

# Medical Pluralism: Indigenous Healing System vs Modern Treatment

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## ABSTRACT

This article explores the ethnomedical system of Natore, a district located in the northern region of Bangladesh. Through the lens of medical pluralism, the coexistence of different medical systems is examined, particularly the traditional Kabiraji system, which uses local herbs and plants to treat various ailments. The objective is to analyze the power dynamics between different medical systems, with a focus on how modern biomedical hegemony influences healthcare discourse and practices in the region. The study draws on a literature review of previous research on medical pluralism in Bangladesh and specific case studies from Natore. Newspaper articles, research papers, and studies conducted by botany college teachers were analyzed to gain insights into the healthcare practices of local healers (kabirajs) and the efficacy of their treatments. The findings reveal that Natore exhibits a rich tradition of medical pluralism, with diverse ethnomedical systems coexisting alongside Western medicine. The kabirajs use local herbs and plants, such as *Cissus quadrangularis*, *Zingiber officinale*, *Calotropis Procera*, *Andrographis Paniculata*, and others, for treating bone fractures and other ailments. Pharmaceutical companies also produce medicines based on the same plants, emphasizing the effectiveness of indigenous medicine. The findings have implications for policymakers and healthcare practitioners working in similar contexts, emphasizing the importance of acknowledging and supporting the diversity of medical systems that coexist in a society.

**Keywords:** Medical Pluralism; Ethnomedicine; Biomedicine; Kabiraj; Medical Hegemony

## Introduction

All medical systems are made up of ideas and practices that are purposefully aimed at improving health and reducing sickness. Different societies invented different medical systems to respond to their illness based on their natural surroundings, society, religion and even political system (Baer 2017). Medical pluralism is a phenomenon observed in many societies, where traditional healing practices coexist with modern biomedical practices (Ahmed [1]). According to the World Health Organization [2], traditional medicine continues to play a vital role in healthcare globally, with 70-80% of people in some countries relying on traditional medicine for primary healthcare needs. In Bangladesh, the use of traditional medicine has a long-standing history and remains an integral part of healthcare practices in many rural communities (Hadi [3]). Bangladesh is a country with a rich tradition of medical pluralism, with a diverse array of ethnomedical systems coexisting with modern Western medicine

(Hadi [4]). The ethnomedical system of Natore, a district located in the northern region, is an excellent example of this phenomenon. Natore is known for its traditional Kabiraji system, which uses local herbs and plants to treat various ailments (Islam [5]). In recent years, the healthcare practices in Natore have undergone significant changes, with the coexistence of different medical systems, including informal practitioners and biomedical doctors.

However, despite the coexistence of different medical systems, modern biomedical hegemony exerts a significant influence on the discourse and practice of healthcare in the region (Islam [6]). In this article, the healthcare practices in Natore from the perspective of medical pluralism are explored as well as it examines the power dynamics between different systems and how modern biomedical practices' hegemony influences the discourse and practice of healthcare in the region. Furthermore, the author explores the role of media in shaping the perceptions of the community towards

different medical systems, and how traditional healers and informal practitioners are often marginalized by modern biomedical practitioners. It is aimed to emphasize the complex interplay between different medical systems and the factors that shape the dynamics of healthcare practices in a pluralistic society like Natore.

## An Overview of Fractured Bone Treatment in Islampur Village, Natore

Prothom Alo, a leading newspaper in Bangladesh published news on 4 Jan 2021 based on the local healing process of fractured bone titled "Gramti Akhon Harvnga Chikishar Hat" (The village turned into a market for treating fractured bone). In that news, it is described that some "illiterate" people who were day laborers and wage earners became doctors without any medical knowledge. They turned their houses into medical centers and now giving treatment to the patient, more specifically only the fractured bone patient. Every house is a hospital and they hang a signboard at the entrance titled "Kabirajbari" (healer place). People from different districts come to them for treatment and there also have arrangements for food to eat and room for staying for the patients and their associates because it takes quite a long time to cure. The healing process happens here based on a contract; a fixed amount of money has to pay for the treatment as per the contract done earlier (without living costs). Not only do the patients come to the healers but the healers also go outside their district to respond to patients' calls. Prothom Alo also claimed that they published news about this scenario about ten years ago when the local administration took action after seeing that news. But things are changed now; they don't stop treating people rather they flourished in their business and many people left their previous occupations and became "doctors". It has also a strong influence on local businesses and other earning sectors.

