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Efficacy of olfaction vs oral route of administration in acute diseases: Pilot study

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Abstract

Over the years, the oral route has been the preferred way of taking medication. There are cases in children and coma patients where olfaction is required, and Hahnemann is well aware that patients are advised to smell in many situations. Medication given this way usually works faster. The olfactory experience is subjective and the olfactory nerves are specific. Based on inclusion and exclusion criteria volunteers were selected and divided into 2 groups of oral and olfaction of 15 matched patients. Potency of remedy was based on totality of symptoms and susceptibility and according to the need of the patient, repetition was also done. Time taken for drug action and improvement of condition considered and recorded for adaptability. Data obtained statistically analyzed. The results thus obtained explain the benefit of olfaction over oral route of administration of the drug.

Keywords: Olfaction, alternative route, route of administration, oral route, clinical homoeopathic medicine, rapid action

1. Introduction

Commonest route of administration is oral. Though, clinically there are cases of olfaction being effective. Olfaction is preferred only in epilepsy, coma and children who refused to take medicines orally (spits out) and also an excellent mode while the child is asleep^[6, 7]. Odor stimuli are incredibly dynamic^[8]. An inhaled medication is delivered rapidly across respiratory tract epithelium as well^[9]. In recent years, evidence has begun to show the importance of olfaction and the predictive results^[10, 11, 12]. Studies have shown the ability to carry drugs directly from the nose to the brain and compared to intravenous injections^[13, 14]. Also intranasal delivery has been shown to be delivered non invasively from the nose to the brain within minutes through the olfactory and trigeminal pathways, by passing the blood brain barrier^[15].

In 1999, Buck and Axel found olfactory receptor as the largest gene family in the human genome with 418 intact and potentially functional genes which are classified into 18 families, and each family constitute more than 40% sequence identity. Depending on evolutionary data or sequences, class 1 and class 2 are separated into two classes. Class 1 receptors initially resemble family found in aquatic life, so it was suggested that these receptors may specialize in finding water soluble odorants^[16]. Olfactory receptors respond to odorant molecules just as most sensory receptors respond to their specific stimuli^[17].

Hahnemann have mentioned in 6th edition of Organon of Medicine (§ 288) and in the Materia Medica Pura about the effectiveness of olfaction. The action of aconitum in olfaction is mentioned in Hahnemann's materia medica pura^[1, 18, 19, 20]. Samuel Hahneman recounts events where damaging smells in the environment disrupted homeopathic reaction. Homeopathic response provides examples, showing that remedial action can be successfully restored by timely recurrence of the drug discussing the results on the clinical homeopathy system^[21]. It is especially in the form of vapor, which always comes out of a globule rich in medicinal fluid in the development of high potency through the olfactory and respiratory properties of the drug and placed dry in a small bottle, homoeopathic remedies work most firmly and vigorously^[22].

In accordance with various data available, the ingestion takes about 30-90 minutes to cause the action, whereas inhalation acts in 2-3 minutes. Hence, as per this data, administration of the remedy through inhalation is more in action compared to ingestion of the same remedy^[23]. Hence this pilot study was designed to understand and evaluate the rapidity of action^[24] of the remedy in comparison between these two routes.

2. Materials and Methods

Ethical committee clearance was obtained from institutional ethical committee, prior to the start of study. Selection of patients was based on inclusion and exclusion criteria of acute cases after obtaining informed consent form signed according to WHO format. The subjects were divided into 2 categories in random.

Route of olfaction – category A Route of oral- category B Negative category was not considered with regard to welfare of patients. Each category had a minimum of 15 patients after matching. Drug was administered orally in oral administration category and olfaction in olfactory category of administration. Selection of potency and

repetition of the remedy was done according to the need of the patient, symptom totality and susceptibility. Duration for action of medicine and importance of condition was reviewed and recorded for matching. Statistically the data was analyzed by unpaired t test.

3. Inclusion criteria

- Acute illness Exclusion criteria-
- Patients on other medications
- Geriatric cases

4. Results and Discussion

4.1 Observations

Table 1: Duration taken to record significance prognosis in a case

S. no	Diagnosis	Oral route (category b)		Olfactory route (category a)	
		Remedy given (Rx)	Action time (min) (approximate)	Remedy given (Rx)	Action time (min) (approximate)
1	Tonsillitis	Kali bich 200	2880	Phytolacca 200	4
2	Headache	Nat mur 200	45	Belladonna 200	2
3	Helminthiasis	Cina 200	1440	Aconite 6x	180
4	Headache	Sangunaria 200	2880	Nux vomica 200	10
5	Tonsillitis	Ferrum phos 6x	180	Belladonna 200	6
6	Dysmenorrhea	Chamomilla 200	30	Arnica 200	5
7	Dysmenorrhea	Mag phos 200	120	Bryonia 200	2
8	Gastritis	Carbo veg 200	20	Nux vomica 200	3
9	Fever	Belladonna 200	30	Rhus tox 200	15
10	Lumbago	Kali carb 200	10	Ruta 200	4
11	Fever	Belladonna 200	360	Belladonna 200	3
12	Fever with headache	Gelsemium 200	1440	Nux vomica 200	4
13	Aphthous ulcer	Borax 200	90	Merc sol 200	10
14	Functional dyspepsia	Nux vomica 200	30	Carbo veg 200	5
15	Toothache	Ferrum phos 200	120	Staphysagria 200	25

4.2 Statistical analysis

The study was initially conducted with the participants of 30, each group of 15. An independent sample t test was conducted to compare and understand the efficacy of olfactory group and oral route of administration. There was a significant difference in the total for olfactory group (Mean=18.53, Standard deviation=45.9) and oral group (Mean=64.5, Standard deviation=1024.69) respectively.

$$t\text{-value} = 2.36555, p\text{-value} = .012581$$

In the cases of olfactory group improvement was observed in a range of 2 minutes -180 minutes and oral group showed improvement in 10 minutes - 2880 minutes. Thus, the results presented with skewness, but *p* value indicates that the study is statistically significant proving the alternating hypothesis.

5. Conclusion

As the existing literature suggests olfactory group works in 2-3 minutes, our homoeopathic medicines also exhibit significant improvement faster ^[25] the medicines can be administered through the nose by olfaction as mentioned by Hahnemann ^[26]. So, the study provides an understanding and observation that patients with altered sensorium responded faster in olfactory route of administration than in oral group. Hence, olfaction is also equally effective and as of oral route used, this can be considered in route of

administration in acute diseases.

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