

Barāz (Stool) Analysis in Unani System of Medicine: Uncovering the Secrets of an Ancient Diagnostic Tool

Dr. Saba Bano¹, Dr. Noor Alam²

¹Assistant Professor, ²Associate Professor

¹Mahiyatul Amraz(Pathology)

Sufia Unani Medical College Hospital & Research Center, Bihar

²Ilmul Advia(Pharmacology)

Sufia Unani Medical College Hospital & Research Center, Bihar

¹drsabahusain@gmail.com, ²saazalam@gmail.com

Abstract

A physician's primary concern is the human body. A variety of tools are used to assess a person's physical state. Barāz (stool) analysis plays a pivotal role in understanding gastrointestinal health and disease. Stool analysis has been used by Unani scholars since ancient times and is still employed by modern-day physicians. This diagnostic technique is mentioned in the works of Hippocrates, Aristotle, Galen, Avicenna, and a few others and demonstrates the significance of these tools. This review paper synthesizes the knowledge regarding stool analysis and approaches, highlighting their importance in clinical diagnosis and research. All indicators of stool explained by Unani scholars remain the same but have become more refined with the advancement of microscopes and lab equipment, allowing physicians to identify human body states in a more complex manner. Stool is the waste product of haḍm mi'dī wa mewī (alimentary canal digestion). A comprehensive examination of the stool will disclose a lot of information about the body's physiological functioning and metabolic processes, and condition of the stomach and intestines, as well as the whole gastrointestinal tract and adjacent organs. It aids in the diagnosis of a wide range of medical conditions in the body.

Key words: Barāz (stool), Analysis, Unani medicine, Diagnostic tool.

1. Introduction

Unani system of medicine has been known since ancient times. Great Unani philosophers have proposed consolidated theories and released medical science from the domain of deities and demons. Unani Tibb is divided into two parts i.e. Tibb-e-Ilmi (theoretical) which comprises Umūr ṭabī'iyya (Basic Principles of Unani Medicine), Ḥālāt badan(state of the human body), Asbāb (causes), and 'Alālmāt (sign) and Tibb-e-amali (practical) which means applied aspect or practical of Tibb-e-ilmi. Physicians in Unani system of medicine pay attention to Nabḍ (pulse), Bawl (urine), Balgham (phlegm/sputum) and stool examinations etc. for diagnostic, as well as prognostic indicators of disease.

Stool is an Arabic term that means *ṣḥra* (field) [1], because in many places people leave their houses and go to the forests and fields for defecation [2]. Stool is a metabolic end product that has to be excreted from the body [3]. According to Abbas Majusi, stool indicates stomach and intestinal disorders as well as weak or strong *quwwat ḥāḍima* (digestive faculty) [4].

Takwīn-i- Barāz (Formation of stool)

The food we eat gets digested in the stomach and intestines, and its digestible and soluble components are absorbed from the stomach and intestines and move into the vessels, through the vessels these components reach liver to get transformed and metabolized. As a result, they get closer to the structure of the organs until they become *badl mā yataḥallal* (catabolism and anabolism) [5] and part of the body. But the remaining components of the food from this digestion survive as *thufī/phook* (residue) and slowly move down to the intestines. Because their soluble components are continuously absorbed in *ithnā ashārī* (duodenum), they get thick, dry and solidify and become almost dry when they reach the *mi‘ā’ mustaqīm* (rectum). Stool remains in rectum for a period, in a healthy individual the habit of motion/defecation is once or twice every 24 hours. The rough and heavy components of stool, as well as quantity, volume, and effusion of *ṣafrā* (bile) causes stimulation in the *quwwat dāfi‘a* (expulsive faculty) of the rectum and intestinal muscles which leads to expulsion of stool from the intestines. The normal volume of stool in a healthy individual is about 150-200 grams. Generally, stool is composed of undigested food components, intestinal waste and secretion, *balghamī ruṭūbāt* (phlegmatic secretions), and components of bile [2].

