



Ethnic Foods and Food based Traditional Knowledge of Fishing community in Kerala, India

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Abstract

Ethnic food systems represent the culture, traditions and customs a community follows and can be considered to be on par with the ethno botanical food and medicinal knowledge. Fishing communities also possess knowledge on the nutritional and medicinal values related to the diverse resources of the sea. Proper documentation of such systems can refurbish our food habits and can act as repositories for ensuring that these are back in the culinary practices. This communication presents some of the information that was documented from a study carried out in six coastal districts of Kerala during 2015-2016 in 47 fishing villages focussed on the various indigenous traditional knowledge practised in fishing and highlights the various traditional fish based foods in the community. Distinct beliefs regarding nutritional and medicinal use of different fishes along different places in Kerala have also been discussed in this paper.

Keywords: Food Habits, Fish, Fishermen, nandan

Introduction

Food habits of people have a direct link with culture, customs and beliefs they follow which vary spatially with the natural resource availability and environment (Pushpangadan et al., 2012). Food habits evolve based on the collective wisdom of trial and error and that knowledge is passed on from generation to generation. Ethnic/local food systems, thus evolved were found to be nutritionally rich, locally available, ecologically sound and it preserves

social embeddedness (FAO, 1997). Local food is considered as the expression of local community and here the consumer choices and producer choices are based on routines (Brunori, 2007). Recent arguments state that the ethnic foods have more link with ecological attributes rather than economic ones. Preserving or reviving the knowledge related to ethnic food systems can help in reformulating healthy food habits and development of indigenous communities without compromising the ecological sustainability. Sovereignty of such foods belongs to the indigenous community who had formulated them through their interaction with the living environment.

Fishing communities are one of the ethno-regional communities in India, who have their unique traditions and food habits. They have always lived in close association with nature. The sea, the source of their livelihood, is worshiped (*The Mother sea*) (Suryanarayan, 2005; Cannell, 2006; Guruvanshy, 2016). Fish, the most available natural resource for fishers, is an inevitable part of their daily diet (Patil, 2006; Kurien, 2003; Nayak & Vijayan, 2006). The fishing communities have developed their unique delicacies with fish and have their native understanding on the nutritional and therapeutic significance of different fish species. Fish food preparations based on the nutritional needs of different age groups and during different health conditions are also observed (Kurien, 2001).

The large varieties of fishes and a highly skilled fishermen population have made Kerala a leading producer and consumer of fish (Aerthayil, 2000). Fish is a source of livelihood and of protein for the fish workers as well as the people of Kerala and fishing plays an important part in the economy of the state. Fish remains a major nutritional mainstay in the diet of Kerala's population irrespective of their income levels, religion or social background. It is also a major endogenous symbol of the culture in Kerala. Its role in the food security of all the different

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cultural and economic segments of the domestic consumers in Kerala is indisputable (Kurien, 2001).

Several ethno botanical studies had been carried out for documentation of indigenous knowledge related to plant based foods and their nutritional significance in relation to indigenous communities but studies among fishing communities have been few. Much of the focus of earlier works has been on knowledge of fishing communities related to fishing crafts and gears, and fishing related knowledge (Swathilekshmi & Babu, 2009; Nirmale et al., 2004). In the present paper an effort has been made to document some of the ethnic foods and food based traditional knowledge of fishing communities in Kerala and tries to explore the scientific rationality behind it.

Materials and Methods

The present study was conducted in six coastal districts of Kerala viz; Ernakulam, Thrissur, Alappuzha, Kollam, Kozhikode and Kasaragod during 2015-2016. Key informant interviews and field level surveys were conducted with a semi structured interview schedule to collect the data. A total of 47 villages were covered with a sample size of 342 fisherfolk. Most of the fisherfolk selected for the survey belonged to the age category 55-80 years. The data collected through the field surveys were validated through focus group discussion conducted in different fishing villages. Attempts were also made to validate the information through available literature.