The local healers and the patients who come to them claim the treatment is helpful and curing but the professional doctors of that area mark it as dangerous, malpractice, and a hoax of the local healers. On 09 January 2021, Prothro Alo published follow-up news about these cases. The administration again took action against those healers claiming malpractice and the healer left their places and absconded. The patients also left that place and a patrolling police team of eight members is stocked there. New patients are also coming from far distances who don't know about the strike and the police team forces them to return. Other daily newspapers like The Ittefaq, and The Inqilab also published this news under different titles but the main theme is almost the same.

All these newspapers mentioned that herbs, wood, and bricks are the main materials in their healing system, they don't use any modern technology to examine the patient's problem. But in some studies, the case seems different from these newspapers' reports. Kavirajs (healers) use a paste made of *Cissus quadrangularis*, *Zingiber officinale*, and *Calotropis Procera* to treat bone fractures. The herb *Cissus quadrangularis* has been demonstrated to help mend

bone fractures (Potu, et al. [7]). Anti-inflammatory and analgesic qualities have also been found in *Zingiber officinale* rhizome extract, which can help in bone fracture repair (Grzanna, et al. [8]). Analgesic characteristics have been found in the aerial sections of *Calotropis procera*, which can aid with pain from fractured bones (Mahmood [9]).

In India, the tai-Khamyangs utilize *Cissus quadrangularis* in a variety of formulas with other plants (Rathod, et al. [10]). Other plants used by the Kavirajes had comparable ethnomedicinal usage in other parts of the world (particularly India), and several of them have scientific papers on their pharmacological characteristics or phytochemical constituents, proving that their folk medicinal uses were valid (Samanta, et al. [11]). *Andrographis paniculata*, a plant used by Kavirajs to treat fever, has been reported to be used for the same purpose in traditional medicinal in Far-west Nepal (Panthi, et al. [12]). The efficacy of the plant to alleviate fever has been studied further (Saxena, et al. [13]). In Ayurveda, the plant is known as Kaalmegha and is used as a febrifuge. *Justicia adhatoda*, which has been used in Ayurveda to cure colds, coughs, asthma, and tuberculosis, is another herb utilized by Kavirajs to treat fever and pneumonia. The Ayurvedic name for the plant is Vaasaka (Kumar [14]). *Ocimum gratissimum*, a plant used by Kavirajs to treat fever, is also used for the same purpose in traditional Nigerian medicine (Oliver, 1980). Antinociceptive properties have been discovered in the plant, which may be useful during fevers, as fevers are often accompanied by body aches. (R Mohammed [15]).

According to Rahmatullah, et al. (2010), Several results emerged from the current investigation. To begin with, while Bangladeshi folk medicinal practitioners (Kavirajes) may practice in the same area, their selection of plants and ailments treated may vary, meaning that folk medicinal practitioners, like allopathic doctors, might specialize in the treatment of some diseases but not others. Second, there is some Ayurvedic impact on the Kavirajes' medicinal plant choices, or vice versa, which is unsurprising considering that folk medicine and Ayurveda have co-existed for millennia in the Indian subcontinent. Third, the Kavirajes have a thorough awareness of plant medicinal properties, as many of the plants' traditional medicinal uses have been proven via scientific research of the plants' pharmacological properties. Fourth, many of the plants utilized by Bangladesh's Kavirajes have been used in similar ways in other areas of the world for a long time. This overwhelming agreement among herbalists shows that these plant species may yield novel and more effective medications (Rahmatullah, et al. 2010).

Another study was done by a botany college teacher of Natore Govt college titled "Plants used for bone fracture treatment in Natore, Bangladesh" on the same case. In his study, he argued: "In the study area, Kaviraj or herbal practitioners are diagnosing bone fractures with the help of an X-ray film of the affected part. Then they used mustard oil massage therapies in shaping the bones back to their original form. They have sufficient skill in manipulating bones and

aligning them in the right manner, which is vital in the management of bone fractures.

