Original article

Quantification of ethnodietetic knowledge among noninstitutionally trained Siddha practitioners of Virudhunagar District, Tamil Nadu, India

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ABSTRACT

Background: It is well known that diet plays a vital role in the pathogenesis, prevention, and management of diseases. In indigenous medical systems of India, diet is an integral component of treatment, and such knowledge is poorly documented. This study quantified the consensus about the dietary recommendations prescribed by the noninstitutionally trained Siddha practitioners of Virudhunagar District of Tamil Nadu, India.
Methods: After obtaining prior informed consent, 87 noninstitutionally trained Siddha practitioners were interviewed using the free-list method. The data were segregated into different groups and the consensus was analyzed using informant consensus factor (F_{ic}).
Results: In the case of recommended diets, blood ailments, fever, hemorrhoids, male infertility, kapha, and dermatological ailments had high F_{ic} values. In this group, 500 use-reports were recorded for the treatment of 27 illness categories. The fruits of *Vitis vinifera* (blood ailments), *Panicum sumatrense* (fever), and *Amorphophallus paeoniifolius* (hemorrhoids) were the highly recommended foods. In the case of restricted diets, dermatological ailments, jaundice, gastrointestinal, vadha, and blood ailments had high F_{ic} values and 26 illness categories were reported with 368 citations. In this category, *Solanum melongena* (dermatological ailments), *Tamarindus indica* (jaundice and anemia), and *Gallus gallus domesticus* (gastrointestinal ailments) were the important restricted foods.
Conclusion: The results of this study indicated that a major portion of local knowledge, other than that of local uses of medicinal species, is still undocumented and underutilized. If the recommendations of dietary changes take the claims from local knowledge beyond scientific evidence, the rate of adherence may increase, since these recommendations have a traditional-brand identity. This study also warrants the need of scientific analyses in some cases.

1. Introduction

In various traditional societies, food and medicine are not considered as separate entities; they have often been associated, and consumed as medicinal foods. The health benefits of traditional diets such as that of the Mediterranean have acquired considerable interest. The benefits of these diets go beyond their nutritional values to biopharmacological effects of the inherent secondary metabolites.

The traditional cereal-based Asian Indian diets were not only rich in dietary fiber, but also in other micro- and phytonutrients because they were made up of whole grains, millets, and various wild gathered vegetables [1]. Nowadays, there is an increasing interest regarding the medicinal foods, because these medicinal foods contain a wide array of biologically active ingredients that act in a synergistic way, rather than a purified molecule.

Indian cuisine contains a number of regional styles and that of the Tamils is one of the oldest traditions among them. The Sangam period literatures (300 BC—300 AD) describe various foods for different habitats as well as the rules for eating these foods. In the famous Sangam literature, Tirukkural says, "know digestion; with

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keen appetite eat what is suitable and right" (verse 944). Among Tamils, food habits are intertwined with various religious as well as medicinal beliefs, as in other traditional societies. The traditional Siddha medical system contributed much to the gastronomic principles of Tamils. Foods are classified on the basis of their taste into six groups, and they are put into two broad categories, namely, hot and cold. The gastronomy of the Tamils mainly depends on these principles. The illnesses are grouped into hot and cold, and hot foods are not given for hot illnesses. Due to urbanization, however, there is a change in the food habits, and disappearance of traditional recipes and food related principles [2].

The Siddha system of traditional medicine is practiced in Tamil Nadu, India, and in places where Tamils live. A majority of the literature regarding this system of medicine is found in the form of poems in Tamil, and thus there is an unfamiliarity with and a lack of rigorous research towards this system of medicine [3]. The Government is running colleges to teach this system of medicine; however, feeble institutionalization has resulted in a high ratio of noninstitutionally trained practitioners [4]. These noninstitutionally trained practitioners have several recipes standardized by their ancestors, but due to the reduced social status, this knowledge is on the verge of extinction.

Lifestyle changes are the integral component of treatment in traditional medical systems of India and such modifications are known as *pathiyam* (food and lifestyle that do not affect body and mind). The term *pathiyam* is even considered as one of the synonyms of cikitsita (treatment) and ancient texts noted that "if *pathya* was observed what was the need of other remedies; on the contrary, if it was not followed what remedies could do" [5]. One of the important medical treatises of the Siddha medical system, "Thaerayar Yamaga Venba says that "the patient should understand the illness and should respect the rules of *pathiyam*; otherwise the illnesses will aggravate" [6]. Prescribing the rules of *pathiyam* is essential in the Siddha system of medicine as it is considered a therapy and ally to strengthen the drug efficacy [7]; however, not many efforts have been made to document and analyze this knowledge.

