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# Exploring the preferences of traditional versus Western medicine in the Spiti Valley region of India: A qualitative approach

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ABSTRACT

*Background:* Traditional healing practices are prevalent in rural and mountainous areas of India where Western medicine is not accessible. WHO guidelines recommend integration of traditional and Western medicine to meet rural primary care needs. We explored three dimensions of rural patients' decision-making and satisfaction with their medical care: pregnancy-related concerns, pediatric care for children under five, and acute injuries.
*Methods:* We conducted a qualitative study using a phenomenological approach in India's Spiti Valley between August and October 2023. Sixteen individuals, age 18 years and older, participated in one-on-one interviews. The interviews were transcribed from Hindi into English, reviewed for accuracy by a native speaker, and imported into Dedoose software. Data were analyzed using inductive coding.
*Findings:* Multiparous women aged 35–44 were concerned about pregnancy complications, leading them to choose Western medicine despite access and cost barriers. Pediatric illness requiring urgent care at night was a concern for women with children under five. Those in the injuries group reported having to travel for care beyond basic first aid. Overall, concerns were about limited access to some services locally, as well as costs of travel, medical procedures, and medications when services were obtained beyond the local area.
*Interpretation:* All participants considered their traditional healer their first point of contact for medical care. A number of Western medical services were not available locally. These findings suggest a need to strengthen access to and integration of Western and traditional medical care in rural settings in India.

## 1. Introduction

Providing adequate access to primary care is indispensable for preventing illness and premature death. Effective primary care can improve sexual, reproductive, maternal, and child health; manage palliative and rehabilitative care effectively; and decrease the prevalence of communicable and non-communicable diseases [1,2].

The World Health Organization (WHO) recommends that a good primary care model should achieve several basic objectives. It should be the first point of contact for improving access to healthcare services. It should also provide continuity of care through the promotion of a long-term patient and healthcare team relationship, as well as offer a number of preventive and curative services of the highest quality and lowest cost (i.e., comprehensive and coordinated care) to meet the community's needs [3]. Lastly, it should be person-centered, ensuring patients are actively involved in their care [4].

As part of its advocacy for the continued political focus on population-level primary care, the WHO has collaborated with the Indian government and other stakeholders since 2017 to assist in implementing a more integrated primary care system that would meet these basic objectives, as well as integrating Western medical care with traditional and complementary medicine approaches when appropriate [2,5].

### 1.1. The Indian healthcare system

In India, healthcare services are overseen by the Ministry of Health & Family Welfare, which has established a three-tiered delivery system consisting of (1) primary healthcare, (2) secondary healthcare through community health centers (CHC), and (3) specialty care through hospitals [6,10].

Primary Health Care Centers (PHCs) are the first point of contact for

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healthcare promotion and medical care at a local level, whereas Community Health Centers (CHCs) are larger facilities, with a capacity of approximately 30 beds, offering medical services ranging from pediatric and gynecological care to minor surgeries. CHCs are required to have four medical specialists on call (surgeon, general practitioner, gynecologist, and pediatrician) as well as paramedical and other staff members [2,11]. In most cases, these CHCs refer patients to larger facilities, if needed. Specialty care comprises research universities and highly specialized medical care and is often located in urban areas [12]. Research hospitals and education centers provide specialty care in a broad range of fields, including ophthalmology, cardiothoracic surgery, neuroscience, trauma, cancer, and substance use disorder treatment.

All Indian citizens are entitled to free outpatient and inpatient care in government facilities as part of the public health system [11]. But India has a decentralized approach to healthcare, and the level of care offered can vary significantly by state. While the 2017 Indian Health policy was approved at the national level, it is up to each state to carry out its provisions, resulting in significant nationwide variation in service delivery, coverage, availability, and access [11,15]. Lack of investment in public healthcare has led, over time, to inadequate infrastructure and inconsistent healthcare delivery throughout the country, resulting in the emergence of the private healthcare sector. With a focus on providing high-quality, specialized medical care, the services of the private healthcare system come at a price many cannot afford and tend to be concentrated in urban areas.

Researchers have documented that AYUSH primary care in rural India is consistently available and affordable, while Western healthcare facilities are inaccessible geographically and financially [14]. The AYUSH acronym stands for Ayurveda, Yoga, Unani, Siddha, Homeopathy, and also includes Sowa Rigpa, an ancient Tibetan healing system (see Table 1 for descriptions of these types of care) [8,9]. While traditional medicine accounts for approximately 30% of public healthcare delivery nationwide, 68% of traditional healers serve in rural communities that might otherwise be unattended, making AYUSH medicine an important component of public primary care in rural settings [7]. As 73% of the Indian population lives in rural areas with understaffed healthcare facilities, AYUSH-based care assists in managing the health of the community and in reducing healthcare fragmentation [12,13].