Then they put the fresh leaves of *Dendrocnide sinuata* for 2-3 minutes at the site of the fracture considering the age of the patient and the nature of the fracture. According to patients, it is an unbearably irritating leaf but it is quite effective in breaking bones. They then cut the leaves of *Barleria prionitis* and *Justicia gendarussa* as well as the stems of *Cissus quadrangularis* into small pieces. Then added a pinch of salt and 2-3 small pieces of ginger (*Zingiber officinale*) to the chopped parts and made a paste with 50 to 100 ml of mustard oil. Those pastes were applied to the broken area twice or thrice a day for 7 days to until cure as required" (M Tarikul [16]). According to the study, five medicinal plants belonging to four families were observed to be used in the treatment of bone fractures. These plants were mostly collected from the local homestead garden. Among them, *Cissus quadrangularis* was the most well-known for its bone healing properties and is commonly referred to as «Bone Setter.» The effectiveness of *C. quadrangularis* in bone healing has been justified by many researchers, including Supparmaniam et al. (2015). Another plant, *Justicia gendarussa*, was reported to be beneficial for bone fracture healing by stimulating alkaline phosphatase activity in osteoblast cells, according to Ahmed et al. (2009) and Rahman et al. (2012). Additionally, *Barleria prionitis* was reported to be effective in the treatment of irritation and stiffness of limbs by Sankaranarayanan et al. (2010) and Talukdar et al. (2015). *Zingiber officinale* was also reported to be useful in bone fracture treatment by Marak & Mathew (2020).

However, no reports have been published on the use of *Dendrocnide sinuata* in the treatment of bone fractures, although it has been used to treat various diseases such as jaundice, toothache,

**Table 1:** Uses of plants to make modern medicine by pharmaceuticals.

Name of Plants	Modern Medicine	Brand	Uses of medicine
<i>Cissus Quadrangularis</i>	<i>Cissus Quadrangularis</i> Softgel Capsule	LIVEBONE STRONG	Bone Strengthening
<i>Andrographis Paniculata</i>	<i>Andrographis Paniculata</i> Supplements	SRI SRI TATTVA	Antioxidant
<i>Ocimum Gratissimum</i>	<i>Ocimum gratissimum</i> CH	Dr. Willmar Schwabe India Pvt. Ltd.	antifungal medicine
<i>Barleria Prionitis</i>	5 x Thai Herbs Ankabba	Unbranded	skin diseases
<i>Zingiber Officinale</i>	Ginger	HerbsForever, USA	Joint and Muscle Pain
<i>Calotropis Procera</i>	<i>Calotropis Gigantea</i>	Dr. Willmar Schwabe GmbH & Co.	asthma; ascites; cough; catarrh;
<i>Justicia Gendarussa</i>	<i>Justicia Gendarussa</i> 600mg	Umwu Herb	Aches & Pains, Antioxidants

Similarly, other plants and herbs are employed for various therapeutic purposes, such as antioxidant properties, antifungal effects, treatment of skin diseases, relief of joint and muscle pain, asthma, and more. These pharmaceutical companies mass-produce these medicines using the same plants and herbs utilized by kabirajs, thereby emphasizing the value and efficacy of indigenous medicine. The argument that kabiraji practices are unscientific or ineffective is contradicted by the fact that these companies employ the same plants

and dysentery. The highly irritant leaf of *D. sinuata* was observed to be an important ingredient in the treatment of bone fractures, as reported by every Kaviraj in the study area, although no reports have been published on its use in bone fracture treatment. The study suggests that there is enormous potential for further scientific research on the plants reported (Islam, et al. [5]).

## Commodification of Ethnomedicine

The commercialization of traditional indigenous medicine, specifically concerning the healing of fractured bones by local healers known as kabirajs, has created a complex situation where conventional practices are often marginalized as outdated and lacking scientific basis by modern medical practitioners, authorities, and the media. However, upon closer examination, a different reality emerges. Numerous pharmaceutical companies are actively manufacturing and marketing medicines derived from the same plants and herbs utilized by kabirajs for treating fractured bones and other ailments. This practice underscores the intrinsic value and effectiveness of indigenous medicine. The local kabirajs of Natore employ various plants and herbs, including *Cissus Quadrangularis*, *Andrographis Paniculata*, *Ocimum Gratissimum*, *Barleria Prionitis*, *Zingiber Officinale*, *Calotropis Procera*, and *Justicia Gendarussa*, in their treatments. While the kabirajs may not possess knowledge of the scientific names of these plants, they possess deep indigenous knowledge regarding their uses and benefits. The provided context includes a table (Table 1) that presents the medicines produced from these plants and herbs, along with their respective brands and scientific applications. For example, kabirajs use *Cissus Quadrangularis* for bone strengthening, and pharmaceutical companies manufacture a medicine called «*Cissus Quadrangularis* Softgel Capsule» under the brand name «LIVEBONE STRONG» for the same purpose.

