



Research Article

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Indigenous Healthcare Practices for Chronic Joint Conditions in Eastern India: A Qualitative Secondary Analysis and Implications for Primary Healthcare

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Abstract

Indigenous healthcare remains an important part of community healthcare in many rural and tribal settings. Its relationship with formal primary healthcare, particularly in the context of persistent joint symptoms, requires attention to local practices and the perspectives of community knowledge holders. The present study re-examined field information from a previously reported ethnobotanical survey conducted in Banka district, Bihar, and neighbouring Dumka and Sahibganj districts, Jharkhand, India, involving 112 knowledgeable informants. This qualitative secondary analysis reviewed interview records, field notes and ethnomedical information to examine reported indigenous healthcare practices, the role of traditional healers and their possible relevance to primary healthcare. Informants described practices extending beyond herbal preparations to include dietary and lifestyle advice, physical measures, counselling and support. Local availability, familiarity and affordability, along with confidence in traditional healers, were reported as relevant features of community healthcare. The records provided a basis for considering possible points of engagement with primary healthcare; however, they did not establish patient-level care pathways or quantify referral and communication with formal healthcare providers. The findings offer a contextual account of indigenous healthcare practices for persistent joint symptoms in the study communities and may inform future research on culturally responsive primary healthcare. However, they do not establish the clinical efficacy or safety of individual practices or demonstrate the effectiveness of an integrated-care model. Any proposed linkage between indigenous and formal healthcare requires further assessment, clear referral arrangements and appropriate clinical oversight.

Keywords: Indigenous healthcare, Ethnomedicine, Traditional healers, Chronic joint conditions, Primary healthcare, Qualitative secondary analysis

Abbreviation: RA: Rheumatoid arthritis; DMARDs: Disease-modifying anti-rheumatic drugs; WHO: World Health Organisation; UNICEF: United Nations Children's Fund; ICMR: Indian Council of Medical Research.

Introduction

Rheumatoid Arthritis (RA) is a chronic autoimmune disease that causes inflammation of the joints, leading to pain, swelling and stiffness. If not adequately treated, it may cause progressive joint

damage and affect physical function [1]. Early diagnosis and timely treatment with disease-modifying antirheumatic drugs (DMARDs) are important for controlling inflammation and limiting disease

progression [1,2]. However, access to diagnosis, trained healthcare professionals and essential medicines remains difficult in some settings. Strengthening primary healthcare is therefore important for the early recognition and appropriate management of persistent joint symptoms and suspected RA [3].

In rural and tribal areas, seeking formal medical care may not be straightforward. Distance from health facilities, the cost and availability of transport, household resources and the local availability of healthcare personnel can all form part of the situation in which people decide where to seek help. For someone experiencing persistent joint symptoms, the first point of contact may therefore differ according to the services and sources of care available in their community [4,5]. Primary healthcare is important in this context because it can provide an initial assessment and arrange further evaluation when required [6]. The Declaration of Astana places emphasis on primary healthcare that is accessible and responsive to the circumstances of the communities it serves [7].

Indigenous healthcare forms part of the healthcare context in some rural and tribal communities, where local practitioners and knowledge holders may provide care outside formal medical services [8,9]. Depending on the community and the condition concerned, reported practices may include herbal preparations, dietary and lifestyle advice, physical measures and supportive interaction. Understanding these practices requires attention not only to the remedies themselves but also to the social and practical context in which they are described and used [9,10]. Such contextual information may help identify questions for future research on communication between community-based practitioners and formal healthcare providers [7,10]. Community acceptance and long-standing use of a remedy do not, by themselves, establish that it is clinically effective or safe [7,9,10].

Ethnobotanical studies have led to the documentation of medicinal plants and their traditional uses [11]. However, listing plants alone may not explain how people use these remedies or the place they hold in local healthcare. Information from community members can also help describe the role of traditional healers, the reasons people turn to indigenous practices and how these practices relate to formal healthcare services [8,10]. Such information provides a broader understanding of healthcare practices at the community level. These aspects are relevant to understanding the setting in which traditional knowledge is maintained and to identifying priorities for further community-based and health-services research.