Characteristics of Ṭabī‘ī Barāz (Normal stool): The best stool is one that has the following characteristics.

1. It should easily pass from the bowels-stool that passes easily indicates that expulsive faculty of the bowels is strong.
2. Its components should be even and homogenous which means there should be no difference in its consistency- the homogeneity in consistency indicates that all components are concocted and digested completely.
3. There should have a light yellowish tinge (slightly flame)-this is because, after digestion, the residual must settle in the intestines for a period of time, so that the mesenteric vessels can completely absorb the remaining products of the *kaylūs* (chyme).
4. It should have a moderate consistency, like honey.
5. Its quantity should be average which means the amount of stool must be roughly equivalent to the amount of food consumed.
6. The motion should occur at an appropriate period, i.e., after eating, neither too early nor too late.
7. Its odour should be mild i.e., stool should not be very offensive or odourless.
8. There should be no farting sound while defecating, neither in the stomach (*borborygmus*) nor outside.
9. Stool should not be frothy [1],[2],[6].

Dalail-e-Barāz (Indicators of stool analysis): Different Unani physicians told different types of indicators for stool analysis (fig.1,2,3,4)[1],[2],[4],[7]:

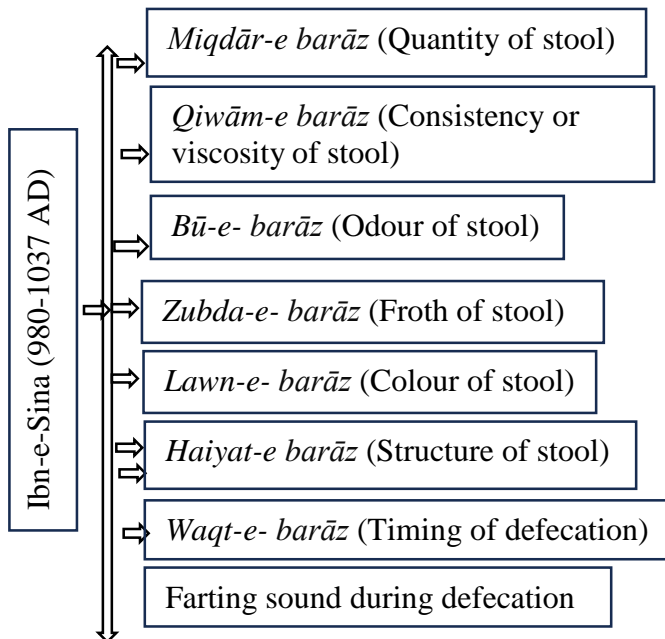


Figure 1: Indicators of stool analysis according to Ibn Sina

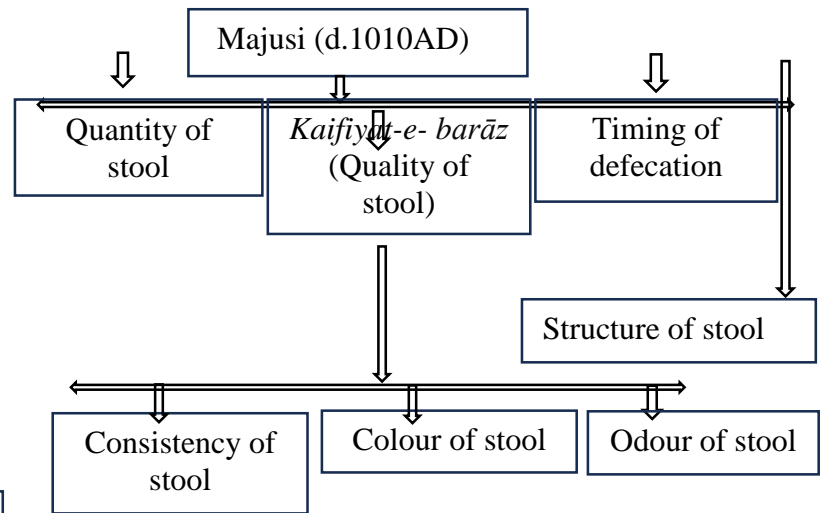


Figure 2: Indicators of stool analysis according to Majusi

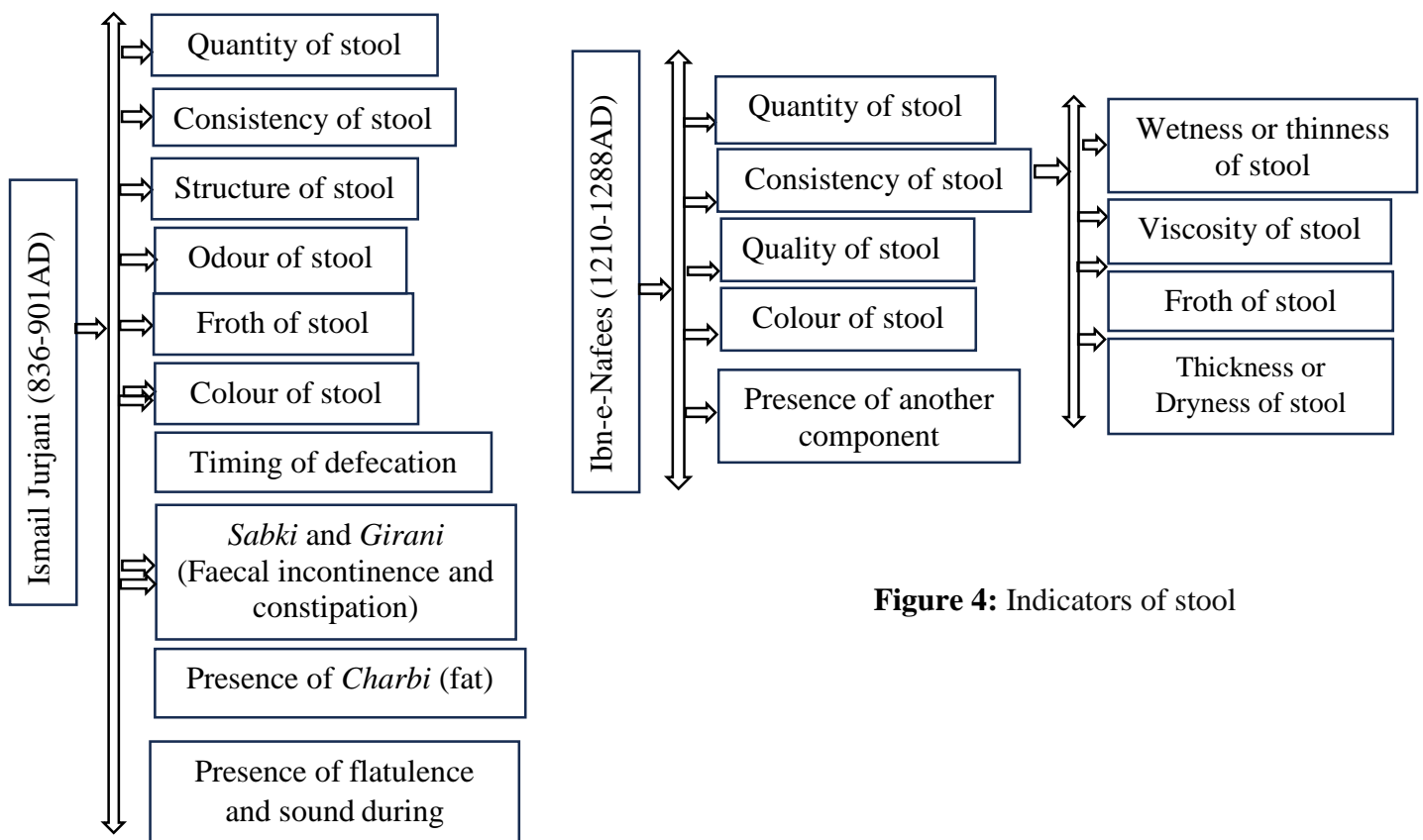


Figure 3: Indicators of stool analysis according to Jurjani