and herbs in their products. If these plants and herbs were truly ineffective, it would be illogical for pharmaceutical companies to use them for similar purposes. In the contemporary era, globalization has further accelerated the operations of these pharmaceutical companies, enabling them to sell their medicines worldwide through international online marketplaces like Amazon, eBay, and others. This globalization and the accessibility of indigenous medicines on these platforms demonstrate the global demand for and acceptance

of such treatments, despite the initial skepticism or disregard they face in certain local contexts. In conclusion, the commercialization of indigenous medicine employed by kabirajs for the treatment of fractured bones illustrates the contrast between the dismissal of traditional practices as unscientific and the active production and distribution of medicines derived from the same plants and herbs by pharmaceutical companies. The presence of these medicines in international marketplaces further validates their effectiveness and challenges the notion that indigenous practices are inherently unscientific or ineffective.

## Discussion

Medical pluralism is a medical system in which various medical systems coexist among different types of individuals based on class, caste, racial, ethnic, regional, religious, and gender differences (Baer [17]). In the current or postmodern world, it is likely truer to argue that national medical systems are plural, rather than «pluralistic,» in the sense that biomedicine predominates over heterodox and ethnomedical practices. In actuality, numerous medical systems might be regarded as «dominative,» meaning that one medical system has a clear advantage over others. While in the framework of a dominant medical system, one system strives to exert dominance over other medical systems with the help of societal elites, people are perfectly capable of «dual usage» of different medical systems (Baer [17]). The biomedical approach, which considers the body as a machine with replaceable parts and focuses on the use of scientific methods, drugs, and surgery for treating illnesses, is the dominant medical system in industrialized nations. However, this reductionist approach may not be effective in treating chronic and complex conditions, particularly those that are affected by social and environmental factors. Furthermore, the emphasis on individualized treatment may disregard the cultural, social, and spiritual dimensions of health and healing, leading to patient dissatisfaction among diverse cultural groups (Bhuiyan 2018) (Nichter [18]).

On the other hand, the dominance of Western medicine may lead to the marginalization and neglect of other medical systems and practices, particularly those associated with indigenous and traditional healing (Dong, et al. 2018). The Western biomedical system's reductionist approach to health and healing may conflict with the holistic and spiritual approaches of other medical systems, leading to tensions and misunderstandings among healthcare providers and patients (Bodeker, 2005). In the case of Natore, the local treatment for fractured bones, which includes conventional medical procedures and herbal remedies, has been marginalized and stigmatized by the dominant biomedical system, which has been backed by the government, healthcare organizations, and pharmaceutical companies with significant financial and political clout (Broom [19]). By marginalizing other medical systems and practices that do not meet Western scientific criteria, this power dynamic has given the biomedical system a dominant position in the healthcare landscape. In Orientalism, Said argued that Western

colonialism was not just about territorial conquest, but also about the imposition of Western culture, values, and knowledge on colonized peoples (Said, 1978). In the context of the modern medical system, this can be seen as the imposition of Western biomedical practices and knowledge on non-Western societies.

Said argued that this reflects the power dynamics of colonialism and neocolonialism, with the West constructing the East as the «other» and using this construction to justify its superiority and dominance (Said, 1978). Since the colonial period, the west has started making the outside world «others» representing them as savage, uncivilized, uneducated, backdated, and unscientific. The Westerners present themselves as they are right from every corner but the others are in darkness and they are responsible to remove their darkness. They measure the whole world on a single scale considering themselves at the apex and their way of living is scientific whereas the culture, tradition, and belief system of others are nothing but prejudices. Representing the outside world as backdated and unscientific, the West has been spreading its knowledge and discourse of «medical hegemony» among the «others». It helped them to cherish the colonial rule in the colonies even after the geo-colonial ruling system is over. Representation of the Western healing system as scientific and traditional healing system as unscientific is a hegemony. In another sense, medical hegemony is a way of making the market for Western medical products around the world. They generalize the people from every corner of the world overlapping cultural, environmental, and physical diversity, and exercise the same methods, medicine, and technology over everyone. This opened a huge market for medical and pharmaceutical products around the globe.