The present analysis is based on a previously reported ethnobotanical survey of traditional practices related to rheumatoid arthritis and joint conditions in selected communities of Bihar and Jharkhand [12]. The earlier report focused on the medicinal plants documented during the field investigation. The current analysis re-examines the available interview records, field notes and ethnomedical information to consider the broader community healthcare context, including reported practices beyond plant use

and the role of traditional healers. The use of the same underlying survey data is acknowledged; the present paper addresses a distinct analytical question and does not seek to repeat the earlier plant inventory [13,14].

This study aimed to re-examine existing ethnobotanical field information to describe indigenous healthcare practices and the role of traditional healers in the study communities, with particular attention to persistent joint symptoms and the wider context of community healthcare. It also aimed to consider, as an author-developed interpretation rather than an evaluated intervention, possible questions and points of engagement for future research on culturally responsive primary healthcare.

Materials and Methods

Study design

This study presents a qualitative secondary analysis of field information collected during a previously reported community-based ethnobotanical survey in selected communities of Bihar and Jharkhand, India. The original survey documented medicinal plants and traditional practices associated with rheumatoid arthritis and related musculoskeletal conditions. The present analysis re-examined the available interview records, field notes and ethnomedical information to describe reported indigenous healthcare practices and consider their potential relevance to primary healthcare.

The original survey included 112 knowledgeable informants selected through purposive and snowball sampling. These informants were knowledge holders and practitioners, not a cohort of patients with clinically confirmed rheumatoid arthritis. The present analysis did not involve additional participant recruitment, clinical examination or evaluation of treatment efficacy or safety. The analytical focus was distinct from the previously reported plant inventory [12].

Study area

The original survey was carried out in selected rural and tribal communities of Banka district in Bihar and Dumka and Sahibganj districts in Jharkhand, India (Figure 1). The survey included people from Santhal, Munda, Ho, Gond, Oraon, Kharwar and other communities, as recorded in the original dataset. The present study is based on a secondary analysis of the field information collected from these areas, with a focus on indigenous healthcare practices and their place in community life.

Original ethnobotanical survey

The original survey used purposive and snowball sampling to recruit individuals recognised locally for their knowledge of traditional healthcare practices. A total of 112 informants participated, including traditional healers, community elders, herbal practitioners and other knowledge holders. They were recruited on the basis of their reported knowledge and experience of local healthcare practices; they were not selected as patients with clinically diagnosed rheumatoid arthritis.

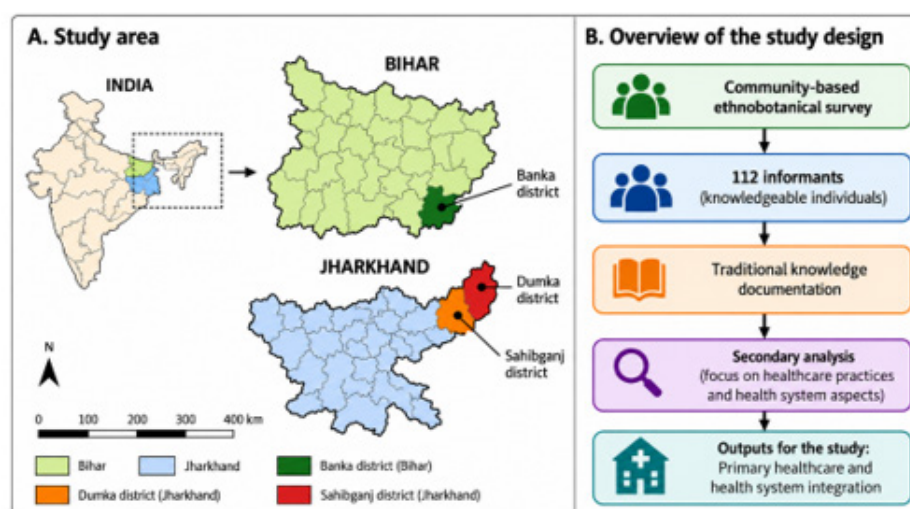


Figure 1: Study setting and overview of the study design. (A) Location of the study area, including Banka district in Bihar and Dumka and Sahibganj districts in Jharkhand, India. (B) Overview of the original ethnobotanical survey and the subsequent secondary analysis of field information from 112 knowledgeable informants.

