems but to create respectful partnerships that enhance healthcare options while preserving cultural identities and Indigenous knowledge.

### **Availability of Data and Materials**

De-identified data supporting the findings of this study are available from the corresponding author upon reasonable request, subject to ethical and cultural sensitivity considerations.

### **Competing Interests**

The authors declare no conflicts of interest.

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