### 1.2. The health policy of 2017

The new national health policy sought to correct the long-standing problem of fragmented healthcare. Implemented in 2017, the goal was to integrate traditional and Western medicine into primary care, allowing citizens to utilize both systems with increased access to Western healthcare and lower out-of-pocket costs [21]. Additionally, the integration model would regulate the practice of traditional medicine and establish further education requirements for traditional healers by assuring access to AYUSH's validated local practices (National Health Policy, *Section 3.3.1*) [21].

The number of traditional healers, or *Amchis*, was already in decline as a result of generational abandonment of this career path. The 2017 redesign of the health policy imposed additional educational requirements on *Amchis*, resulting in a further decrease in the number of active *Amchis*, as these providers found difficulty in complying with the new regulatory changes [21].

In this study, we explored the experiences of care for rural residents of the Spiti Valley of Northern India for common conditions addressed in primary care: maternal and child healthcare, and acute injury or illness of adults.

## 2. Methods

### 2.1. Study design

We conducted a qualitative study using a phenomenological

**Table 1**
A brief overview of AYUSH-based systems.

| AYUSH Systems | Description |
|---|---|
| A-AYURVEDA | Ayurveda is a comprehensive system of healthcare. The principles of Ayurveda focus on healthy living rather than treating diseases [8,11].In Ayurveda, there are eight clinical specialties. Kayachikitsa (internal medicine) is the branch of Ayurveda that treats the ailments of adults. The Shalya Tantra (surgery) branch uses multiple surgical instruments and devices. Salkya (disease of supraclavicular origin) - Treats ear, nose, throat, oral cavity, and head conditions. Kaumarabhrtya (pediatrics, obstetrics, and gynecology) cares for children and women during, before, and after pregnancy. Bhuta Vidya (psychiatry) is the study of mental illness. In Agada Tantra (toxicology), toxins derived from vegetables, minerals, and animals are treated, and antidotes are developed. Ayurveda's Rasayana Tantra (rejuvenation and geriatrics) focuses on preventing disease and promoting longevity. Vajikarana aims to enhance sexual vitality and reproductive health [9]. |
| Y-YOGA | Yoga is a spiritual practice that emphasizes the harmony between the mind and body [8]. A yoga practice encompasses eight components: restraint (Yama), austerity (Niyama), postures (Asana), breathing control (Pranayam), restraint of sense organs (Pratyahar), contemplation (Dharna), meditation (Dhyan), and deep meditation (Samadhi). Yoga fosters social and personal well-being, elevates physical health, and induces tranquility and serenity by better circulating oxygenated blood [9] . |
| U-UNANI | In Unani medicine, diagnostics and treatment involve a holistic approach using temperament (Mizaj) and pulse examination (Moain-e Nabdh).The Unani system of medicine focuses on the presence of four humors in the body (blood, phlegm, yellow bile, and black bile); a person's unique temperament is believed to result from the interaction of these four elements. Unani holds that the environment and ecological conditions influence human health, and elements such as humor and faculties of the human body must be restored to their natural state [9,18] |
| S-SIDDHA | The Siddha health system encompasses preventive, promotive, curative, rejuvenating, and rehabilitative care. Siddha's diagnostic methodology uses various diagnostic tools to assist physicians in diagnosing and predicting diseases based on clinical examination. Siddha physicians diagnose patients with eight vital tests (Ennvagai Thervu) and three humors (Mukkuttram). The Siddha system aims to balance the seven organ systems and three essential life factors. A variety of special therapies are included in the Siddhad system, including Pressure Manipulation Therapy (Varmam), Physical Manipulation Therapy (Thokkanam), Bone Setting (Otivu Murivu Maruthuvam), and Siddhar Yoga [9] |
| S-SOWA RIGPA (*Amchi* Medicine) | The Sowa Rigpa system of medicine, also known as the *Amchi* system of medicine, is one of the oldest and most well-documented medical systems. Sowa Rigpa's theories can be divided into five main categories: the body in disease and the treatment locus; treatment with an antidote; antidote-based method of treatment; curative medicine; medical materiae and pharmaceuticals [17]). Sowa Rigpa plays an essential role in public health in many Asian countries. In light of the importance of Sowa-Rigpa and its active role in public health, especially in the Himalayan region, the government has formally acknowledged its significance [9,20]. The Indian Medicine Central Council Act has been amended to recognize the Sowa-Rigpa system of medicine in 2010(*Council Act no* 1970) [19] |
| H-HOMEOPATHY | Homeopathy follows three principles. As per the first principle of homeopathy, a medicine that induces symptoms in healthy people can also cure the same symptoms in sick patients. Per the second principle, only one medicine should be administered at a time. In the third principle, drugs should be administered at the lowest dose necessary to induce a curative action [8]. Homeopathy focuses on the susceptibility or proneness of an individual to disease in addition to external agents like bacteria or viruses [9,20]. |

perspective between August and October 2023 in the Spiti Valley in India. In this study, we sought to understand: a) accessibility and preference for type of primary care (AYUSH-based or Western-based), and b) perceptions and attitudes regarding the care for pregnant women; children under five; and adults with unplanned care, such as acute illness or injury defined as unplanned but requiring urgent and unplanned care.