Participation was voluntary, and prior informed consent was obtained before information was collected. Field visits were conducted during different seasons, and repeated visits were made to obtain or clarify information provided by informants.

Data Collection

In the original survey, information was collected from knowledgeable informants through semi-structured interviews, informal discussions, participant observation and guided forest walks. The field records covered local understanding of chronic joint problems, indigenous healthcare practices and the use and preparation of medicinal plants. They also included information on dietary advice, lifestyle practices and informants' accounts of treatment experiences.

For the present secondary analysis, the relevant interview records, field notes and ethnomedical information were reviewed to identify material relating to reported healthcare practices, the role of traditional healers and possible points of interaction with formal healthcare. Details of plant collection, taxonomic identification, authentication and voucher specimen preparation are reported in the earlier ethnobotanical publication and are not repeated here [12].

Secondary analytical framework

The field records were re-examined to address the present study's focus on indigenous healthcare and its possible relevance to primary healthcare. The analysis involved repeated reading of the available records and the identification of information relating to reported healthcare practices, reasons for choosing indigenous care, the role of traditional healers and accounts of interaction with formal healthcare.

Relevant information was organised into descriptive categories and compared across the available records to identify recurring topics and differences in the accounts. These categories informed the presentation of the findings on community descriptions of chronic joint symptoms, indigenous healthcare practices and reported care-seeking routes. Potential links with primary healthcare were considered separately as an interpretive synthesis; they were not treated as observed or evaluated referral arrangements.

Ethical considerations

The original field investigation was conducted in accordance with the ethical requirements applicable at the time of data collection. Prior informed consent was obtained from informants before interviews and personal information was treated confidentially. The present analysis used information collected during the original survey and did not involve additional participants contact.

Results

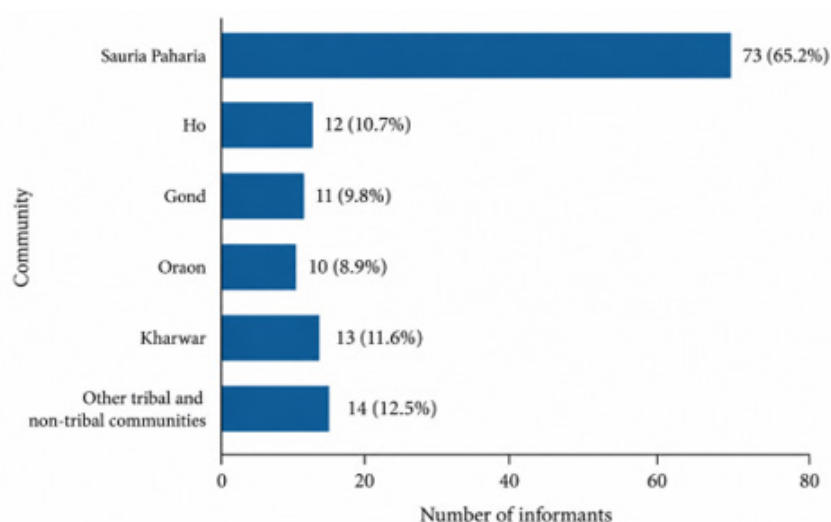
Characteristics of the Study Participants

The original survey included 112 knowledgeable informants. Of these, 97 (86.61%) were male and 15 (13.39%) were female. The largest age group was 51–60 years (52; 46.43%), followed by informants aged over 60 years (43; 38.39%). Eleven informants (9.82%) were aged 41–50 years, and six (5.36%) were aged 30–40 years. Seventy-eight informants (69.64%) were from tribal communities and 34 (30.36%) from non-tribal communities. Traditional healers formed the largest role category (79; 70.54%), followed by herbal practitioners (14; 12.50%), community elders (10; 8.93%) and other knowledge holders (9; 8.04%) (Table 1). The community-wise distribution is presented in Figure 2.

