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ANTI-FLATULENT ACTIVITY OF SIDDHA FORMULATION *KATTU MAANTHA KUDINEER* IN WISTER RATS

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ABSTRACT

Siddha medicine is one of the ancient system of Indian medicine. Herbal remedies are given first preference in our system. Functional dyspepsia is a major health problem in all over the world among childrens. The frequency of Functional dyspepsia reached a percentage of 70%. The most common complaint in children aged late childhood and adolescent. Doctors may prescribe antacid, H₂ blockers, prokinetics which produce side effects like constipation, diarrhea, headace, dry mouth, runningnose, dryskin. So the anti-flatulent activity of *kattu maantha kudineer* was experimented in rats by chicken pea method. The study results concluded that the drug *kattu maantha kudineer* has got significant anti-flatulent activity.

KEYWORDS

Anti-flatulent, *Kattu maantha kudineer*, Functional dyspepsia and Siddha.

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INTRODUCTION

The Siddha system of medicine which has been cultivated with the Dravidian culture is oldest the classical tamil. *Siddhars* are the founding fathers of siddha system of medicine. They were open minded spiritual scientists of our Tamil land, who were always willing to exchange ideas with they are counter parts. The siddha system is described about 4448 types of disease, medicinal remedies, prevention and rejuvenative therapies. Main concept of our medicinal system is “Food as a medicine, medicine as a food”. The great *Siddhars* diagnosed

disease using *Envagaithervu* (*naa, niram, mozhi, vizhi, sparism, malam, moothiram and naadi*).

According to them, the administration of the Siddha medicine was classified into two classes 1) Internal medicine 2) External medicine.

1. Internal medicine was used through the oral route and further classified in to 32 categories based on their form, methods of preparation, shelf life, etc.e.g. *Kudineer, Choornam, Kuligai*.
2. External medicine was classified in to 32 types certain forms of drugs and also applications like nasal, and ear drops and also special therapies like *Thokkanam*(Massage), (*Attai Vidal*) leech application. In *Kuzhanthaimaruthuvam* disease classified into two categories *akkakarananoigal* (internal) and *purakkaranoigal* (external diseases).

Here in *akakarananoigal*, *kattumaantham* shows symptoms similar to functional dyspepsia which is specially taken for the dissertation, this is encountered by a large population of children today and limits their daily activities. Functional dyspepsia (Indigestion) is a collective term for any symptoms thought to originate from the upper gastro intestinal tract. It encompasses many different symptoms and disorders including some arise outside the digestive system. This can be described as non-ulcer dyspepsia, pseudo-ulcer syndrome, pyloro-duodenal irritability, nervous dyspepsia, or gastritis. Functional dyspepsia is characterized by impairment of the power of function of digestion, usually applied to epigastric discomfort following meals. Dyspepsia is a condition of farinaceous malnutrition found in badly nourished infants who are fed with solution of polished grains¹.

The frequency of functional dyspepsia in childhood reached a percentage 70%. The most common complaint in children aged late childhood and adolescent. It is a condition of farinaceous malnutrition found in badly nourished infants, who are fed mostly on solution of polished rice powder². Nearly 25% of population has abdominal discomfort at least 6 times yearly, but only 10-20%

consults Physician. Functional Dyspepsia accounts for 60% of Pediatric cases³.

The clinical features of functional dyspepsia correlates with the symptoms of *kattumaantham* like abdominal pain, excessive sweating, diarrhoea, weight Loss, feeling of gastric fullness, constipation, pellet-like stools, fever, lethargy, head ache described in siddha text. In siddha literature *kattumaantham* is one of the twenty one types of *maantham* that occurs in children. The medicine was chosen for treatment and management of the *kattumaantham* was *kattu maantha kudineer*⁴ dosage 15-30 ml, twice a day, before meals for seven days. The physico chemical analysis shows that it contains tannins, saponin, quinones, flavonoids, terpenoids, coumarins, steroids, pH 4.9, moisture 1.3%, ash value 32.21%, crude fiber 30.42. Acute toxicological studies shows that it has no significant toxic effect.

MATERIAL AND METHODS

Sop of *kattu maantha kudineer*

*Kattu maantha kudineer*⁴ is a herbal siddha formulation comprising of ten different types of herbs like *Poduthalaierkku* (*phyla nodiflora*) *Maelaierkku* (*Mangniferaindica*), *Puliyamerkku* (*Tamarindusindica*), *vembuerkku* (*Azadirachtaindica*), *Nunaerkku* (*Morindatinctoria*), *Veliparuthierkku* (*Pergulariadaemia*), *Nochierkku* (*Vitexnegundo*), *Poonda* (*Allium sativum*), *Tippili* (*Piper longum*), *Omam* (*Carumcopticum*). The raw drugs were identified and authenticated by the botony department in siddha central research institute Arumbakkam, Chennai. The purified raw drugs are made into course powder. The trial drug *Kattu maantha kudineer* is stored in clean dry air tight container and is dispensed to patients in pockets.

Germination of chickpea seeds

Chickpea seeds were obtained from local market and were identified by a botanist. The seeds were washed and soaked in water for overnight. The soaked seeds were rinsed and placed in commercially available sprout maker and allowed to sprout for two days. Fresh sprouts were used in the

preparation of respective experimental diet on a daily basis. The same batch of the seeds was used throughout the experimental period.

Chemical, reagents and animals

All chemicals and reagents were obtained from sigma chemical Ltd, USA. All wister rats weighing about 220-250 gms was obtained from the animal house of king institute of preventive medicine, Guindy, Alanthur road, SIDCO industrial estate, Chennai-600032, Tamil Nadu. The present study was approved by the Institutional Animal Ethical Committee (IAEC) C. L. BaidMetha College of pharmacy, Thoraipakkam, Chennai-97, The approval no:IAEC/XLIV/09/CLBMCP/2014.