The United States-based research team worked closely with a non-governmental organization (NGO) partner, Spiti Ecosphere (https://spitiecosphere.com/), on recruitment, consent procedures, interviews, and data collection. Ethics approval was provided by the University of Utah's Institutional Review Board (IRB:00167060) [22]. The study was explained in participants' native language (Hindi) and verbal consent was recorded before the interview was started.

### 2.2. Study setting & participants

Located near the Nepal-India border, the Spiti Valley receives its healthcare from the state of Himachal Pradesh. Approximately 12,000 people were living in Spiti in 2018, with 2583 households covering an area of roughly 7000 $km^2$ [23]. As of 2018, the region had approximately fifteen health centers. A total of eight AYUSH-based centers, six Primary Health Centers, and one Community Health Center comprise these facilities; however, due to a lack of funding and also the lack of available providers, these government facilities only provide a limited range of healthcare services, leaving individuals with the option of traveling to secondary sector, fully-staffed centers or seeking care from private healthcare providers [23].

Because of its remote access and sporadic availability of Western medical care, we explored three dimensions of decision-making and satisfaction with medical care: where to seek care, how to pay for it, and whether differences existed depending on the type of care required (preventive versus acute).

With the assistance of our NGO partner, Spiti Ecosphere, two groups of adult participants were purposively selected at community meetings from residents of the Spiti Valley's villages of Lahlung, Demul Khas, Khuric and Kwang. Eligibility for the two groups were as follows:

- Group 1 eligibility. Women aged 18 years and older, with a child under the age of five years. Women were asked about their pregnancy and childbirth experiences and their childrens' healthcare experiences.
- Group 2 eligibility. Working adults aged 18 years and older. These adults were asked about their experiences with unplanned care for acute illness & injury.

With the assistance of our NGO partner, Spiti Ecosphere, twenty-five interested individuals were identified during community meetings and screened for eligibility. Sixteen people were eligible, provided consent, and were scheduled for a one-on-one semi-structured interview.

### 2.3. Data collection

Sixteen people were eligible, provided verbal consent, and were scheduled for a one-on-one semi-structured interview. Interview schedules are provided in Table 2, and participants were encouraged to discuss any additional relevant experiences or thoughts, providing a more comprehensive understanding of their views.

Recorded interviews were translated from Hindi to English using Sonix, software that automatically transcribes, translates, and organizes audio and video files [24]. A member of our research team, a native Hindi speaker (TS), then compared the Hindi and English transcripts of each interview for accuracy. Approved English transcripts were imported into Dedoose software for coding [25].

**Table 2**
Guided interview schedules.

| Pregnancy/ Prenatal Care | Labor & Delivery | Pediatric Care | Acute illness & Injury |
|---|---|---|---|
| Are you currently pregnant?<br>What are your thoughts regarding the need to consult a physician even if you are feeling well while pregnant?<br>What services were available to you when you discovered you were pregnant? Do you prefer Western medicine or AYUSH (Ayurveda, Unani, Siddha, Sowa Rigpa)?<br>Do you use herbal medicines from AYUSH during pregnancy?<br>In the course of your pregnancy, do you see an OB/GYN who practices Western medicine?<br>Do you prefer visiting an AYUSH provider or a Western primary care provider?<br>How often during the past six months have you visited your AYUSH doctor or Western medical doctor for your pregnancy?<br>How far do you have to travel to see your AYUSH doctor or Western medical doctor for your pregnancy?<br>Do you have any cost sharing for your pregnancy visit? | Who will be handling your labor and delivery?<br>What steps do you take to prepare for the birth of your child?<br>What kind of medical support did you receive during labor?<br>Have you received Western medical care? Has an epidural been administered to you? Were you treated at a public or private Western medical hospital?<br>If you did not receive Western medical attention during labor and delivery, did you use AYUSH during this time and what was your experience?<br>How did AYUSH medicine relieve your labor pain?<br>During your labor and delivery, did a birth attendant or a skilled health professional assist you? Is this person a Western medical professional or an AYUSH practitioner?<br>Are you required to pay when you see your provider? Since 2018, do you pay more? Less? None? | What is your child's age? What is your child's sex assigned at birth?<br>In the event that your child becomes ill, where do you take him or her?<br>Where do you take your child for medical care?<br>Do you take them to an AYUSH doctor or a Western physician?<br>Does your child receive immunizations in accordance with the National Immunization Schedule? In the case of yes, why? In the event that no, why not?<br>Where do you take your child for immunizations if you answered yes to the previous question? Is it an AYUSH facility or a Western medical facility?<br>When it comes to immunizations for your child, how far do you have to travel?<br>What is the cost of immunizing your child?<br>When your child becomes ill, do you seek treatment from an AYUSH practitioner or a Western medical practitioner? Why would you prefer one over the other? | Have you experienced an injury, such as a work-related injury, agricultural injury, accident or other type of injury in the past two years that required prompt medical attention but did not require certification from your local health center? (should cover all injuries that are not certifiable by Indian Law)<br>Can you tell me more about that injury? (explore: what happened, when did it happen)<br>What kind of care did you get for the injury? (explore: medical care, home care)<br>If an injury like that were to happen today, where would you go for care?<br>What would be the best kind of care for this type of injury? (explore: western vs AYUSH)<br>How easy or hard is it to get that kind of care? (explore: what are barriers or facilitators)<br>Are you required to pay when you see your provider? Since 2018, do you pay more? Less? None?<br>Since 2018, do you have to travel more for Western care? AYUSH care? Both? |