Table 1: Characteristics of informants in the original ethnobotanical survey (n = 112).

Characteristic	Category	n	%
Sex	Male	97	86.61
	Female	15	13.39
Age (years)	30–40	6	5.36
	41–50	11	9.82
	51–60	52	46.43
	>60	43	38.39
Community background	Tribal	78	69.64
	Non-tribal	34	30.36
Primary role	Traditional healer	79	70.54
	Herbal practitioner	14	12.50
	Community elder	10	8.93
	Other knowledge holder	9	8.04

Values are presented as n (%). Informants were recruited as knowledge holders and were not a cohort of patients with clinically confirmed rheumatoid arthritis. Percentages are calculated from the total sample.

**Figure 2:** Community-wise distribution of informants in the original ethnobotanical survey (n = 112). The figure shows the community categories represented among the knowledge holders included in the original survey. The categories and counts should correspond to the original dataset and be consistent with the description in Section 2.3.

Community understanding of chronic joint conditions

The field records included informant descriptions of persistent joint problems involving pain, swelling, morning stiffness and difficulty in movement. Some accounts also referred to difficulties

with routine activities and reduced physical independence. These descriptions reflected how chronic joint problems were recognised and discussed by informants in the study communities. The recorded features are summarised in Table 2.

Table 2: Informant descriptions of persistent joint symptoms recorded during the original survey.

Symptom or feature described	Description recorded in the field data
Persistent joint pain	A long-standing problem requiring continued attention or care
Joint swelling	A joint problem associated with difficulty in movement
Morning stiffness	Reduced flexibility after waking

Restricted movement	Difficulty performing routine daily activities
Progressive physical difficulty	Reduced physical strength and independence
Chronic or persistent condition	A problem perceived to require prolonged care
<i>Descriptions reflect informant accounts and are not clinical diagnoses of rheumatoid arthritis.</i>	

The informants did not always use the biomedical term rheumatoid arthritis to describe the joint conditions. Their explanations referred to factors such as ageing, dietary habits, environmental exposure, reduced physical strength and bodily imbalance. These were local understandings recorded during the survey and were not based on clinical examination. Therefore, they cannot be considered evidence of a diagnosis of rheumatoid arthritis.

Reported healthcare-seeking routes

The field records described traditional healers as one source of care for persistent joint symptoms. Informants referred to the role of family and community members in the local healthcare context and described traditional healthcare as a route available within the community. The available records also included references to other care-seeking options, as summarised in Figure 3.

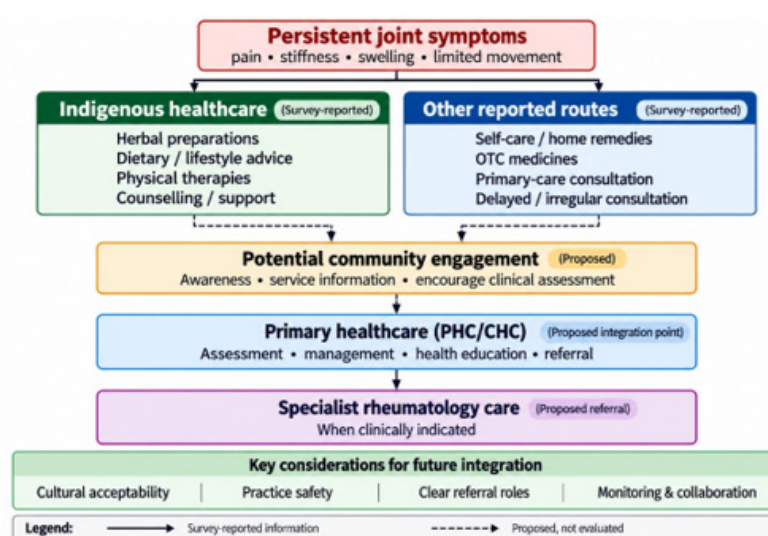


Figure 3: Reported indigenous healthcare practices and other care-seeking routes, with proposed points of engagement with primary healthcare.

