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DRUG DEVELOPMENT BY TASTE: UNIQUE LEAD IN UNANI SYSTEM OF MEDICINE

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ABSTRACT

Drugs in Unani system of Medicine have been developed by various methods but taste is an important lead for drug development. Drug development is really a costlier and commercially a risky process. From identification to marketing a new drug development takes minimum 10 years with a cost of 500 to 1000 years. Unani system is a solution to time, Money and cost that is consumed in conventional drug development. In Unani System of Medicine taste is an important indicator in determining the Mizaj of drug. **Methods**: Two healthy professional colleagues has been chosen for taste of drugs and there findings has been noted down. **Results:** the Relative score of the tasted drug with reference to standard is noted accordingly. **Conclusion:** According to Ibn Sina taste override odour for predicting *Mizaj* through analogy. The Relative score of the tasted drug is an important and novel lead in Unani drug development. In Unani system of medicine taste is an important factor in identifying the different pharmological properties.

KEYWORDS: Drug discovery; Taste; Drug development; Mazza; Rasa.

INTRODUCTION

Among all organoleptic characters, taste is considered as most significant indicator in determination the *Mizaj* of drugs. Ibn Rushd mentioned in *Kitabul-Kulliyat* that the action of those drugs which has not been experimented yet can be known by two ways, either by *Qayas* (Analogy) or by (*Tajraba*) experimentation. *Qiyās* predicts the action of a drug through the probable *Mizāj* before it is administered in the body, whereas *Tajriba* confirms the same when administered in human body. Taste is considered as one of the strongest determinant in assessment of *Mizaj*, and has remained the most powerful indicator for assessing *Mizaj* of a drug through analogy.[1] According to *Charaka, rasa* can be different in fresh condition and in dry state of the same substance, and have different pharmacological actions in those conditions, e.g. *Piper longum* Linn. is Madhura (sweet) in fresh condition, whereas in dry form it is Katu (pungent) and accordingly fresh *P. longum* is heavier to digest (guru) than dry *P. longum* which is easy to digest (laghu).[2] The taste of particular drug depends on the *jauhar* of a drug.[3] The ancient physicians have classified simple tastes into nine kinds, eight real tastes and the ninth one is tasteless substances such as water.[4,5,6,7] In *Kamilus Sanah*, it is stated that taste are of eight types and also mentioned the method for identification of these tastes further it is also stated how these tastes are perceived, a correlative description of taste, temperament and action of the drug is mentioned.[3] Taste is the indicator for potency of any substance which is determined by experiment for example; Magnet attracts iron due to its peculiar characteristic, similarly *Pinus succinifera* Linn (*kahruba*) attracts trinket of herb. According to Galen taste is potent determinant for hidden potency of any substance rather than color and odour.[8]

MATERIAL AND METHODS

Selection of drugs: Two drugs were purchased from the Market and one drug is obtained personally from the injured bark of Almond tree. All the drugs were properly identified and authenticated.

Assessment of taste: Taste was categorized as described in Unani literature and noted verbatim from three source books i.e. *Al-Qanoon Fit Tibb*, *Khazayin-ul-Advia*, *Al-Jamia Le-Mufradat-ul-Advia wa-al-Aghzia.* Two healthy non smoking professional collogues participated in this study and were asked to taste the standard drug chosen for that category and compare the taste by giving verbal expression of the taste and then grade them with relative scores. Comparative findings was noted down as being less in intensity to the standard drug, equal in intensity to the standard drug or high in intensity to the standard drug and a format was prepared accordingly. The relative

scores is to be 1 for the standard, 0.75 nearly equal but lesser, 0.5 less by half than standard and so on.

RESULTS

The assessment of the taste of each selected drug was carried out in three ways. First, the description of taste as written in the classical Unani books was noted verbatim. Secondly, each drug was tasted by two healthy non smoking professional collogues and their description was noted down. Finally, the volunteer professional collogues were asked to compare each drug with the standard drug of that particular taste and were asked to describe the taste in comparison to the standard drug.

In the assessment of *Murr/Kadwa/Talq* taste *Charaitha* was selected as the standard drug and the two samples of *Behrooza*, *Neem* were choosen for this particular taste. The relative score by voluntaries professional collogues were *Behrooza* = 0.75, *Neem* = 1.5.the results are depicted in **table 1.**

Table No. 1: Observation for Murr/Kadwa/Talq Taste.

Name of Drug	Classical Description	Description by Volunteers	In comparison to Std Drug	Relative Value
Standard Drug: Charaitha				
Behrooza	Bitter	Bitter	Less than standard	0.75
Neem	Bitter	Bitter	more than the standard	1.5

In the assessment of Tasteless taste, Water was selected as standard and the one sample of Almond gum was chosen for particular taste. The relative score by voluntaries was; Almond Gum=0.75. the results are depicted in **table 2.**

Table No. 2: Observation for Tasteless Taste.

Name of Drug	Classical Description	Description by Volunteers	In comparison to Std Drug	Relative Value
Standard Drug: Water				
Almond gum	Tasteless	Tasteless	Less than standard	0.75

CONCLUSION

From the literature survey it has been found that all the plant origin bitter drugs are having Antioxidant property which may serve as an important lead in Unani drug development. The description of taste of each drug by healthy volunteer professional colleagues was almost at par with the classical Description. Research in the field of Tastes of Unani drugs may be expected to have promising implications in Unani drug development. The concept of taste along with the *Darja-e-Mizaj* need to be evaluated which may enlighten the toxicological aspect of Unani drugs and intern will help in cost effective drug development and formation of reliable test for the assessment of *Mizaj-e Advia*. In comparative study of the taste with the standard drug, almost all drugs were less in intensity when compared to the standard drug except Neem. The present study is a preliminary study for assessing the indicators of *Mizaj* assessment through taste. Further studies may be taken in future to refine the above study to arrive at more empirical measurement of these characteristics, which will enable investigators to have discriminative values for particular drug of specific categories of the tastes. This will help in developing a refined inventory for the assessment of *Mizaj-e-Advia* with proper scoring and interpretation of those scores.

CONFLICT OF INTEREST: Nil.

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