From a power relations perspective, it is evident that in medical pluralism societies, the Western biomedical system often takes precedence over other medical systems and practices. This is due to the Western biomedical system being associated with advanced technology, scientific knowledge, and evidence-based practices, which are highly valued in modern society. Consequently, the Western biomedical system is commonly viewed as the standard for healthcare and supported by influential bodies such as medical institutions, pharmaceutical companies, governments, and the media. This dominant position can lead to the marginalization of non-Western medical practices that do not meet Western scientific criteria. Furthermore, the Western biomedical system's domination could reflect a broader global power dynamic in which Western countries and institutions have more power and influence in shaping global health policies and practices, leading to the marginalization of non-Western medical systems and practices that do not fit within the Western biomedical paradigm. The dominance of the Western medical system in medical pluralism societies can be analyzed through the Gramscian Hegemony perspective, which argues that the ruling class maintains its power by controlling the dominant culture and shaping people's values, beliefs, and attitudes through cultural institutions and practices (Gramsci [20]).

According to (Cockerham [21]), the cultural and institutional power of the medical profession has established Western medicine as the norm, shaping people's perceptions of health and illness, and marginalizing other medical systems and practices that do not conform to Western standards. This cultural hegemony allows the Western medical system to control the healthcare discourse and define what constitutes legitimate medical knowledge. The Western medical system's cultural hegemony reflects wider societal power imbalances, where the ruling class maintains its power by controlling the dominant culture to reinforce existing power structures and prevent alternative cultural and social practices from emerging (Gramsci [20]). In healthcare, the dominance of the Western medical system reflects the power of Western countries and institutions in shaping global health policies and practices that have historically favored Western biomedical approaches (Adams, [22]). Moreover, the commodification of healthcare has led to the marginalization and exclusion of alternative medical systems and practices that do not fit within the profit-driven model of the Western medical system. As a result, many alternative medical systems and practices are viewed as inferior or unscientific, and their practitioners and users are often stigmatized and marginalized by the dominant medical establishment (Baer, et al. [23]).

From a Gramscian discourse perspective, it is possible to understand the marginalization of local fractured bone treatment in Natore, Bangladesh, as a result of the biomedical system's dominant institutional and cultural power, which has made the discourse to shape people's perceptions of health and illness and established Western medicine as the dominant cultural norm. Because of its cultural hegemony, the biomedical system is able to dictate what constitutes valid medical knowledge, dominate healthcare discourse, and marginalize other medical systems and practices that do not meet Western medical norms [24]. In the case of Natore, the dominant discourse around medical treatment for fractured bones is shaped by the medical establishment, which promotes the use of expensive and specialized treatments such as surgery and orthopedic devices. This discourse serves to reinforce the power and influence of the medical establishment, which benefits financially from these expensive treatments. However, this dominant discourse ignores the fact that many people in rural areas may not have access to such treatments or may not be able to afford them [25]. Media plays a critical role in shaping public discourse by providing a platform for the exchange of ideas and information (Pew Research Center, 2018). Gramsci argued that the ruling class uses cultural institutions such as the media to establish and maintain its dominance over the rest of society by controlling the way people think and perceive the world (Gramsci [20]).

The media serves as a tool for the ruling class to promote their values, beliefs, and interests while suppressing those of subordinate groups. It is used to create a shared sense of what is normal and acceptable in society, which serves to reinforce the dominant ideology

and maintain the status quo (Hall, 1982). In the case of Natore, the Newspaper, and local administration are working as powerful tools for spreading discourse giving statements that modern technology and medicine are not used in this practice and establishing the discourse that the indigenous healing system is malpractice [26]. They all denied the rightness of ethnomedical herbs and their healing system but researchers showed how it works. In some studies, it is mentioned that the healers use modern technology e.g. X-ray machines, have enough knowledge about fractured bone, and use ethnomedical plants, and these plants have medical certifications around the world (Tarikul [16]), Abid: 2013) but in news articles, this wasn't mentioned and published nothing but a partial perspective of reporters and administrators. Besides, they kept the healers and patients as a «muted group» and none of the healers' or patients' voices is published in that news. Local medical centers and doctors' chambers remain empty because the patients come to kabirazs rather than going to the certified doctors. On the other end, newspapers published news only for fractured bone treatment but other studies show that they treat other problems as well e.g. fever, pneumonia, mucus, helminthiasis, jaundice, dysentery, heart disorders, kidney stone, skin infections, liver diseases, vomit, etc [27,28].