The figure summarises the indigenous healthcare practices and other care-seeking routes described in the original survey. Solid elements represent information reported in the field records; dashed arrows and outlines indicate proposed engagement, referral, feedback and follow-up arrangements that were not evaluated in the study. The model illustrates potential interaction with primary healthcare and specialist services when clinically indicated. The lower panel presents considerations for future research and implementation, including cultural acceptability, safety assessment, defined referral responsibilities and monitoring. The figure is an author-developed conceptual synthesis and does not represent a validated or observed clinical pathway.

The records do not establish a uniform sequence of care

followed by individuals, nor do they quantify movement between indigenous healthcare and formal health services. Figure 3 therefore distinguishes the care-seeking routes reported in the survey from the proposed points of engagement and referral developed by the authors. The proposed links should not be interpreted as established or evaluated pathways.

Indigenous healthcare practices

The field records described indigenous healthcare practices extending beyond medicinal plant use. These included herbal preparations, dietary advice, recommendations concerning daily activities, physical measures and supportive interaction. The practices and their descriptions are summarised in Table 3.

Table 3: Indigenous healthcare practices reported in the original survey and their potential relevance to primary healthcare.

Practice reported	Description recorded in the field data	Potential relevance
Herbal preparations	Traditional preparations were used for joint-related symptoms	Highlights the need for appropriate assessment of treatment safety, quality and effectiveness
Dietary advice	Advice concerning food and eating habits was provided	May offer a point of engagement for culturally responsive health education
Lifestyle guidance	Advice on daily habits and activities was reported	May provide an opportunity to discuss self-care alongside clinical management
Physical measures	Therapeutic massage and external applications were described	May warrant assessment as supportive practices, with attention to safety and suitability
Counselling	Some traditional healers provided guidance and counselling	May be relevant to understanding community-level support and communication
Family and community support	Family or community members were involved in care	May provide a context for community engagement and continued support
<i>The practice descriptions are based on informant accounts. Potential relevance to primary healthcare represents the authors' interpretation and does not indicate demonstrated clinical benefit or safety.</i>		

The present analysis focuses on these broader aspects of healthcare rather than repeating the medicinal plant inventory and associated ethnobotanical details reported previously [12]. The records describe practices and advice as reported by informants; they do not establish the safety, quality or clinical effectiveness of the practices.

Role of traditional healers

Traditional healers formed the largest role category among the informants in the original survey. The field records described their involvement in providing herbal preparations and advice concerning diet and daily activities. Some records also referred to counselling, supportive interaction or continued contact with community members.

Informants associated traditional healthcare with local availability and familiarity. The original survey did not systematically record or quantify referral events or communication between traditional healers and formal healthcare providers. Consequently, the present analysis cannot establish the extent to which traditional healers acted as referral contacts or participated in continuing clinical care.

Possible links with primary healthcare

The findings provide a contextual basis for considering possible engagement between indigenous healthcare and formal primary healthcare. These implications, including the proposed roles, referral arrangements and implementation considerations, are discussed separately from the reported field observations.

Discussion

The present secondary analysis examined field information from an earlier ethnobotanical survey to describe indigenous healthcare practices and their community context [11]. The records indicate that the care described by informants extended beyond medicinal plants to include dietary and lifestyle advice, physical measures and supportive interaction. Traditional healers were prominent among the knowledge holders included in the original survey. These findings provide contextual information for considering how indigenous healthcare might be addressed in future primary-care research but they do not establish clinical

effectiveness or the operation of an integrated healthcare pathway [6,8,10].