Procedure

Animals were divided into five groups (I-V) consisting of six animals per group. The animals were housed in individual cages. Initially all the animals are fed with normal diet. In the first 10 days duration, all animals are trained to consume 10 g diet in an hour time. On the 11th day group (I) was fed the normal diet and served as control while the remaining experimental groups (II-V) received chickpea highly flatulent diet. *Kattu Maantha Kudineer* at 10% and 20% levels were incorporated into flatulent diet of III-IV of the groups receiving chickpea flour and group (II) served as negative control. The group V received standard antifatulent drug (Simethicone) 10 mg/10 g of flatulent diet, p.o. The diet cups were withdrawn from the cages after an hour of giving diet. Four hours later the animals were anaesthetized, and the volume of gas in the intestinal tract was determined as described by Hedin and Adachi⁵. Four hour after removal of the diet from the cages, animals were sacrificed and the gastrointestinal tract exposed by a midline incision. Evident pockets of gases were then removed by a commercial gas-tight syringe and the volume was measured for the uniformity, the gases collected from the cecum were assumed to represent an average of all gases in the intestinal tract⁶.

Animal Grouping

Group I-----Control group (normal diet)

Group II-----Negative control (chicken pea only)

Group III----- *Kattu Maantha Kudineer* (KMK) 10% + (chicken pea)

Group IV-----*Kattu Maantha Kudineer* (KMK) 20% + (chicken pea)

Group V----- Std (Simethicone) + (chicken pea)

Statistical Analysis

The statistical analysis was carried by our way ANOVA (Analysis of variance) followed by Dunnet's test and results are expressed as mean \pm error.

RESULTS AND DISCUSSION

The ingredients of trial formulation have been already proved to possess anti-flatulent (all drugs) activity. *Vitex negundo* prove the presence of anti-flatulent activity⁷. *Phyla nodiflora*, *Pergularia daemia*, *Azadirachta indica*, *Allium sativum*, *Piper longum*, *Carum copticum* are used in indigestion, fever, diarrhea, internal piles, cough by siddhars for numerous years. *Mangnifera indica*, *Vitex negundo*, *Azadirachta indica* has proved to have anti-flatulent activity⁸. *Morinda tinctoria* represented as noni has proved to possess number of activities⁹. All together herbs help to improve the inhibition of gas.

Table No.1: Animal Grouping

Group	Treatment(10gm/p.o)	Volume of gas ml	% inhibition of gas
I	Control (normal diet)	0.09±0.12	-
II	Negative control(chicken pea only)	0.19±0.04	-
III	KMK 10%+(chicken pea)	0.14±0.08**	45
IV	KMK 20%+(chicken pea)	0.11±0.02**	77
V	Simethicone +(chicken pea)	0.04±0.08**	>90

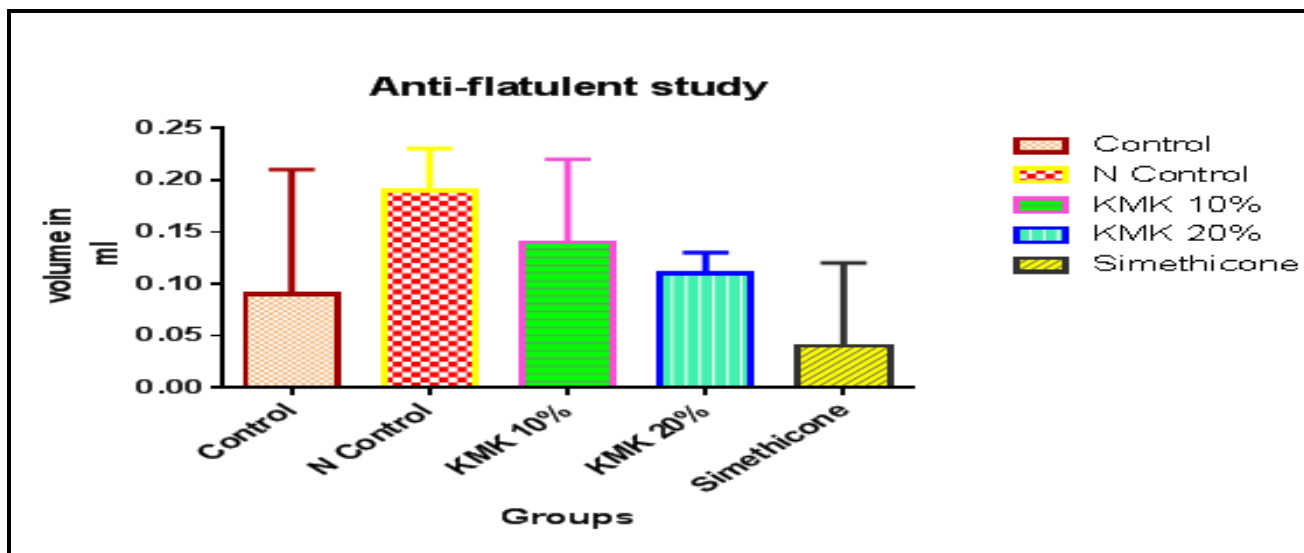


Figure No.1: Anti-flatulent study

CONCLUSION

The results of the present study demonstrate that the drug *kattu maantha kudineer* has significant anti-flatulent activity increase the percentage of inhibition of gas using chickpea method. It has been concluded that the potent anti-flatulent activity of *kattu maantha kudineer* in wister rats and this results contribute towards the validation of the traditional use of *kattu maantha kudineer* in treatment of functional dyspepsia in children.

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CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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