ISSN: 2249- 5746
International Journal of Ayurvedic and Herbal Medicine 11:3 (2021) 3953–3960
Journal homepage: http://www.interscience.org.uk
DOI:10.31142/ijahm/v11i3.01
Impact Factor: 6.012

Cross Sectional Study on the Challenges and Recommendations for Conservation of Indigenous Medicine

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Abstract: Sri Lanka had diverse forms of indigenous medicine for preserving well-being of the ancient society and a rich intangible cultural heritage associated with traditional knowledge coming from throughout the history. Sri Lankan Indigenous Medicine (SLIM) or DeshiyaChikitsa is a national heritage coming over centuries based on a series of ancient indigenous medical literature. The objective of this study was to explore the challenges and recommendations for the conservation of Sri Lankan Indigenous Medicine. The sample of the physicians was selected using purposive sampling method. Qualitative data collection methods were used and data were analyzed by Correlation Analysis under Chi Square test using SPSS statistical software. The Moneragala district in the Uva province of Sri Lanka was selected for this study as its territory is rich of different indigenous medical traditions and also endemic medicinal plants. The attitudes of indigenous physicians, not being documented of IM, commercialization of the society, endangering medicinal plants and not being developed as a profession affected conservation of IM. In statistical analysis, alternative hypotheses of above factors were accepted in highly significant manner ($p<0.001$). Based on the above results, the recommendation made in this study may provide road map to researchers for planning their strategies in conservation, sustainable use and empowering indigenous physicians.

Keywords: Sri Lankan Indigenous Medicine, *DeshiyaChikitsa,* Challenges, Deterioration, Conservation

Introduction

Sri Lanka is proud to claim to be the first country in the world to have established systematic hospitals (1). Some ancient cities of Sri Lanka; Polonnaruwa, Medirigiriya, Anuradhapura and Mihinthale still have the ruins of what many believe to be the most ancient hospitals in the world.

Historically, indigenous physicians enjoyed a noble position in the country's social hierarchy due to the royal patronage granted to them by ancient kings. From this legacy, it was stemmed a well-known Sri Lankan saying: "be a physician if you could not be the king." Indigenous medicine of Sri Lanka comprises various indigenous healing systems that have been developed within societies before the time of modern medicine were introduced to Sri Lanka.

Unfortunately, due to various reasons, the most of indigenous healing practices are not currently practiced. Suitable strategies for the conservation should be identified and implemented. In addition, there are many valuable medicine, treatment methods, beliefs and techniques in some families coming from generations which are still un-documented.

Objectives of the Study

The objective of this cross-sectional study was to study the strategies for conservation of Sri Lankan Indigenous Medicine.

Research Methodology

Ninety registered indigenous physicians were incorporated in this cross sectional studyusing purposive sampling method.Qualitative data collecting techniques were used for collecting primary data. Key informants were interviewed. The interviews and observations were conducted after receiving verbal consent andthe time and place chosen by the interviewees enabling them to express their perspectives and knowledge independently. The data were analyzed using SPSS software. The Spearman Correlation was used to interpret the data analysis.

Five-point Likert Scale was used for assessing perceptions of indigenous medical practitioners. In five-point Likert Scale, 20 statements were included assigning numerical weights for each response of the statement. The statements of strongly disagree (SD), disagree (D), neither disagree nor agree (NDNA), agree (A) and, strongly agree (SA) were weighted 1,2,3,4 and 5 respectively. A respondent's score on the final attitude scale was the sum of the weight of the response that respondent had given (2).

Results and Discussion

The total number of indigenous physicians belong to different branches living in the Moneragala District were 325. Out of them, 157 (48.30%) physicians were registered in Ayurveda Medical Council.Considering the way of gaining knowledge of indigenous medicine (mode of transmission of indigenous medical knowledge), only 7.01% of physicians have direct relationship of family lineage of indigenous medicine(*wedaparampara*), whereas 92.99% of physicians has no such inherent genealogy of indigenous medicine.Therefore, it is clear that very few numbers of physicians have been studying indigenous medicine from their own successors of medicine and their own family lineage of indigenous medicine is being gradually faded.The 94.56% of physicians were not doing treatment as their sole occupation. The vast majority of physicians practice indigenous medicine part-time which may be multi-factorial.The actual occupation of the majority of physicians was agriculture (92.99%).