1. **Quantity of stool:** Quantity of stool is used in the manifestation of the various states of the body. The amount of stool consumed can be more, less, or equal depending on the type of food consumed.
 - i. **Less quantity of stool or faecal matter:** conditions in which stool formation is less:
 - The amount of food consumed has low nutrients called kaseerul ghidhā (high nutriment) such as egg yolk, meat [2], walnuts, and almonds [4].
 - Nutritive waste that gets stuck in the intestines and causes obstruction.
 - Weak expulsive faculty of the intestines causes faecal matter to get stuck in intestine for a longer period of time, causing the wet components of stool to evaporate owing to body heat resulting in a decreased quantity [2].
 - If the amount of food consumed is more than the amount of faecal matter produced, it shows that the expulsive faculty is strong and quwwat ghāḍhiyya (nutritive faculty) is weak, as a result, the frequency of stool increases while the quantity decreases [4].
 - Another reason for this is the liver's ability to absorb chyme towards itself in order to synthesize blood, resulting in a decrease in faecal matter.
 - Intestinal worms feast on the waste resulting in a decrease in faecal matter [1].
 - ii. **Excessive quantity of stool:** The reasons for excessive faecal matter are the inverse of the causes of less faecal matter -
 - The amount of food consumed has high nutrients known as qaleelul ghidhā (less nutriment) such as spinach [2], carrot, and turnip [4].
 - Nutritive waste that isn't absorbed in the intestines causes obstruction [2].
 - Strong expulsive faculty of intestine, which expels all waste products from the stomach and intestines before the liver absorbs all of the digestive product [2].
 - Weakness of nutritive faculty [1].