### 2.4. Data analysis

The first author (AA) assigned codes to the English transcripts using open coding [26]. To capture the full experience of participants, we assigned positive and negative (i.e., antithetical) codes, based on

participants' interpretation of their encounters with the care provider as positive or negative. We used code saturation to determine when enough interviews had been completed in each group for the codebook to be stable and move on to analysis [27]. We analyzed responses to summarize experiences by age, gender, and location of residence. Analyses were completed using Dedoose (2021, version: 9.0.17).

## 3. Results

### 3.1. Participant demographics

Our study involved 16 participants (nine females and seven males), who were interviewed between August and October 2023. All participants were residents of the Spiti Valley and most participants were part-time agricultural workers (details are provided in Table 3). Most women completing interviews about maternal and child health were aged 35 to 44 years, had high school educations, were married, and were not pregnant at the time of the study but had young children. Participants completing interviews about acute illness and injury ranged in age from 18 to 64 years, with a mix of male and female respondents, and had varying levels of formal education.

### 3.2. Thematic framework

Fig. 1 depicts the codes in our thematic framework for the two groups. Code saturation was reached with participant #6 in the group discussing maternal and child health. Seven relevant themes were identified: (i) positive vs. negative (pediatric, prenatal, and labor experiences); (ii) care-seeking barriers of cost and travel; (iii) factors affecting the delivery experience: (iv) feeling ill versus feeling well and the relation to the decision-making process; (v) factors affecting pediatric care; (vi) facilitators of care and nutritional/maternal/child resources; and (vii) preferences related to AYUSH versus Western medicine.

Code saturation was reached with participant #5 in the group discussing adult acute illness and injury. Six relevant themes were identified: (i) thoughts, feelings, and experiences of acute injuries; (ii) care-seeking barriers of cost and travel; (iii) care-seeking factors of *Amchi* medicine versus Western first aid and care; (iv) likes versus dislikes of care received; (v) facilitators of healthcare; and (vi) preferences related to AYUSH versus Western medicine.

**Table 3**
Sociodemographic characteristics of participants.

| Participants characteristics | Group 1 Mother/ child | | Group 2 Injury care | | Full sample | |
|---|---|---|---|---|---|---|
| | *n* | % | *n* | % | *n* | % |
| Gender | | | | | | |
| Female | 8 | 100.0 | 1 | 12.5 | 9 | 56.2 |
| Male | 0 | 0.0 | 7 | 87.5 | 7 | 43.7 |
| Marital status | | | | | | |
| Single | 0 | 0.0 | 4 | 50.0 | 4 | 25.0 |
| Married | 8 | 100.0 | 4 | 50.0 | 12 | 75.0 |
| Highest educational level | | | | | | |
| No schooling | 0 | 0.0 | 2 | 25.0 | 2 | 12.5 |
| Lower secondary | 2 | 25.0 | 1 | 12.5 | 3 | 18.7 |
| Upper secondary High School | 4 | 50.0 | 3 | 37.5 | 7 | 43.7 |
| Post Secondary- Non tertiary | 2 | 25.0 | 0 | 0.0 | 2 | 12.5 |
| Tertiary/ University | 0 | 0.0 | 2 | 25.0 | 2 | 12.5 |
| Employment | | | | | | |
| Unemployed | 1 | 12.5 | 0 | 0.0 | 1 | 25.0 |
| Student | 0 | 0.0 | 1 | 12.5 | 1 | 6.2 |
| Employed Agricultural part-time | 5 | 62.5 | 3 | 37.5 | 8 | 43.7 |
| Employed Agricultural full-time | 1 | 12.5 | 1 | 12.5 | 2 | 12.5 |
| Employed Non-Agricultural full-time | 1 | 12.5 | 2 | 25.0 | 3 | 18.7 |
| Self-employed | 0 | 0.0 | 1 | 12.5 | 1 | 6.2 |

### 3.3. Maternal & child health findings

The women in our study identified local *Amchi* practitioners and Asha workers as their first point of contact and a source of continuous care, as described in the WHO guidelines for primary care. While the *Amchi* served as a traditional primary care practitioner, the Asha served as a community health worker providing education, food, and resources to women and children to assist them with vitamins, nutrition, other prenatal care, and vaccination resources. However, when some services were unavailable locally, the lack of sufficient financial resources and the need to travel were viewed as barriers.