Results and Discussion

Fish is an inevitable component in the daily diet of coastal folk of Kerala. The styles of cooking and the other ingredients used vary from place to place. Locally available ingredients are generally used. The most common preparation is the fish curry with few variations in the ingredients observed in northern and southern parts of the state. While in northern Kerala, Malabar tamarind, *Garcinia gummi-gutta* (Naveen & Krishnakumar, 2013) is a main ingredient, in southern Kerala, the Indian tamarind, *Tamarindus indica* is used (Bindu et al., 2010). Use of coconut in fish curry is a common practice noticed in Kasaragod area but use of coconut or any other oil is avoided, where the ingredients like coconut, chilly, coriander seeds, turmeric, shallots and Malabar tamarind are coarsely ground and boiled with fish and salt. A similar preparation with

red chilli, Indian Tamarind, ginger, curry leaves and salt along with fish is seen in south Kerala. This is an important dish for functions and has a longer shelf life at ambient temperatures and can be prepared and preserved one or two days prior to an event, needing only occasional heating before serving. This curry can be kept outside at normal room temperature with occasional reheating in mornings before serving. In some fish curries raw mango slices are added as a substitute to Indian tamarind for getting sourness.

Coconut oil is however excessively used in fish preparations in Cochin area. The use of coconut is comparatively less in south when compared to fishing villages in north Kerala (Bindu et al., 2010). Addition of fresh coconut milk in fish curries is preferred in Alappuzha in south Kerala. The fish curry is still largely prepared in traditional earthen pots or vessels (Bindu et al., 2010). Apart from curries, dry roasted small and medium sized fish locally termed as "*Meen chuttath*" is a delicacy of Alappuzha. Dishes made out of shell fishes like prawns and mussels (*Kallumakkai*) are more preferred in northern Kerala. *Meen Aviyal* is another delicacy in fishing villages of Aroor and Arukutti of Alappuzha district with juvenile oil sardines (*Sardinella longiceps*) and anchovies (*Stolephorus spp.*) being preferred ingredients. Generally a fine paste of broiled ingredients like coriander, chillies, turmeric, onions and garlic is mixed with ground coconut, mango pieces, and fishes goes into the preparation of *Meen Aviyal*. Small fish also goes into *Meen peera* which is common in almost all fishing villages.

Snack foods from fish like cutlet are commonly seen but there are typical snack fish foods observed in fishing villages. This includes the *Nandan vada* made from the *nandan* (*Ambassis spp.*) seen in Perinjanam area in Thrissur district, Kerala. The preparation includes a main ingredient of snacks like bengal gram (soaked and ground) with onions, ginger and spices. The mixture is rolled into balls and flattened like traditional '*vadas*' and deep fried in coconut oil. Similar preparation with prawns (locally called *Chemmeen vada*) is also observed. Healthy steamed fish balls using *nandan* made of rice flour and cooked and mashed fish are fed to children and this is a rich source of calcium.

In areas of Nattika, Thrissur during heavy catch of shrimp a product locally known as '*Chemmeen*

parippu' is prepared. Small shrimps *Metapenaeus dobsonii* locally known as *thelli chemmeen* are cooked in brine. After draining the water the cooked shrimps are sun dried. The dried shrimps are stuffed in jute sacks and threshed down with wooden sticks so that the head and tail separates out. The shrimps are later winnowed out on traditional sieves and the retained edible portion is referred locally as '*Chemmeen parippu'* which was earlier marketed to other regions. *Chemmeen roti* is prepared by making a dough of either 'rava' or rice flour kneaded with mashed *chemmeen parippu*. Small shrimps are also cleaned and cooked along with raw banana and gourds like ridge gourd and bottle gourd in Cochin area.

Kappa and *meen puzhuku* is a special preparation made along Manjeshwaram fishing village in Kasaragod district. *Kappa* is the local name of Tapioca (*Manihot esculenta*). Though *kappa puzhuku* is common all along the state, this is rare in combination with fish. The cooked tapioca (with salt and turmeric) is mixed with separately cooked sardines (with spices like chilly and turmeric, Malabar tamarinds and salt). The sardines once cooked are handpicked and shaken so that only the flesh falls back into the preparation leaving the bones out. The usual seasoning with mustard, curry leaves and dried red chillies in coconut oil completes the preparation.