2. Materials and methods

2.1. Review

Many of the ethnopharmacological field surveys concentrated only on the medicinal properties of the plants; studies are inadequate in exploring the other categories such as the dietary dimension of the biological resources [8], and this aspect is slowly gaining its importance [9]. Our previous works in this study area [3,10] have documented important medicinal plants and formulations used by the noninstitutionally trained Siddha practitioners of Virudhunagar District of Tamil Nadu. These practitioners give several dietary prescriptions to their patients and no studies have attempted to document this knowledge. The present study aimed to document and quantify the ethnodietetic knowledge among noninstitutionally trained Siddha practitioners of this district.

2.2. Methodology

2.2.1. Study area

Virudhunagar District (11° 00′ and 12°00′ N; 77°28′ and 78°50′E) is situated in the southern part of Tamil Nadu (Fig. 1) covering a part of South Western Ghats. However, forests occupy only 6.3% of the total area. Altitude of this district ranges from 380 mean sea level (m.s.l) to 1,700 m.s.l. The density of the population in this district is 413/km^2 and the rural population is high compared with the urban population. The government is also giving Siddha treatment, in eight hospitals and 16 primary health centers [10].

2.2.2. Data collection

The field surveys were conducted from February 2014 to January 2015 among the noninstitutionally trained Siddha practitioners of Virudhunagar District by SM, SE, and PP (Figs. 2 and 3). The healers were identified with the help of Siddha Vaidhiya Sangam (association of noninstitutionally trained Siddha practitioners). The Siddha practitioners who had been practicing for > 5 years and trained through noninstitutional ways were included in the survey. The selection of informants was nonrandom, purposive sampling using a snowballing technique. The purpose and nature of the survey were explained to each practitioner in simple language to establish prior informed consent. Once the consent was established, the interview was conducted from the subsequent visits. In this way, 87 noninstitutionally trained Siddha practitioners who were willing to share their knowledge were included in this survey. The interviews were conducted in local language Tamil. In the field, the data were recorded in Tamil and it was translated into English in the laboratory. Successive free listing [11] was used to gather the data from the informants using a semi-structured questionnaire.

The first part of the questionnaire contained the demographic profile of the informants and the second part of the questionnaire contained their knowledge on ethnodietetics. In the second part, the healers' knowledge regarding the symptomatology of the illnesses, diets recommended for treating the illness, ingredients, mode of preparation, and the diets that had to be restricted were documented.

The botanical authenticity of the samples was confirmed using local flora and the valid names were confirmed using a website (http://www.theplantlist.org/). The animal samples were photographed and their binomial names were confirmed with the help of Dr M. Gabriel Paulraj, Zoologist, Entomology Research Instititute, Loyola College, Chennai, India. The voucher specimens were stored in the museum at Entomology Research Institute, Loyola College, Chennai, India.

2.2.3. Data analysis

The data gathered in the field were converted into use-reports (URs) using our previously published method [4]. A UR can be defined as informant (i), which mentions the use of species (s) for treating an illness category (i). If an informant cited species "A" for treating an illness category "X", it was considered as one UR. If one cited species "A" for treating illness categories "X" and "Y", it was considered as two URs. In this way, the data were converted into URs. Then, the URs were converted into claims. A claim was defined as the use of species (s) for treating an illness category (i). The claims with a minimum two citations for treating an illness category were considered as the valid claims and the rest were considered as the singletons.

Grouping of illnesses into categories was also in accordance with our previous work [4]. With the help of an institutionally trained Siddha physician, Dr M. Logamanian, Professor, National Institute of Siddha, Chennai, the English term of the illness that came closer to the Tamil terminology was fixed and the illnesses were grouped into the illness categories, using the emic perceptions.

The consensus among the healers for prescribing *pathiyam* components to treat an illness category was assessed by using informant consensus factor (F_{ic}) (Trotter and Logan, 1986). This factor can be given as

$$F_{ic} = (N_{ur} - N_t)/(N_{ur} - 1)$$

where N_{ur} is the number of URs of informants for a particular illness category, and N_t is the number of formulations mentioned for particular illness by all informants.