Conservation of Indigenous Medicine

Table 1: Perception on Conservation of Indigenous Medicine

Statement/perception	Percentage of responses to the Likert Scale statements				
	SD	D	NDNA	A	SA
Do you believe that attitudes of indigenous physicians affected the conservation of indigenous medicine?	0.00	17.77	02.22	53.33	26.66
Do you believe that not being documented of indigenous medicine affected the conservation of indigenous medicine?	6.66	20.00	10.00	40.00	23.33
Do you believe that commercialization of the society affected the conservation of indigenous medicine?	0.00	15.55	07.77	58.88	17.77
Do you believe that endangering medicinal plants affected the conservation of indigenous medicine?	04.44	11.11	02.22	46.66	35.26
Do you believe that not being developed as a profession affected the conservation of indigenous medicine?	04.44	13.33	06.66	48.88	26.69

About 79.99% of physicians accepted that their attitudes have affected indigenous medicine negatively (Table-1). After intense discussion with the physicians, they accepted that many indigenous healers are not registered with AMC. They believed that registration in Ayurveda medical council is not essential for treating. Many of them were not in the opinion that they should follow rules and regulation imposed by the department of Ayurveda time to time. Many physicians said that they should maintain secretive nature of indigenous treatments and they cannot disclose their recipes.

The statistical analysis confirmed that there is positive relationship between deterioration of indigenous medicine and negative attitudes of indigenous physicianson indigenous medicine. The p-value is less than 0.05 alpha level. The sign of the coefficient is plus.H_0 is rejected. There is positive relationship between deterioration of indigenous medicine and negative attitudes of indigenous physicians.

This result is supported by many similar studies by different scholars. Hillenbrand (2006) reposted in his study that traditional physicians usually attempt combine social and emotional equilibrium of patient based on community rules and relationships unlike allopathic doctors who only treat disease in patient (3) (4) reported that the Buddhist monk, the school headmaster and the indigenous physician acquired respected position in the community but, some indigenous physician who is economically rich wanted their children to become allopathic doctors (4).

Nandasena (1986) explains the indigenous medicine is greatly influenced by the Buddhism; hence, indigenous medicine treats body as well as mind simultaneously (5). Indigenous medicine of Sri Lanka is unique because of the fact that its physicians treat patient but not the disease. This concept absorbed from the Buddhism and the physician's objective is to acquire merits by treating the patient, but not gaining economic benefits and fame.

In addition, he has identified other factors which are responsible for losing status of indigenous medicine are; not taking steps to conserve knowledge related to their own tradition, shifting residence on different reasons; being difficult to find building facilities to start up a dispensary, selling their buildings to Muslim and Tamil people who were less sensitive for indigenous medicine, not using new techniques to provide quick relief for ailments, gradually decreasing income from practicing medicine itself, reducing government patronage and using allopathic drugs by some indigenous physicians.

By forgoing, it is quite evident that there is positive relationship between deterioration of indigenous medicine and negative attitudes of indigenous physicians on indigenous medicine. Therefore, it is clear that indigenous physicians should be recognized their role in the society and adhere to the public expectations to be survived as a profession in the community.

Indigenous medical knowledge in Sri Lanka was transmitted verbally from generation to generation due to which the knowledge system related to indigenous medicine becomes gradually decreased. About 63.33% of respondents agreed with the fact that non-documentation of knowledge negatively affects its conservation (Table-1).According to the statistical analysis, it is revealed that there is positive relationship between conservation of indigenous medicine and not being documented its knowledge.The p-value is less than 0.05 alpha level. The sign of the coefficient is plus. H_0 is rejected.

There is positive relationship between conservation of indigenous medicine and not being documented of indigenous medicine. When asked regarding written material on their treatment, most of them replied that they did not have Ola leaf books and a few of them had hand-written few paper manuscripts of decades old. Many medicines that they use are undocumented and in their memory. They consider those medicines are highly secretive. Therefore, they gestured that documentation will their secretive nature.