This was particularly true when deciding how to choose a labor experience and whether to deliver their child at home, at a local health center, or travel to the Shimla or Manali fully staffed secondary or tertiary hospital, resulting in lengthy travel and additional costs. Furthermore, some multiparous women's most recent pregnancies presented difficulties that complicated their decision-making process.

Women in the community generally prefer traditional home deliveries with the support of family and elders when there are no health concerns.These responses highlight that some mothers deliver at home, typically with the assistance of experienced older women in the village.

- *"I had my delivery in the village. The older ladies in the village did it. I had the delivery in the village by the elder ladies* "(DemulG105)

Another participant, who utilized the local *Amchi* for her primary care needs, indicated she would probably deliver at the village but was not fully decided at the time of the interview:

- *"In the village or at Kaza. I haven't decided. Amchi is in the village"* (DemulG108)

However, if complications are anticipated, they seek Western medical care, as shown in Table 2. This perceived risk of complications for the mother or the infant led some women in our study to travel for more specialized care, particularly if the mother felt unwell during the pregnancy.

### 3.4. Care-seeking barriers: cost and travel

The women in our study indicated that some prenatal care was available through the government. However, many women felt the scope was limited, despite the government covering essential services, such as (i) antenatal, intranatal, and postnatal care; (ii) basic and comprehensive obstetric care in primary and community health centers; (iii) nutritional education and supplementation, iron and folic acid supplementation. Any services beyond what was available in their area required travel and out-of-pocket expenses. Depending on the nature of the treatment needed, some of our participants reported paying out of pocket in public government facilities as well as in private facilities. Only multiparous women in our study reported extensive travel during their most recent pregnancy.

- *"I went for second delivery outside Kaza to Manali that is roughly 200 kms. So I travel more for western care."(*Lhalung G103*)*
- *"For the second delivery had to travel more"* (Kwang G104)

Women who felt that they needed additional care opted to use the services of a private provider for their delivery care, but they had to travel more and pay out of pocket for their delivery services.

- *"I was treated at a private Western hospital. It was a normal delivery so epidural was not required. The birth attendant assisted and the person was Western medical professional. Had to pay since it was a private Western hospital. Had to pay more. My first delivery was at Kaza*

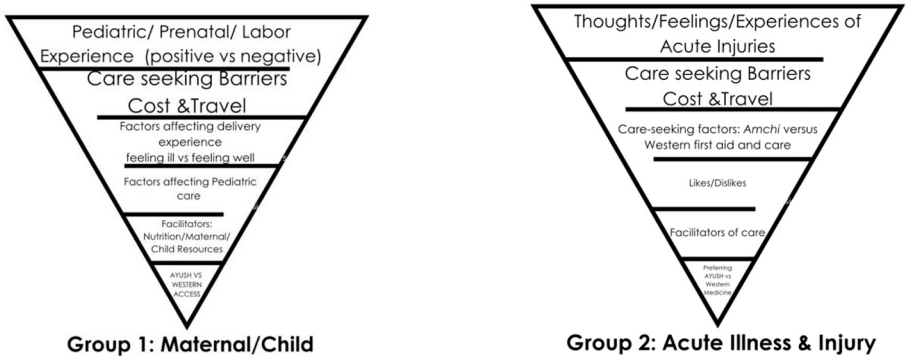


**Fig. 1.** A representation of the two inverted pyramids reflecting the six main themes recurring in each group.

*government hospital and it was free. Whereas for the second child I had to go Manali and it costed…15000 INR for delivery" (*Lhalung G103*)*

### 3.5. Factors affecting delivery experiences: feeling ill vs. feeling well

Women who felt more ill than in a past pregnancy(ies) or were more worried about their pregnancy chose Western medicine over traditional medicine (see Table 4). Meanwhile, some younger women in our sample, who reported feeling well, preferred to remain under their local *Amchi* and Asha's care:

- "*I visit the Amchi. Amchi is in the village and doctor in Kaza. I will deliver in the village or at Kaza I haven't decided. I will consult the village elders and ask them"* (Kwang G107- age group 18–24)

In summary, participants reported having to make an active decision regarding the location of their labor and delivery, recognizing that travel and cost were consequences of that decision. The complexity of their pregnancy experience contributed to the decision about the location they believed would provide a safer labor and delivery experience.

### 3.6. Nutrition and maternal/child resources

Women in our study relied heavily on their Asha worker for assistance with nutrition, prenatal vitamins, food rations, and education regarding pregnancy and immunizations, as exemplified by this quote:

- *"First we go to the village doctor, Amchi. Also went to Asha workers. Was getting the immunization for the pregnant woman. Medicines were also given by Asha worker. Ration were available (oil, rice dal, etc.)"*(Lhalung G101)

### 3.7. Factors affecting pediatric care

Concerning immunizing their children, participants indicated that Asha workers were an excellent source of information. All participants reported traveling only to the nearby Kaza facility for immunization and could comply with the immunization schedule recommended by the Ministry of Health.

