India is one of the richest countries in traditional knowledge, because of its ambient biodiversity, variety of habitats and rich ethnic divergence. This age old wisdom originated in close association with nature and validated in the laboratory of life, even before the advent of formal scientific era. Thus we have had well-established local health tradition still relevant in indigenous healthcare system.

Judiveera is a herbomineral preparation of Datura leaf, pieces of arecanut, catechu and lime wrapped with betel leaf, used for the treatment of malaria by rural and tribal medicine men of the districts Balrampur, Gonda and adjoining regions of Uttar Pradesh. The communication embodies method of Judiveera preparation, doses, mode of administration, result, discussion and conclusion on various aspects of the formulation.

Keywords: Ethnomedicine, Traditional remedy, Judiveera. Malaria, Terai region, Uttar Pradesh

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Malaria has been a scourge of human beings since ancient times; it has caused an enormous amount of illness and innumerable deaths, especially in tropical and subtropical regions of the world. Sub Himalayan Terai region of India is very badly affected by malaria because it serves as paradise for the breeding and rearing of mosquitoes. It is caused by species of Plasmodium, a blood parasite. About 60 species of Plasmodium are known to cause malaria in human and other animals. Four species are known to cause malaria in human, diagnosed by periodic recurrence of chill-and-fever, which repeats depending on the species of parasite. The transmission of disease, as far as known is through the bite of female anopheles mosquito. Man is the principal host while mosquito is the secondary or intermediate host which acts as vector. The tug of war between rural and tribal (Tharu) inhabitants of Terai region and malaria is age old. Various preparations are being used to treat malarial fever by rural and tribal medicine men of districts Balrampur, Gonda and adjoining regions. The family of author is practicing one such formulation, Judiveera at village Tajpur, district Gonda.

Judiveera in Hindi / Awadhi dialect is made up of two words; Judi = chill and veera = a masticatory preparation containing pieces of arecanut, catechu, lime with or without tobacco wrapped with betel leaf, offered in the society as a symbol of affection, love and honour. Thus, Judiveera is a herbomineral masticatory preparation; consisting of arecanut, catechu, lime and leaf of Datura wrapped with betel leaf, which exerts remedial effect on patients suffering from malaria. The paper deals with method of preparation, doses, mode of administration, discussion and results on the various aspects of the Judiveera.

Methodology
A normal sized fresh leaf of either Datura innoxia Mill or D. stramonium L. (Solanaceae) is divided into 8-10 equal parts. One part of the leaf is cut into small pieces and put into veera, containing few pieces of arecanut, catechu, and lime wrapped with a fresh betel leaf. Mature (older) Datura leaves are given to adult patients; however, tender (younger) leaves are given to younger patients suffering from malarial fever. Judiveera is chewed by the patient about half an hour before the time of malarial attack. 3–4 such doses are sufficient to cure the malaria completely and the patient regains normal health conditions.

Results and discussion
Administration of Judiveera stops the chill and fever instantly and prevents its recurrence. Leaves of D. innoxia and D. stramonium are equally effective in the treatment of malaria through this recipe. The chief constituent of Judiveera is the leaf of Datura, which
contains alkaloids, laevohyocamine, hyoscine or scopolamine and traces of atropine. The distribution of alkaloids in the plant is not uniform, some are concentrated in the roots, others in the seeds still other in the bark and so on. D. innoxia is a source of scopolamine, a cerebral depressant useful in agitated or maniacal conditions. Leaves and flowering tops of D. stramonium constitute the drug stramonium, hyoscamine as the chief alkaloid. They are narcotic, antispasmodic, mydriatic and anodyne. Leaves are used in cigarettes for treating asthma. Chief ingredient of Kanakasva seeds are quite often employed for homicidal purposes. The alkaloids of Datura stimulate higher centres of the brain and then the motor centres. They inhibit secretion of sweat and saliva, dilate cutaneous blood vessels, pupils and stimulate heat regulating centre situated in the floor of the third ventricle of brain. The initial stimulation is followed by depression and paralysis of the vital centres in the medulla. Although various medicinal and narcotic uses of different parts of Datura are mentioned, however, use of its leaves in such a novel way is innovative.

The use of betel leaf (Piper betel L., Piperaceae) is perhaps due to its aromatic, digestive. stimulant and carminative properties. Studies on the physiological effects of chewing betel leaves have shown the excitation of salivary glands and irritation of mucous membrane of the mouth resulting into greater salivation. This property counteracts the inhibition of saliva secretion by Datura alkaloids, thus prevents drying and bitter taste of mouth and brings well being and pleasant odour with slight degree of stimulation. The betel leaves are also good source of vitamin B-complex, vitamin-C, carotene and calcium. Arecanut (Areca catechu L., (Areaceae) chewing promotes salivation, improves digestion and acts as stimulant and carminative. The stimulating or slightly intoxicating effect on the central nervous system is due to the alkaloid arecoline (0.1-0.4%) present in the arecanut. This stimulating property counteracts the depressing effect of the alkaloids of Datura. Catechu obtained from the heart wood of Acacia catechu Willd., (Mimosaceae) contains much amount of tannin, which acts as adsorbent for the alkaloids & lime (calcium) and decreases activity of poisons. Thus, catechu and lime together moderate toxicity of different ingredients of Judiveera.

Conclusion

Judiveera prevents instant chill and fever by stimulating heat regulating centre of the brain. But which active principal in what way acts against species of Plasmodium is a matter of further investigation. However, all the ingredients have beautiful check and balance mechanism to avoid unwanted effects of alkaloids of Datura. It is, therefore, concluded that Judiveera, a herbomineral preparation for the treatment of malarial fever is an excellent, safe, easily available, cost effective, natural remedy, which can be safely used under medical supervision in malaria, to save the life of millions of poor people. Its commercialization on large scale can be done through proper biochemical, pharmacological and toxicological scrutiny.

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