Therefore, in this juncture, it may be suggested that that knowledge should be reformed with its own identity for which modern science and technology could be used. Knowledge system of indigenous medicine should be conserved as an intellectual property as well as cultural heritage in order to use it by future generations. It

should be valued by giving priority to its cultural aspect. Ola leaf manuscripts are very important not only by its medical knowledge concerned, but by cultural heritage too. Ola leaf manuscripts should be conserved by using microfilming technique etc., to prevent indigenous medicine from destroying. Indigenous medical knowledge should also be reformed based on scientific thinking.

On this context, Padmasiri (6) has reported that Ola-leaf manuscripts are the basic written materials of indigenous medicine while the rest of the knowledge remains as personnel memories (6).Therefore, considering all evidences, it can be concluded that there is positive relationship between conservation of indigenous medicine and not being documented its knowledge.

During field visits and observations done by the researcher, it was seen that many of the valuable manuscripts, ancient documents, and Ola leaf manuscripts were being left unsafe. Many of them were destroyed. Though, they accept the fact that those documents are inherent to them from their ancestors, they were neglected. Therefore, these physicians themselves are responsible for degrading the indigenous medicine. They neither safeguard their valuable documents nor handover to some responsible institution in order to conserve them for future generation.

About 76.66% of the sample reported that commercialization of the society affects the conservation of IM. When the community becomes commercialized, people are strictly limited to a busy schedule where there is less time for healthy living. Regardless of public interest, people cannot follow health maintaining instructions of indigenous medicine due to bad impacts of commercialization and development (Table-1).

The statistical analysis indicates that there is positive relationship between conservation of indigenous medicine and commercialization of society. The p-value is less than 0.05 alpha level.The sign of the coefficient is plus. H_0 is rejected. There is positive relationship between conservation of indigenous medicine and commercialization of society.

There are plenty of studies to determine that during about four centuries of European regime, livelihood of the Sinhala community was subjected to vast conversion. Premadasa reported that villages where people live with ancient customs (*Sirith-Virith*) and simple lifestyle are withstanding in up and low country of Sri Lanka. On the contrary, characteristics of Sinhala culture is rapidly deteriorated in urban areas due to various reasons such as; democratic rule, science education, spreading Christianity, English language and literature and the influence of free economy (7).

Sinhala village-culture is still survived especially in the isolated villages which are remote from urban areas. It is important to identify the special features of rural culture in those isolated villages. They are; their main livelihood is agriculture; (a) they are still engaged in traditional industries such as making earthen ware, iron industry, jewelry industry and brass carving as did in the Sinhala king's period; (b) their living is shaped with the guidance of indigenous physician, chief monk in the temple and Sinhala teacher; (c) their agriculture and industries were carried on with mutual corporation; and (d) they follow simple and charm lifestyle.

Indigenous physician renders a great service to secure rural Sinhala people with their cultural, economic and social identity. No Sinhala village is without a Sinhala physician. Not only food, clothes and shelter, health care system is needed for any nation to survive and develop. It can be thought that social status of indigenous physician was in a high position because of the fact that Buddhist monks and even ancient kings themselves were the physicians. There was an attitude which spread in every levels of the society that only physician could touch the body of the Buddha. Physicians were practiced medicine not merely as a livelihood but as an act of merit. Interrelationship between the physician and the patient were not commercialized. Physician was an essential figure in the society bearing a key role in social leadership. Indigenous physician is himself doctor and the care-giver. While treating the patient, the physician collects the raw materials, prepares the medicine, gives to the patient and takes care of the patient.

Nandasena (1986) reported that discipline is very much important aspect of Sinhala indigenous medicine, discipline is nothing but the control over mind, body and words for which *Yantra*, *Mantra*, *Pirith* chanting, and *Kem* were used (5).

The values of the Sinhala community were rapidly modernized during the colonial rule. People of privileged classes of the society condemned indigenous medicine. Urban people belonged to upper social class accepted western medicine introduced by colonial rulers. Treatment methods of indigenous medicine were not *in par* with the community where there was fast-running lifestyle and rapidly changing socio-cultural values. Hence, another reason for people to keep away from indigenous medicine was deforestation nearby villages due to colonization and agriculture resulting medicinal plants were destroyed and difficult to find out. Scientific researches on allopathic medicine were being done from the beginning where field of indigenous medicine was far behind.