- *"Asha workers sensitized the importance of immunization"* (Lhalung G101)
- *"Yes, he received all the immunizations in accordance with the schedule. It is clearly mentioned in the card given at the hospital during the delivery on the immunization schedule and we gave it accordingly for the well being of the child"* (Lhalung G102)

When a child suffered an acute onset of illness, participants preferred to use *Amchi* medicine since it was available throughout the day and night in the village, demonstrating that the availability of Amchi practitioners represents both a point of contact and continuity for patients [3]. Participants reported challenges in accessing Western medical care, including decreased access at night when the local facility was not continuously open. Choosing a facility where Western medical care was available was also associated with increased travel and cost.

- *"I take him to Amchi. And if the Amchi suggest to take to the Western doctor them we take our child to western doctor"* (Lhalung G102)
- *"If at night, prefer local traditional doctor and during the day, Western medical practitioner. We go to the Western medical practitioner when it is suggested by the local traditional doctor to go to the hospital.* (Lhalung G103)
- *"Very high fever, then doc[tor]. Stomach issues, then Amchi"* (Khurik G106)

### 3.8. Acute injury and illness findings

Some participants talked about being injured while working in agriculture, while others described being injured in accidents unrelated to their work. Several participants reported visiting their local *Amchi* first and then seeking further medical treatment in Western medicine, if necessary. Participants reported seeking care in the area by visiting the Kaza health center shortly after leaving their *Amchi* (See Table 5).

### 3.9. Care-seeking barriers: cost and travel

Participants reported travel as a barrier, since many services, such as X-rays and CT scans, were not available locally. A resulting barrier was cost, because many procedures exceeded government coverage and required patients to incur out-of-pocket costs that they often could not afford. Participants also reported that the cost-sharing fee had increased since 2018. Several participants reported that pharmaceuticals were simply not available at the hospital, requiring them to seek other private sources that resulted in additional out-of-pocket costs.

- *"Had to pay for the x-ray and also the medicines were not available [at] the government pharmacy so had to pay for the medicine."* (Lhalung G201)
- *"Yes, I had to pay at Shimla government hospital for the medicines as these were not available at the hospital. On the payment it is more now compared to 2018. Only money is an issue. If one could afford money then there are no other barriers."* (Lhalung G202)

Because many specialty services are not located in the area, participants feared they would have to travel to resolve their injury, which increased both the challenges in obtaining care and the attendant cost. Participants often described leaving their rural and mountainous area as "going down," as in descending geographically towards an urban area such as Shimla or Manali.

**Table 4**
Health-related reasons for choosing Western medicine for delivery experience.

| Quote | Medical Reason | Nulliparous/ Multiparous | Maternal Age Group |
|---|---|---|---|
| *"Yes I had a little fear unlike the first two pregnancies hence I felt like consulting the doctor. I was treated at a public western medical hospital. Normal delivery. The child was quite big and had to be induced for delivery prior to the delivery date. Post delivery all the care was given at the hospital. We had to pay for the rooms and medicine. None covered."*(Lhalung G102- age group 35–44) | Induction for size | Multiparous | 35–44 |
| *"Yes. I was getting morning sickness hence was consulting a doctor. Yes I traveled to get an ultrasound and regular check up. I Went to Peo and Manali. I had Normal delivery. I delivered at Govt Western medical hospital. Got good service at the hospital. Skilled health professional. And yes western medical practitioners. Care is same as it was before 2018"*(Lhalung G101- age group 35–44) | Morning sickness | Multiparous | 35–44 |
| *"Yes, I was consulting a doctor even if I was feeling well. I used herbal medicine for my first pregnancy but for the second one I didn't take any herbal medicine. Prefer western medicine It was a normal delivery and epidural was not required. First delivery was at the government hospital; it was free. Whereas the second delivery was at a private clinic and it cost around 2 lakhs. For the second delivery had to travel more* (Kwang G104- age 25–34) | Not stated | Multiparous | 25–34 |
| *"I went to the hospital to check my pregnancy. First I went to the Amchi and then Amchi said to go to the hospital. I went for a checkup and they told me to have a c-section immediately as the child's life is threatening . I went to Rampur and got an ultrasound. At that time I met an OB/GYN. I had my delivery in Manali. It was a c-section. Yes at Mission Hospital Manali. It's a private hospital. I got an epidural. About 30,000 I had to pay. This is my first child"* (Khurik G106) | Complicated pregnancy | Nulliparous | 24–34 |

- *"It's very expensive if we go down. Yes it [cost] has increased a lot since 2018 if we have to go down."* (Kwang G206)
- *"If Private, then the expenses will be more. Transportation is an issue as not everyone has a vehicle and bus service is also limited. Amchi would give first aid and also the lama who suggests where to go."* (Lhalung G201)
- *"Very difficult due to lack of transport."* (Demul G205)

### 3.10. Care-seeking factors: first point of contact Amchi vs Western

Participants reported visiting their *Amchi* doctor shortly after their injury and deciding together what to do next, demonstrating the relationship between patient and provider as discussed in the WHO guideline [3]. The lack of transportation and difficulty in paying for out-of-pocket expenses led some participants to self-medicate at home.