The reported care-seeking context should be interpreted cautiously. The field records identify traditional healthcare as one locally available source of care, but they do not establish a standard sequence in which individuals move from family discussion to a traditional healer and then to formal services. People's choices may vary with their circumstances, the nature of their symptoms and the services available to them [4,5]. Literature on plural healthcare systems can help contextualise these possibilities but the present informant-based analysis cannot determine the frequency, timing or outcomes of individual care-seeking routes [8,10].

The accounts also indicate that indigenous healthcare was described in terms broader than the provision of remedies. Advice concerning food and daily activities, physical measures and supportive interaction formed part of the practices reported in the field records. These dimensions are relevant to documenting the social and practical context of community healthcare [15,16]. They should not, however, be interpreted as evidence that such advice or support improves disease activity, physical function or treatment adherence.

The findings raise questions for future research on culturally responsive primary healthcare in rural and tribal settings. Where communities consider it appropriate, traditional healers may be potential contacts for health information and discussion about seeking clinical assessment for persistent joint symptoms [15,17]. Any such engagement would require community consultation, clearly defined roles, appropriate training and safeguards for confidentiality and patient safety [10,17]. Traditional healers should not be expected to diagnose rheumatoid arthritis or replace clinical assessment and treatment. Diagnosis, decisions about disease-modifying antirheumatic drugs and monitoring require qualified medical care, with referral to specialist services when clinically indicated [1,2]. The present study did not evaluate these proposed arrangements. Potential roles for community engagement in future primary healthcare initiatives, as interpreted from the findings and relevant considerations for culturally responsive care, are summarised in Table 4.

Table 4: Potential roles for community engagement in future primary healthcare initiatives.

Indigenous healthcare component	Potential role in primary healthcare
Community awareness	Could support awareness of persistent joint symptoms and the need for medical assessment
Traditional healers	Could serve as community-level contacts for health information and discussion of referral
Health education	Could provide opportunities to communicate information about chronic joint conditions and available formal services
Lifestyle counselling	Could support discussion of daily activities and self-care alongside appropriate clinical management
Referral support	Could encourage people with persistent or concerning symptoms to seek assessment at a primary healthcare facility
Community follow-up	Could be explored as a means of maintaining contact and encouraging follow-up with formal healthcare providers
Culturally responsive communication	Could help health workers understand local practices and communicate in ways that are familiar to community members
<i>Proposed roles are intended for future investigation and were not evaluated in the original survey. Any engagement should be voluntary, culturally appropriate and supported by clear clinical referral arrangements.</i>	

The conceptual model presented in Figure 3 is an author-developed synthesis that separates care practices and routes described in the field records from potential points of engagement with formal healthcare. The proposed community-awareness, communication, referral and follow-up links were not assessed in the original survey. The model is therefore intended to organise questions for future research, not to represent an existing, validated or tested pathway. Before any such arrangement is

considered for implementation, its acceptability, feasibility, safety, referral responsibilities and implications for timely clinical care would need to be examined [6]. The proposed collaboration would require clearly defined responsibilities and prospective assessment rather than immediate adoption as an established care pathway. Key implementation and evaluation considerations are outlined in Table 5.

Table 5: Proposed implementation and evaluation considerations for future collaboration between indigenous healthcare and primary healthcare

