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Psidium guajava L. (Guava) as traditional medicine of Churachandpur district, Manipur

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Abstract

Psidium guajava L. commonly known as Guava is a medicinal plant belonging to the family Myrtaceae. It is an important food crop and medicinal plant available in tropical and subtropical countries, widely used in food and folk medicines around the world. It is widely distributed throughout India. P. guajava L., or guava is popularly used as traditional medicine in the treatment of different ailments. The aim of this study was documentation by collecting data from questionnaire respondents and local headman and selected informants related to the uses of P. guajava as traditional medicine. The report showed that different parts of guava used included the leaves, flowers, fruits, stems/barks and roots. Of these, the leaves exhibited maximum medicinal application and the minimum was exhibited by the flower. Among the ailments treated by the application of P. guajava, stomach and intestinal related problems exhibited maximum treatment, followed by used in lowering high blood pressure. In addition to document the traditional values, the present work also attempts to generate interest among the masses regarding its potential in preventing and treating several common diseases.

Keywords: *Psidium guajava L., Churachandpur, medicinal*

INTRODUCTION

Psidium guajava L., popularly known as guava is one of the most important tropical fruits and claims superiority over other fruits by virtue of its commercial, medicinal and nutritional values. It belongs to the Myrtaceae family (Shruthi *et al.,* 2013). It has about 133 genera and more than 3,800 species (Arima and Damno, 2002). Native to tropical areas from southern Mexico to northern South America, guava trees have been grown by countries having tropical and subtropical climates, thus allowing production around the world (Begum *et al.,* 2005). The two most common varieties of guava are the red (*P. guajava var. pomifera*) and the white (*P. guajava var. pyrifera*). *P. guajava* is a large dicotyledonous shrub, or small evergreen tree, generally 3-10 m high with many branches. The stems are crooked and the bark is light to reddish brown, thin, smooth and continuously flaking. Root system is generally superficial and very extensive, frequently extending well beyond the canopy. Each has some deep roots but no distinct taproot (Limsong *et al,* 2004). The leaves are opposite and simple; stipules are absent, petiole short, 3-10 mm long; blade oblong to elliptic, veins prominent, gland dotted (Lozaya *et al.*, 2002). The flowers are white, incurved petals, 2 or 3 in the leaf axils; they are fragrant, with four to six petals and yellow anthers. The fruit is small, 3 to 6 cm long, pear-shaped, reddish-yellow when ripe. The fruit contains several small seeds and consists of a fleshy pericarp and seed cavity with pulp (Matsuzaki *et al.*, 2010; Metwally *et al.*, 2010; Mukhta *et al.*, 2010). It has been used traditionally as a homoeopathic herb throughout the world against various diseases (Kaur *et al.*, 2018). Traditionally, preparations of the leaves have been used in folk medicine in several countries, mainly as anti-diarrheal remedy (Correa *et al.*, 2009). Depending upon the illness, the application of the remedy is either oral or topical. The consumption of decoction, infusion, and boiled preparations is the most common way to overcome several disorders, such as rheumatism, diarrhea, diabetes mellitus, and cough, in India (Metwally *et al.*, 2010; Mukhta *et al.*, 2010). It has been used traditionally as a homoeopathic herb throughout the world against various diseases (Kaur *et al.*, 2018). The study site selected Churachandpur district, Manipur has different ethnic tribes that are strongly attached with plant based medicines for treating diseases. Manipur, one of the eight North-Eastern states of India, is a hub of medicinal plant and falls under the Indo- Myanmar biodiversity hotspot region. Traditional health care practices are still being extensively followed in the region. Therefore, the aim of the study was to survey and document considerable information on traditional uses of guava by the different tribes of Churachandpur district, Manipur, India.

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Methods:

Study site

The study site got its name "Churachandpur" from the Manipur king Churachand Maharaja. It is home to ethnic groups like the Chin, Gangte, Hmar, Kom, Kuki, Mizo, Naga, Paite, Vaiphei, Simte and Zomi. It is situated in the south west part of Manipur. The district is bounded by Senapati district in the north, Bishnupur and Chandel districts in the east, Assam and Mizoram in the west and Myanmar on the south. It lies between 23° 55'N and 24° 30'N latitudes and between 92° 59'E to 93° 50'E longitudes. The topography of the district is hilly. The total area of the district is 4,570 sq. km. It is the largest district in Manipur. The topography of the district is hilly and it is located 60 km south of the capital Imphal.

For the present investigation, literature studies were done from January to May, 2023. Survey was carried out for a period of one year from June, 2023 to May, 2024. Informal meetings with headman were arranged to collect data on the traditional uses of guava in the headman's house or community halls or selected informant's house. Home visits along with local people were also done to collect data on each of the key informants. The key informants were interviewed with pre-set questionnaires. In addition to this, questionnaire was prepared and responded by 161 respondents among the age group between 17 to 80 years. Aged people were consulted for confirmation of the traditional knowledge. Parts used, mode of preparations and medicinal applications were collected and documented.

Results:

The results showed that *P. guajava* exhibited different uses by the study people. Figure 1 depicts the different parts of *P. guajava* used as traditional medicines. Maximum parts was constituted by the leaves (63%), followed by the fruits (25%), bark (7 %), roots (4%) and the minimum used was in the flower (1%). The mode of preparations were in the form of decoction (leaves and root), drinks (raw/ boiled), topical, oral (raw (leaves, stems, fruits and roots). The mode of preparation is reported to be maximum in decoction (55%) and the least was reported in the fresh flowers (13%) as depicted in figure 2. Table 1 depicts the parts used, mode of preparations and its uses as traditional medicine.