Budhathoki and Kassam observed similar results in a study (8). Rikkeand Thorsen found from their study that richer people were more likely to use traditional medicine and medicinal plants. The use of traditional medicine was significantly decreased with advancing education of people in rural and peri-urban areas (9).Finally, the common assumption of researchers and policy makers on the use of traditional medicine is that poor and marginalized people are more dependent on traditional medicine.

In addition, age, education, sex and chronicity of the illness are also reported to be important determinants. Considering above all, it is concluded that there is positive relationship between conservation of indigenous medicine and commercialization of society.

About 82.22% of physicians responded that endangering medicinal plants effects on conservation of indigenous medicine. Lack of medicinal plants is multi-factorial. Deforestation due to rapid urbanization, increased population density in rural areas, and cutting trees for timber needs are few of them. Interestingly, 15.55% of respondents refused the statement (Table-1). When asked on the availability of medicinal plants; all most all physicians replied, "Medicinal plants are rapidly vanishing due to many reasons, the main problem with us is not getting Kansa (Cannabis) to prepare drugs."

Base on the statistical analysis, it is proved that there is positive relationship between conservation of indigenous medicine and endangering medicinal plants. The p-value is less than 0.05 alpha level. The sign of the coefficient is plus. $H_0$is rejected. There is positive relationship between conservation of indigenous medicine and endangering medicinal plants.

According to Vedavathy (10), medicinal plants are the core source of ethnomedicine or indigenous medicine. Therefore, there is a need for conservation of medicinal plants for the sustainable use of indigenous medicine. In this context, World Health Organization (WHO) has taken an initiative in compiling a global inventory of medicinal plants (10). WHO too recommends the countries in its Policies and Actions to develop national inventory of medicinal plants and; cultivation and conserve medicinal plants to ensure their sustainable use (11).

Therefore, factors should be identified first in order to prevent destroying essential medicinal plants. Figueiredo&Grelle (12) and Wagh& Jain (13) have reported that overexploitation, indiscriminate collection, uncontrolled deforestation, and habitat destruction affect rarity of medicinal plants worldwide. These factors need to be addressed to avoid medicinal plants to become endangered and to use them sustainably.

Indigenous medicine is highly associated with cultural and social values which are comparatively neglected by allopathic physicians. All most all physicians are simple villagers. They do not have so-called strict professional behaviour. In this context, 75.55% of indigenous physicians claimed that lack of professionalism with them is a reason for degrading indigenous medicine (Table-1).

At the field visits, it was observed that except a few physicians, majority of them did not have separate place for examining patients, physicians were not well-dressed and disciplined and they had not assigned particular

time for seeing patients. In short, there were not places at their houses in the sense of "Dispensary or *Wedagedara*".Only few of them had organized venues for treating patients. *Galabeddawedaparamparawa* had their own "hospital" having both OPD and IPD sections. Their hospital was well-equipped and manned with trained workers most of them being their own family members and close relations.

The above statistical analysis proves that there is a clear relationship between conservation of indigenous medicine and not being developed as a profession. The p-value is less than 0.05 alpha level. The sign of the coefficient is plus. H_0 is rejected. There is positive relationship between conservation of indigenous medicine and not being developed as a profession.

Not only in Sri Lanka, but also in many other countries have a similar kind of situation regarding indigenous medicine. Cappo (1983) has reported that the African traditional practitioner is also not a "medical practitioner" in the sense; it is used in modern medicine. He or she may be a farmer, hunter or angler and occasionally a herdsman (14). The payment for treatment of traditional physicians is made as a presentation of a small sum of money or a thing which is very similar as to Sri Lankan society where the service of traditional practitioners is considered honorary and free of charge.

Kaumare (1983) too reported the similar context in his study indicating Sri Lankan traditional physicians are also not full-time medical practitioners in the sense as in modern medicine, but they maybe a farmer, teacher or a Buddhist monk. Anyhow, African traditional medicine covers 80% or more of the population (15).

When questioned indigenous physicians at the field visits; "why do you not doing treatment in good way in acceptable way to the public as registered physician?" The majority of the physicians replied that due to lack of patients, they did not get adequate income for living that is the main reason for looking for another way of living. In this context, the researcher observed that the physicians who do their treatment full time and in well-organized way, they get more patients and earn satisfactory income.