So, it has been a problem for the local allopathic practitioners, they were losing public demand as allopathic medicine has side effects and at the same time costly. To retain the dominative role, allopathic practitioners may motivate the administration and media to mark this ethnomedical system as "unscientific". The traditional healing system of Natore can be seen as a counter-hegemony as it is working as a direct threat to the modern medical system hegemony. Counter-hegemony refers to efforts by subaltern groups to challenge contemporary dominant ideologies and power structures in order to achieve greater social and economic justice (Williams, 1981). Counter-hegemonic movements aim to create a more equitable and just society by empowering marginalized groups and challenging systemic inequalities [29]. By promoting alternative ideas, values, and ways of organizing society, counter-hegemonic movements seek to transform the dominant cultural and ideological norms that perpetuate inequality and oppression. However, the people of Natore have developed their ethnomedical practices, which are rooted in their culture and history. By promoting and preserving these practices, Natore's people are challenging the dominant biomedical system and asserting their cultural and social identities. This is similar to other forms of counter-hegemonic movements, such as the environmental justice movement or the feminist movement, which seek to challenge dominant power structures and promote alternative ways of thinking and acting [30,31].

## Conclusion

The situation of medical pluralism in Natore, Bangladesh serves as a prime example of the intricate interaction between various medical systems and the influence of modern biomedical dominance. Within the region, traditional healing methods, notably the Kabiraji

system, coexist alongside contemporary Western medicine. Although traditional healers and informal practitioners play a vital role in providing healthcare in rural communities, they often encounter marginalization and criticism from biomedical doctors and the media. The utilization of local herbs and plants within the Kabiraji system for treating fractures has sparked controversy and debate. Modern medical practitioners and local newspapers have branded these practices as unscientific and hazardous. However, scientific research has revealed that many of the plants employed by Kabirajs do possess medicinal properties that can aid in the healing of bone fractures. This raises concerns regarding the commercialization of ethnomedicine, as pharmaceutical companies manufacture and promote medicines based on these same plants. The presence of medical pluralism challenges the concept of a singular and dominant medical system. While biomedicine holds a prominent position in developed nations, it is crucial to acknowledge and respect the diversity of medical systems and their cultural and social contexts. Recognizing and supporting the coexistence of different medical systems can result in more inclusive and effective healthcare practices.

The findings of this study have implications for policymakers and healthcare practitioners working in similar settings. It emphasizes the significance of embracing medical pluralism, understanding the power dynamics between different systems, and addressing the marginalization of traditional healers. By integrating traditional and modern medical practices, healthcare systems can offer more comprehensive and culturally sensitive care to diverse populations. In summary, the case of medical pluralism in Natore underscores the necessity for a comprehensive and inclusive approach to healthcare that values and incorporates diverse knowledge systems.