 - iii. **Moderate quantity of stool:** A moderate amount of stool is attributable to some types of food that have the ability to become a part of the body as well as waste in equal amounts [4].
2. **Consistency of Stool:** Various Unani scholars have manifested states of body through the following stool consistencies: diluted, dryness, viscous, frothy and normal or natural [1],[2],[4],[8].
 - i. **Wetness of stool:** there are three causes of thin barāz.
 - a) Weakness of liver and quwwat jādhība (absorptive power) of mesenteries.
 - b) Obstruction in their routes (mesentery).
 - c) Weakness of digestive faculty. It is due to 3 reasons:
 - Excessive intake of food
 - Fluids that flow from the brain i.e., nazla (catarrh) mix with stool [1],[8].
 - Due to the consumption of muzliq (lubricant) diet [2].
 - ii. **Thickness or dryness of stool:** there are six causes of thick stool Excessive movement
 - Excessive urination
 - Excessive sweating
 - Excessive heat
 - Intake of dry foods
 - Weakness of quwwat dāfi'a [1]

According to Ibn Nafees less intake of water also the cause of dryness in stool [2]

iii. Stickiness or viscosity of stool:

- due to intake of excessive sticky or glutinous diet.
 - due to viscous humour
 - due to dissolution of a‘dā aṣliyya (essential organ) [2],[8].
- 3. Structure of Stool:** If the stool is puffy like dung or lumpy and floats on top of water, then it is a sign of flatulence found in qūlanj rīḥī (colic due to flatulence) [1],[7].
- 4. Timing of defecation:** If stool is passed early and before the normal habit it indicates an excess of bile secretion and weakness of quwwat māsika (retentive faculty), and if it is passed late, indicates weak digestive faculty and burūdat (coldness) of the bowel, as well as presence of excessive ruṭūbat (fluid) [7].