Such physicians are respected and rewarded by the community. When asked, what may be the reasons for digress *Sinhala wedakama* (indigenous medicine) in your view? D.M.Kalubanda said angrily that "teaching Ayurveda in universities has destroyed *Sinhala wedakama*." According to him, graduate Ayurveda doctors who passed out from universities (he meant to say IIM and GWAI) cannot identify rare medicinal plants in rural areas which are endemic to Sri Lanka.

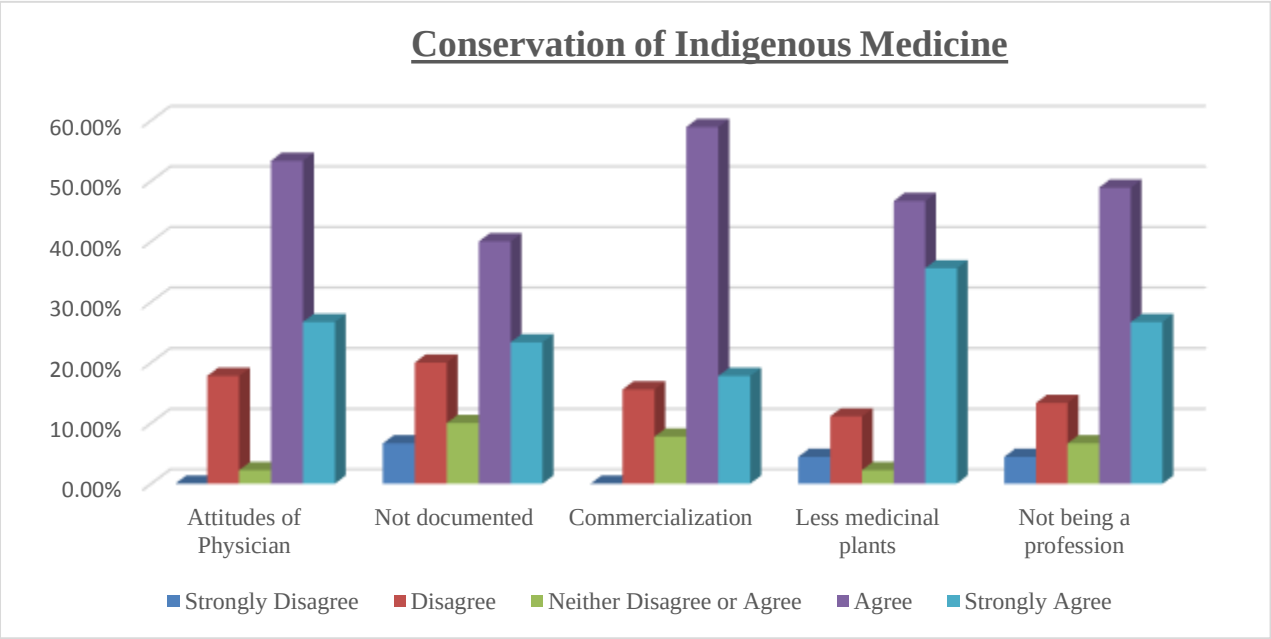

Figure -1: Summary of the response of the domain of conservation of indigenous medicine

According to the figure-1, it can be concluded that all five statements of conservation of indigenous medicine were marked either "strongly agree" or "agree" by the majority of respondents meaning those statement have positive effect on the conservation of indigenous medicine in Sri Lanka.

Conclusion

This cross-sectional study concluded that physician's attitudes, non-documentation of indigenous medical knowledge, commercialization of the society, endangering medicinal plants and not being developed as a profession affected the conservation of indigenous medicine.The study identified that making available of essential medicinal plants, providing infrastructure facilities for drug manufacturing, providing legal coverage to indigenous practices, standardization of indigenous practices and giving social recognition to indigenous physicians are needed for the sustainable use of indigenous medicine. Similarly, giving monthly payment, implementing a pension scheme to conducting, regular health education programsfor indigenous physicians; and conducting their clinics at government Ayurveda hospitals are the factors to empower indigenous medical practitioners.

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