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## References

- Ahmed S, Debnath R (2019) Traditional medicine and healthcare practices among the Teli community in Bangladesh: A qualitative study. *BMC complementary and alternative medicine* 19(1): 185.
- (2022) World Health Organization. Traditional medicine.
- Hadi A (2018) Traditional healers and the modern healthcare system in Bangladesh: Power relations and barriers to collaboration. *Journal of Health, Population, and Nutrition* 37(1): 1.
- Hadi A (2018) Understanding medical pluralism in a rural district of Bangladesh. *Journal of health, population, and nutrition* 37(1): 1-12.
- Islam MA, Hossain MZ, Islam MT (2021) Traditional knowledge of medicinal plant diversity in the Kabiraj System of Natore, Bangladesh. *Ethnobiology and Conservation* 10: 1-18.
- Islam MT, Hossain MS, Islam MN (2021) The dynamics of medical pluralism in Bangladesh: A case study of Natore district. *Journal of Ethnobiology and Ethnomedicine* 17(1): 1-16.
- Potu BK, Bhat KM, Rao MS, Nampurath GK, Chamallamudi MR, et al. (2006) The effect of *Cissus quadrangularis* (Linn.) on bone fracture healing in a rat model. *Journal of Ethnopharmacology* 104(1-2): 245-250.
- Grzanna R, Lindmark L, Frondoza CG (2005) Ginger—an herbal medicinal product with broad anti-inflammatory actions. *Journal of Medicinal Food* 8(2): 125-132.
- Mahmood A, Tariq M, Batool R, Munir B (2016) Analgesic activity of *Calotropis procera* leaves extract in laboratory animals. *BMC Complementary and Alternative Medicine* 16(1): 1-9.
- Rathod HA, Chitme HR, Patel JR, Chandra R (2014) A review on ethnopharmacological potential of *Cissus quadrangularis* Linn. in the management of various diseases. *Journal of Ethnopharmacology* 155(2): 989-1008.
- Samanta A, Das G, Mandal TK, Samanta A, Jana K, et al. (2011) A survey of medicinal plants used by the Kavirajes of the Suri and Bolpur subdivisions of Birbhum district, West Bengal, India. *Journal of Ethnopharmacology* 134(2): 452-466.
- Panthi MP, Aryal P, Sharma N, Ghimire G, Maharjan R, et al. (2016) An ethnobotanical study of medicinal plants used by ethnic people in Parbat district of western Nepal. *Journal of Ethnopharmacology* 180: 41-58.
- Saxena RC, Singh R, Kumar P, Yadav SC, Negi MPS, et al. (2013) A randomized double blind placebo controlled clinical evaluation of extract of *Andrographis paniculata* (KalmCold™) in patients with uncomplicated upper respiratory tract infection. *Phytomedicine* 20(12): 1155-1160.
- Kumar S, Sharma A (2013) Review on traditional and medicinal uses of *Justicia adhatoda*. *International Journal of Green Pharmacy* 7(1): 1-6.
- Mohammed R, Mohammed S (2013) Ethnomedicinal plants of two villages in Natore district, Bangladesh. *American-Eurasian Journal of Sustainable Agriculture* 7(4): 282-289.
- Tarikul HM (2020) Plants used for bone fracture treatment in Natore, Bangladesh. *Journal of Biodiversity and Conservation* 4(3): 381-382.
- Baer HA (2004) Medical pluralism on the peruvian frontier. *The Journal of Latin American and Caribbean Anthropology* 9(1): 44-68.
- Nichter M, Vuckovic N (1994) Agenda for a critical medical anthropology. *Social Science & Medicine* 38(3): 399-408.
- Broom A, Doron A (2016) The rise of medical naturopathy: a comparison of naturopathic and biomedical education and practice in Australia. *Medical Anthropology* 35(4): 289-302.
- Gramsci A (1971) Selections from the prison notebooks. In: Q Hoare, G. Nowell Smith (Eds.), Lawrence and Wishart, London.
- Cockerham WC (2016) Medical sociology and cultural hegemony. In: A Lareau, JH Gagnon (Eds.), *Handbook of Sociology of Medical Education*, New York: Routledge p. 21-36.
- Adams V (2016) Metrics of the global sovereign: numbers and stories in global health. *Medicine Anthropology Theory* 3(3): 1-28.
- Hans AB, Merrill S, Ida S (2003) *Medical anthropology and the world system*. Greenwood Publishing Group.
- Daily Ittefaq.
- Daily Prothom Alo.

26. Somoy News.
27. Bandyopadhyay S (2008) Health and health-seeking behaviour of the Santals in the Rajshahi district of Bangladesh. *South Asian Anthropologist* 8(2): 93-100.
28. Bandyopadhyay M (2008) Exclusion, marginalisation and adversity of the traditional healers in India in the era of modernity. *South Asia research* 28(1): 33-55.
29. Bandyopadhyay A (2008) Knowledge, power, and health seeking: Or why are the poor more likely to be medically pluralistic?. *Sociology of Health & Illness* 30(2): 225-243.
30. Hadi A (2018) Ethnomedicine in healthcare practices among the rural communities of Bangladesh. *Journal of Traditional and Complementary Medicine* 8(1): 1-6.
31. Cant S, Sharma U (2014) Alternative medicine and the biopolitics of life-style. *Sociology of Health & Illness* 36(2): 199-213.

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