**Table 5**
Examples of lack of integration between traditional and Western medical care for injuries.

| Quote | Type of Injury | Care sought /Satisfaction With care | Out of pocket costs |
|---|---|---|---|
| *"Got injured while cutting the huge logs that are required for the making of the house ceiling. I had to pay at Shimla govt hospital for the medicines as these were not available at the hospital. On the payment it is more now compared to 2018. Only money is an issue. If one could afford money then there are no other barriers."* (Lahlung G202) | Injured during agricultural work | Kaza hospital but was not happy with the service. Decided then to travel to Shimla and get the x-ray done and get plastered for 3 months. | Yes |
| *"Got cuts from thorns in the field while working at the agricultural field. Transportation is an issue."* (Kwang G203) | Injured during agricultural work | Home care/ Self medication | No |
| *"Few years back when fell down went to the Amchi and he gave first aid. Later went to the nearby village where there was a camp and got the hand plastered by the Western doctor. The first aid by Amchi was not up to the mark hence had to go to the camp to meet the western doctor. Private, then the expenses will be more. Transportation is an issue as not everyone has a vehicle and bus service is also limited. Facilitators there are Amchi who would give first aid and also the lama who suggests where to go. Had to pay for the x-ray and also the medicines were not available [at] the govt pharmacy so had to pay for the medicine"*(Lahlung G201) | Fall injury | Amchi for first Aid/ Western camp later | Yes |

- *"Got cuts from thorns in the field while working at the agricultural field. Home care and self medication. Transportation is an issue."* (Demul G204)
- *"Amchi and he would suggest visiting the Western hospital and practitioner."* (Lhalung G201)
- *"It is very hard. First aid at best. For anything major one has to go down."* (Kwang G207)

Several participants complained of negative experiences with their locally available care (including primary care and community health center care) and decided to travel further to Shimla or Manali for additional treatment at the hospital level. Although some medical facilities at the local level were open on additional days or had longer hours, overall equipment and staff remained limited. Anything requiring specialty care required traveling further, and participants expressed frustration at not being able to receive needed injury care locally.

- *"Few years back when fell down, went to the Amchi and he gave first aid. Later went to the nearby village where there was a camp and got the hand plastered by the Western doctor. The first aid by Amchi was not up to the*

*mark hence had to go to the camp to meet the western doctor."* (Lhalung G201)

- *"Went to Kaza hospital and was not happy with the service as they didn't provide better care and service hence went to Shimla and got the x-ray done and got plastered for 3 months."* (Lhalung G202)
- *"Basic first aid was given then I was referred to Kullu. CT scan. Everything was ok from inside."* (Kwang G207)

Concerning integrating the two systems of medicine since the health policy came into effect, participants reported that most services were free of charge at nearby PHCs or Kaza health centers. Still, they have yet to observe any significant changes in availability of services or increased access.

## 4. Discussion

Our 2023 exploration of preferences is the first such study in the Spiti Valley. Previous literature described similar challenges in the overall Himalayan region and determined that *Amchi* medicine was essential to the health of residents in the Himalayas [29]. Our study documented that residents of the Spiti Valley continue to favor *Amchi* medicine. *Amchis* are local, accessible, low-cost, and address some of residents' concerns. However, when patients perceive their injury or illness exceeds the level of care available locally, they seek healthcare from different types of providers.

Our participants were concerned about four aspects of seeking medical care outside their community: cost, transportation, the time required to get to the care, and the unavailability of overnight care. These concerns are indicative of several shortcomings in delivering primary health care services in the area.

The World Health Organization (WHO) recommends that good primary care models achieve specific objectives, i.e., first point of contact, continuity of care, comprehensiveness, coordination, and patient-centered [3]. Some of these objectives are currently met only by the local *Amchis* and Ashas, whereas Western medical providers struggle to provide consistent services across this rural area.

Although some basic primary care is provided to this population – and it meets the WHO objectives of first point of contact, continuity of care, and patient-centered – the integration of traditional and Western medicine envisioned by the Indian government has not yet been observed by our participants in rural and mountainous areas. Our participants reported seeking Western medical care when their illness or injury exceeded the care available from the *Amchi*, which necessitated travel outside the local area. Care that was not available included after-hours care, as well as higher acuity care.