Health-system component	Proposed area for action	Considerations for future implementation or evaluation
Community awareness	Develop joint-health awareness activities involving community members, traditional healers and primary healthcare workers	Assess whether messages are understandable, culturally appropriate and accurate about symptoms requiring medical assessment
Early consultation	Explore ways for traditional healers to encourage timely consultation for persistent or concerning joint symptoms	Define referral indications and assess whether people can access primary healthcare after referral
Collaboration between providers	Consider structured communication between indigenous practitioners and formal healthcare workers	Establish clear roles, consent procedures, confidentiality safeguards and appropriate communication channels
Clinical assessment and specialist care	Clarify routes from primary healthcare to specialist assessment when clinically indicated	Assess availability, referral completion, waiting times and access barriers; do not assume specialist access is uniform
Safety of traditional practices	Establish a process for documenting practices that people use alongside formal treatment	Evaluate ingredients, preparation, quality, potential interactions and safety before considering any formal linkage
Long-term support	Explore whether community-level support can complement evidence-based clinical care	Evaluate follow-up, patient experience and coordination without treating community support as a substitute for clinical monitoring
Monitoring and evaluation	Develop a framework to assess any future integration initiative	Predefine measures such as acceptability, referral completion, safety, access and continuity; assess outcomes prospectively
<i>These are proposed considerations for future research and implementation planning; they were not assessed in the present study.</i>		

The findings also show that documenting traditional healthcare practices is different from establishing their safety and effectiveness. The fact that a remedy is commonly used or accepted in the community does not confirm its quality or therapeutic benefit [6]. If any herbal preparation is taken up for further study, its ingredients, method of preparation and pattern of use should be properly recorded. Further research would also need to examine its quality, possible toxic effects, interactions with prescribed medicines and clinical benefits [18,19]. This is particularly important for people

with chronic inflammatory conditions who may use traditional preparations along with their regular medicines [19].

Strengths and limitations

A strength of this analysis is its examination of an existing ethnobotanical dataset from a broader healthcare perspective, extending the focus beyond the documentation of medicinal plants. The field records provide contextual information about

knowledgeable informants and the indigenous healthcare practices described in the study communities [11].

The findings should be considered in view of some limitations. The original survey used purposive and snowball sampling, and informants were selected because of their knowledge of traditional healthcare. They were not a representative sample of the wider community or patients with confirmed rheumatoid arthritis. The present analysis was based on existing field records, which may not contain all the details of individual healthcare-seeking experiences or the order in which different sources of care were approached. The study also did not include clinical confirmation of RA, individual treatment histories, systematic data on healthcare service use or measured referral outcomes. It also did not assess the safety, quality or clinical effectiveness of individual traditional practices. The proposed integration model is conceptual and was not evaluated through implementation [10,20]. The findings therefore provide contextual insight and a basis for further research, rather than evidence of prevalence, clinical benefit or the effectiveness of an integrated-care approach.

Future research may be taken up in stages. First, studies involving people with persistent joint symptoms should examine their experiences of seeking healthcare and, where possible, include clinical assessment to distinguish RA from other joint conditions. Second, research should explore community views on communication and referral between traditional healers and primary healthcare workers. Third, commonly reported practices could be documented in sufficient detail to support appropriate safety and quality assessment. Any pilot initiative should be evaluated prospectively for feasibility, acceptability, referral completion, patient safety and possible unintended effects before wider implementation is considered.

Conclusion

The present study documents indigenous healthcare practices and local understanding of persistent joint symptoms in selected rural and tribal communities of Bihar and Jharkhand. The accounts of the informants show that community healthcare involves more than the use of medicinal plants; dietary advice, lifestyle practices and supportive interaction also form part of the care described in the survey. These findings add to the understanding of how chronic joint problems are viewed and managed at the community level. They also point to questions that deserve further study, particularly how people move between indigenous and formal healthcare and what role primary healthcare services may have in this process. Since the study was based on existing field records and did not include clinical assessment or evaluation of treatment outcomes, no conclusion can be drawn about the safety or effectiveness of the reported practices. Further work should involve community members and healthcare professionals to examine these practices carefully and consider whether appropriate, safe and acceptable links with primary healthcare can be developed.

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Statement of Ethics

This field-based, interview-based study was conducted with reference to the ethical principles and practices outlined in the Indian Council of Medical Research's National Ethical Guidelines for Biomedical and Health Research Involving Human Participants (2017). The study involved interviews with knowledgeable community informants concerning indigenous healthcare practices.

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