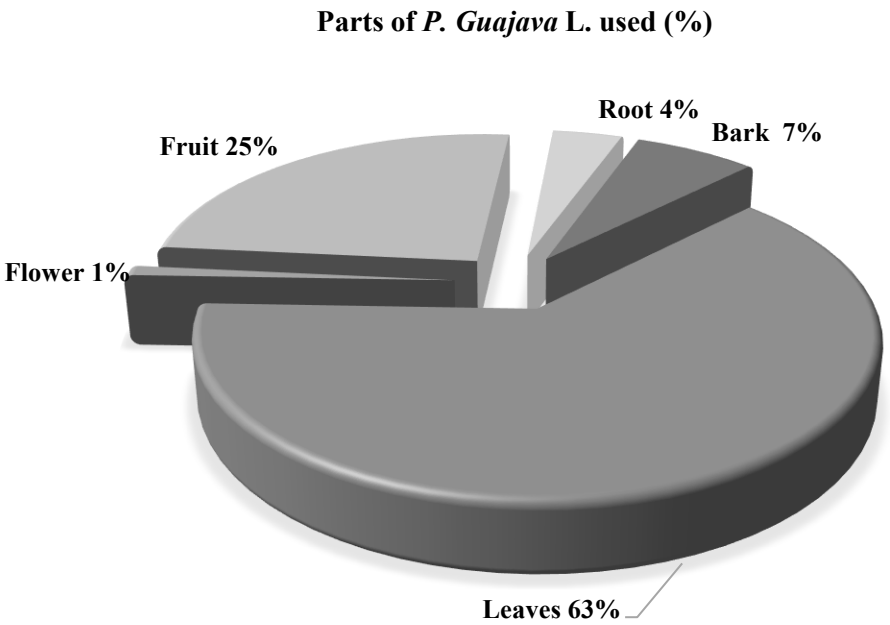

Figure 1: Different parts of *P. guajava* L. used (%)

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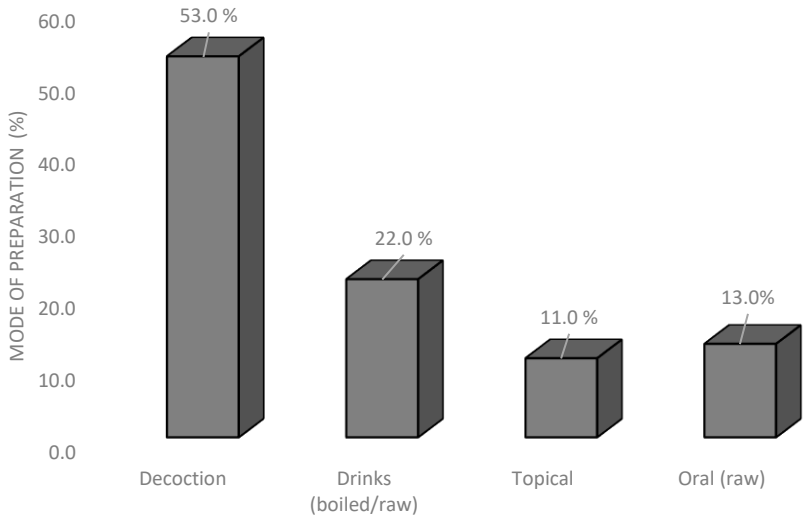

Figure 2. Different modes of preparation of *P. guajava* L (%)

Table 1: Different parts used, mode of preparations and medicinal applications of *P. guajava* L.

Sl. No.	Plant partsused	Mode of preparation	Traditional medicine
1	Leaves	Decoction: Fresh leaves are picked and washed properly. After air dried, they are smashed with mortar and pestle to get the decoction.	In the treatment of: 1) stomach ache 2) intestinal disorders 3) digestion 4) constipation 5) dysentery 6) rheumatism 7) malaria 8) antibiotic in the form of poultice for wounds
		Oral	1) mouth ulcers 2) tooth ache It is taken to treat: 1) diarrhea 2) soothing cold and cough
		Boiled leaves	3) lower high blood pressure 4) to improve skin complexion 5) to reduce blood sugar 6) to ease menstrual cramps 7) to lose weight 8) jaundice
		Topical	It is also applied topically as: 1) hair rinse to reduce hair loss and promote growth 2) face toner to refresh and tighten skin 3) mouthwash to alleviate gum pain 4) to improve skin complexion 5) acne
2	Fruit	Matured fruits are boiled. The water is drained and cooled. It is then mashed and drained through thin cloths and ready for consumption.	The fruit (young and ripened) is eaten in : 1) digestion 2) dehydration 3) lowering high blood pressure 4) stomach and intestinal pains 5) improves skin complexion

			6) as source of vitamin C
3	Stem/Bark	The young stem (shoots) is eaten as raw for improving:	1) diarrhea 2) high blood sugar 3) immunity 4) ulcer wounds (as an astringent)
4	Roots	Decoction	1) to relieve diarrhea 2) cough 3) stomach ache 4) dysentery 5) toothache 6) indigestion 7) constipation
5	Flowers	The flowers are crushed	1) to cure eye sore

Conclusion: The result suggests that in Churachandpur district, the local availability of *P. guajava* (guava) and the strong connection of the people with nature may contribute to the wide used in traditional medicine despite available medical facilities. This practice serves as a form of traditional documentation, with the plant's observed therapeutic potential warranting further pharmacodynamic, pharmacokinetic, and clinical investigation to fully understand and utilize its medicinal properties.

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