In our study, those describing care for an injury all experienced a gap in locally available care. Due to the lack of equipment and trained personnel in the area, patients traveled long distances for diagnostic exams (e.g., x-rays, CT scans) and treatment. Further, some of our participants reported being unable to fill their medications at the government's pharmacy and having to travel to a different pharmacy to pay for the medication out of pocket. This problem could be resolved by expanding the availability of pharmaceuticals through government purchasing [30].

Similarly, there appear to be variations in the extent to which prenatal and labor services are available in rural subcenters. Even though the Indian government covers antenatal, intranatal, and postnatal care, it leaves the operationalization of delivery to rural community subcenters, raising concerns regarding equipment and staffing [28]. In the absence of reliable labor and delivery services in the area, pregnant women were left to decide how to handle their labor. When women felt well, they preferred to adhere to their traditional customs of giving birth at home or in the village surrounded by family members and community elders. In India, the National Family Health Survey (NFHS-4) indicated that 22% of deliveries were performed at home due to financial constraints, inadequate transportation, and other socioeconomic factors [31]. However, recent studies also reported significant differences between home-delivered and facility-delivered neonates in the Himalayas, with home-delivered infants experiencing higher rates of morbidity and mortality, emphasizing, at the very least, the critical need for skilled care at birth [32].

With our findings, we emphasize the need for integrating traditional and Western medicine in rural India, aligning with the stated goal of the Indian government. With appropriate equipment and training, Western physicians, alongside *Amchis*, could deliver protocol-driven care in the Lahaul and Spiti PCHs and CHCs to provide more comprehensive care locally.

In 2017, the government announced its intention to integrate traditional and Western medical services to increase access and choice while also requiring additional education for *Amchis* to continue their practice – this without simultaneously expanding access to Western medicine. There is, however, a concern that by imposing additional requirements on *Amchis*, the number of *Amchis* in the area could decrease. As a result, access to care would also decrease moving forward.

Reversing this gap in available care will likely require workforce development for both professions. Incentives should be used to encourage *Amchi* practices to continue, encourage younger generations to pursue traditional practices by creating accessible educational pathways, and provide additional training that increases the *Amchi* scope of practice [33]. Similarly, incentives could encourage young Western medicine physicians to live and work in rural areas, increasing access to care at night and making a higher level of care available at the local level [33].

The lack of an adequately sized healthcare workforce has resulted in the restructuring of rural primary care service delivery models in other medically underserved rural communities in both high- and low-income countries. Several regulatory and financial interventions have been undertaken in European medical deserts to address the challenges of recruiting and retaining general practitioners [34]. Regulatory initiatives that proved beneficial included educational interventions and postgraduate incentives, such as the establishment of new rural medical schools providing rotations and internships for medical students in rural areas, the provision of direct financial assistance for new graduates remaining in rural areas, as well as bonuses for years of rural healthcare delivery [34]. Thailand also reformed its entire healthcare system and subsidized rural primary care with a low-income card system that provides primary care services to rural residents [35].

Further, strengthening rural primary care and bridging the gap between rural and urban areas in India would require a higher level of investment with a revision and increased budgetary allocations. Each state would then also have to agree to increase the expenditure on rural primary care and use the federal allocations to improve primary care access and delivery in rural subcenters [13]. Similar to the European approach, community-based rural training sites could train rural health professionals and provide post-training placement and support [13,34]. This could be achieved by establishing a specific training pathway for rural family health providers and creating post-graduate positions in rural family health [13].

Because this study is qualitative, its generalizability is limited. Nevertheless, it provides valuable information regarding residents' perceptions of primary care accessibility as a post-Health Policy assessment in the Spiti Valley. Further, our study provides a rich understanding of care-seeking experiences that can be used to develop additional research questions explored with either qualitative or quantitative methodologies.

## 5. Conclusions

In light of the recent policy to integrate traditional and Western medicine for comprehensive primary care, assessing the extent of this integration is important. In our qualitative study, we identified several gaps in care that could be addressed. These include the need to enhance

perinatal and postpartum care at the PHC level, expand urgent care services with further diagnostics to address injuries and acute pediatric illness.

*Amchis* are recognized in this rural area as a trusted first contact, essential for primary care delivery. However, an unintended consequence of the 2017 policy's requirement for additional training for *Amchis* has reduced the number of *Amchis* in practice. *Re*-consideration of ways to increase both the number of *Amchis* and Western medicine physicians in the Spiti Valley would facilitate the provision of the additional services needed in rural primary care that we identified in our study.

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## CRediT authorship contribution statement

**Annica Aguzzi:** Writing – original draft, Investigation, Formal analysis, Data curation, Conceptualization. **Caren J. Frost:** Writing – review & editing, Visualization, Validation, Software, Resources, Methodology. **Tejinder Singh:** Writing – review & editing, Validation, Investigation, Formal analysis, Data curation, Conceptualization. **L. Scott Benson:** Writing – review & editing, Visualization, Validation. **Lisa H. Gren:** Writing – review & editing, Validation, Supervision, Resources, Project administration, Methodology.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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