Pickling is a common preservation technique and fishes such as oil sardine are pickled in most of the coastal districts of Kerala. Fish marinated with spices is deep fried till crispy and mixed with sautéed ginger, garlic and green chillies mixed with spice powders like chilly, fenugreek, cumin and asafoetida. This is stored in homemade vinegar and gingely oil which increases shelf life.

Apart from the unique fish and shellfish delicacies, the fisher community also had distinct beliefs regarding nutritional and medicinal use of different fishes (Pinto et al., 2015). This includes the belief that sardine oil is good for children and pregnant women. Nearly 30 percent of fatty acids in sardine oil consists of Poly Unsaturated Fatty acids (PUFAs) which are very important for brain growth and development of foetus, new born infants and children (Navaneethan et al., 2014; Lo et al., 2012). Fishermen also believe that children should not be fed with mackerel as it leads to allergic reactions. The histamine content in scombroid fishes such as

mackerel which can create allergies in certain individuals (Taylor et al., 1989) is well documented.

Another belief prevailing among the fishermen is that consumption of fishes like mackerel, catfishes and shellfishes like crabs and prawns, and squids delays wound healing. However, the veracity of the belief needs to be further explored as seafood such as crabs and prawns are rich in arginine which helps boost healing as arginine assists in immune function and collagen growth (Barbul et al., 1990). Dried cuttlefish ink sacs mixed with milk to a paste formulation are also applied to wounds and is believed to aid in healing. Jridi et al. (2015) did the wound-healing studies by topical application of collagen based gel from cuttle fish and reported enhanced wound healing activity. The gas chromatography-mass spectrometry (GC-MS) of cuttle fish (*Sepia pharaonis*) ink extract were conducted and the compounds identified were having antimicrobial, antifungal, anti-inflammatory action (Leonoline et al., 2020) Similarly chitin and sepia ink hybrid hemostatic sponge have the potential to be developed into clinical drugs of hemostatic agents for the stimulation of healing (Zhang et al., 2014).

The fish locally known as *Chumakurichi*, silver bellies (*mullan*) is believed to have the power of curing asthma related problems. The fish is cleaned, coated lightly with salt and dry roasted on fire and is given to children and elders alike as a cure cough problems. Sea horses (*Hippocampus spp*) locally known as *kadalkuthira* is dried, powdered, mixed with honey and consumed as a cure for asthma. Biomedical validation studies of seahorses established that they have the ability to cure arthritis and its associated inflammation by the mechanism of Cathepsin-derived peptide (Kumaravel et al., 2012).

Silver bellies (*mullan*) is given to lactating mothers as it is believed to increase milk production. The leionathids are rich in calcium, phosphorous and high quality protein (Pauly, 1981; Gopakumar, 1997 & Ramachandran, 2003). *Cynoglossus spp.* locally known as '*nangu'* is cleaned, wrapped in a banana leaf and is roasted. It is popularly referred as '*nanguvaatiyath'* and is given to ladies soon after delivery as it is believed to heal the internal and external wounds quickly. Cooked shark meat curry is fed to women post-delivery as it is also believed to hasten wound healing. Shark cartilage contains pure collagen protein, plus essential and non-essential amino acids which are necessary for

elasticity of the tissues, healing of cracked skin, torn ligaments and tendons and growth and rejuvenation of skin and connective tissues (Bruno, 2009). It is also a good source of minerals like calcium, phosphorous, magnesium, potassium, zinc, iron, chromium, manganese and silica (Murphy, 2012).

Ethnic foods are continuing representations of the culture, traditions and customs of communities. Fish which is a resource that fishing communities are closely associated with thus forms an important part of their food habits as well. A careful observation of these reveals the practical utility and collective wisdom gained over time. Deeper inquiry can lead to understanding the scientific rationale behind beliefs associated with food and food habits. Proper documentation of such systems and the learning from these can be useful in evolving and fast changing food habits and may lead to shifts to healthy eating habits. It is also important in a culturally diverse country like India for creating greater awareness.

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