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Piper betle L.: A major Medicinal and Cultural plant of Bhanpura Tehsil of Mandsaur District (Madhya Pradesh)

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Abstract

In this paper we studied the traditional medicinal uses and cultural values of betelvine. Betelvine have been playing an important role in the development of culture. The heart shaped betel leaves are described in ancient Indian texts. Betel leaves (paan) used in conjunction with slaked lime paste, Kattha and areca nut are almost universally employed as a stimulator. Researchers found that the leaf extract is very effective in numerous biological activities like cardiovascular, antidiabetic, bronchial disorders, antiinflammatory, anticancerous, antiulcerous, immunomodulatory, hepatoprotective, antimicrobial *etc*. During the survey, we collected information by interviews with local farmer, regional herbal medical practitioners, Vaidyas, Traditional healers and shopkeepers of Bhanpura. Information about economical aspects and marketing problems of betel leaves in Bhanpura tehsil were collected also.

In our study area people are used betelvine as the remedy for bad breath, cough and cold in children, wound healing, mouth ulcers, gastro protective, throat cleaning and inflammation etc. It has great curative properties. It is the base of the economy of Bhanpura and plays an important role in providing employment to a large number of local people. Chewing tobacco with paan is harmful for our health, so it is necessary to educated people about negative effect on health.

Keywords: Bhanpura, biological activities, betelvine, ethnomedicinal, paan, *Piper betle*

Introduction

Betelvine is one of the most commercial crops cultivated in Bhanpura. Betelvine is an evergreen, vegetatively propagated perennial climber with heart-shaped leaves. It is grown in tropics and subtropics for its leaves that are used as a chewing stimulant. (Bajpai *et al.,* 2012). In local dialect betelvine is known as Nagarbel. During 6th century AD words like Tambuladayini, Tambuladyaka, Tambuladhikari and Tambulika *etc*. used in different texts (Kumar, 1999). Researchers found the traces of betel leaves in 'Spirit Caves' of Northwest Thailand, which dates back to 5500 to 7000 BC. In that period the agricultural system was not well structured and only few types of cultivated plants were known. Some ancient texts showed that offering betel leaf to King and Nobles was a custom in the Indian tradition. Habit of betel chewing is still widespread across India and other countries of Southeast Asia (Gutierrez, 2015). Whole plant of betelvine has been used for both medicinal and traditional purpose; In Indian traditional medicinal system betelvine has been used for its remedial properties since ancient times.

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It has long been used by numerous cultures for the treatment of bad breath and various other diseases (Chaveerach *et al.,* 2006).

Betel leaves (paan) used in conjunction with slaked lime paste, kattha and areca nut are almost universally employed as a masticator. It may be difficult to clearly ascertain the period when the tradition of paan chewing was started. However, its mention in the early Sanskrit texts reflects the antiquity of this practice (Pradhan *et al,* 2013). It is an old belief that medicinal property of a plant is reflected by its shape and taste so betel leaf has been used for heart problems. In other medicinal systems like Unani and Chinese, betel leaves are also claimed to have curative properties and used for the treatment of various diseases (Kumar *et al*., 2010).

Researchers found that the leaf extract or purified compound from betelvine is very effective in numerous biological activities like cardiovascular, antidiabetic, bronchial disorders, antiinflammatory, anticancerous, antiulcerous, antileishmanial, immunomodulatory, hepatoprotective, antimicrobial, antiinfective, radioprotective *etc*. (Chakraborty and Shah, 2011).

The Study Area

Bhanpura is a tehsil of Mandsaur district of Madhya Pradesh, India. It lies between latitude 24.52°N and longitude 75.73°E in the North western part of Madhya Pradesh at 384 meters above the mean sea level. It is situated at 127 km north-east from Mandsaur and 33 km south-east of Gandhi Sagar Dam at the base of Malwa plateau.

Methodology

Extensive surveys were done to collect information about the cultivation practices and medicinal properties of paan, from 2014 to 2018 (Figure 1). During the survey we collected information by interviews with local farmer, Ayurvedic doctors, Vaidyas, Traditional healers and shopkeepers of Bhanpura. Information about economical aspects and marketing problems of betel leaves in Bhanpura tehsil were collected also.

Results and Discussion

Betelvine is known as a potent source for many curative usages. The betel leaves are the rich source of nutrients and phytochemicals. Betel leaves have long been used for treatment of various diseases. Some common ethnomedicinal uses of betel leaf are tabulated in Table 1.

Medicinal uses of betel leaves have been described in ancient Indian literature like Susrta Samhita, Bhavaprakash, *etc.* (Kumar, 199). Akter (2004) reported that paan has been used as tonic for brain, heart and liver in Unani system of medicine. Arambewela (2005) reported antimicrobial activity of six cultivar of betelvine in Shri Lanka. Chaveerach *et al.* (2006) described therapeutic values of genus *piper* in Thailand. They found antiseptic and antioxidant properties of betel leaves. In Thailand, the fresh leaves are used as an antiflatulent material. Chakraborty and Shah (2011) reported that leaf extracts showed antimicrobial, antioxidative and antihemolytic activity. Agarwal *et al.* (2012) and Chanda *et al.* (2013) found antimicrobial activity of paan in their study. Some researchers have awarded patents for proving impact of betelvine in biological activities (Toprani *et al.,* 2013).

In over surveys we found that paan has great cultural value also. According to the famous historian Dr P. K. Bhatt, history of Bhanpura has been correlated with paan cultivation. It is believed that paan cultivation was initiated by Bhana people. They came from nearby places and settled in this area in the seventeenth century. The history of betelvine cultivation in Bhanpura is approximately 400 years old. Paan is one of the most loving plants of God. A temple of goddess of paan is situated near the forest of Bhanpura known as 'Nagarmata' temple. Betelvine field (Panwari) is regarded as the temple as people leave their footwears before entering the panwari. This symbolizes the maximum care and maintenance of cleanliness in the panwari.

Conclusion

Piper betle has great curative properties, it is the base of the economy of Bhanpura and plays an important role in providing employment to a large number of local people. Numerous ancient Indian literatures signify the importance of betel leaf in our social environment. It is a compulsory element of all type of rituals and ceremony form birth to death. Betel leaves are served on the social, cultural and religious occasions like Pooja, marriage and honoring etc.

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Betelvine have a great potential for novel therapeutic usage. Ethnomedicinal profile of betelvine reveals that the future usage of it as a promising source for treating various diseases. In Mandsaur district chewing tobacco with paan is a common habit, it is harmful for our health, so it is necessary to educated people about negative effect on health.

Fig. 1: Survey of betelvine field

Table 1: Ethnomedicinal uses of betelvine

S/ No.	Uses	Route of administration
1	Bad breath	Conjunction with lime, kattha and areca nut (Paan Bida)
2	Cough and Cold in children	Decoction of petiole
3	Wound healing	Freshly crushed leaves apply on infected part
4	Mouth ulcers	Conjunction without lime, known as 'Ooltah paan'
5	Gastro protective	Paan Bida with coconut slice, cardamom, menthol etc.
6	Throat cleaning	Paan Bida with powdered liquorice
7	Inflammation	Freshly crushed leaves apply on infected part
8	Cough	Paan Bida with roasted clove
9	Aphrodisiac	Paan Bida

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