5. Colour of Stool**i. Barāz-e-asfar (yellow-coloured stool):** It is of three types-

- Light yellow indicates barāz mahmūda (normal stool).
 - More yellow like aḥmar naseḥ (saffron colour), indicates consumption of Zafrān (Saffron) or presence of excessive bile or its combustion.
 - Less yellow than normal colour, indicates consumption of milk or stool passes too early before the decline of bile due to decreased concoction in faecal matter or flow of bile towards intestine as a result of an obstruction in between the route of liver and duodenum or duodenum and large intestine [6].
- **Barāz-e-abyaḍ (white-coloured stool):** have following indications-
- Excessive phlegm
 - Obstruction in bile duct
 - Obstruction in bile and common duct
 - Obstruction in hepatic duct
 - If colour is like fleshy water, indicates coldness and weakness of liver found in Qūlanj (colic) and yaraqān (Juandice) [1].
- **Barāz-e-aswad (black-coloured stool):** it is just like black urine [1],[2],[8], indicates any big fault in liver [1].
- Indicates high intensity of iḥṭraq (burning) or injamad (coagulation) or excretion of any sawdawī (melancholic) matter and consumption of such diet which causes black colour of stool [2],[8].
 - Black-coloured stool with dry consistency indicates presence of excessive heat in GIT[4].
 - Faecal matter has particle of dark blood indicates obstruction in vessels.
 - If faecal matter mix with melancholic humour indicates weakness of spleen [1],[4].
 - It is the worst kind of stool that indicates a sign of impending death [4].

ii. Barāz-e-qīḥī (pus in stool): have following indications-

- It indicates rupturing of abscess in the intestine. If pus excreted before the defecation indicates presence of an abscess in lower intestine and if pus excreted with defecation indicates an abscess present in middle intestine and stool excreted before the pus indicates an abscess present in upper intestine [1].
- Sometimes pussy stool also excreted in the inactive people who give up exercise [1],[2],[7].

iii. Barāz-e-sabz (green-coloured stool): have following indications-

- If green-coloured stool like zanjārī (copper rust-coloured) and kurrāthī (shallot colour) do not arise owing to burning of matter, then it indicates coagulation of matter [2] and extinction of harārat gharīza (innate heat) [2],[9].
- It indicates intense heat that has prevailed in the shikam (abdomen) and intestines [4].
- 6. Odour of Stool**
- Presence of odour indicates ufūnat (putrefaction/sepsis) of humour [1],[4],[10],[11].
- Thin consistency of stool with stickiness which has a bad odour indicates liquefaction essential organs [7].
- If odour of stool is tursh (sour), indicates a cold temperament as well as presence of sour type of phlegm [1].
- 7. Froth of stool:** It indicates two signs [1],[10],[11]:
 - Excessive hotness of humour
 - Mixing of flatulence in humour that present in colic.
- 8. Farting sound during defecation**
- It indicates presence of flatulence [7],[9].
- If stool passes with a sound, it indicates presence of thick flatulence and if the sound is sharp, it indicates an admixture of thin fluid and hotness of the stomach [1].
- 9. Presence of fat in stool (steatorrhea):** When the stool is greasy and there is no history of consuming a fatty meal, this implies fat melting. Furthermore, the presence of mucus in the stool indicates the disintegration of vital organs [1].

Discussion

The 2500-year-old Unani System of Medicine is based on specific philosophical, logical, and observational traits. When Greek medicine developed into shape in ancient times, the greatest scholars proposed specific principles and procedures based on the scientific reasons that were available at the time. Because of the lack of modern scientific methodologies at the time, most observations were subjective. The physicians developed observable parameters that can be observed by sensory methods. Certain body fluids were examined with the naked eye for diagnosis and noted for color, odor, taste, consistency, and so on. These factors are examined from the beginning of Unani medicine, and some of them still exist. However, these are not particularly useful for today's physicians because they have not been trained in these endeavours. Classical methods have taken a back seat since the introduction of contemporary scientific methods, as proposed by Hakim Ajmal Khan. And today's diagnostic is based on cutting-edge characteristics. Only the medications used had remained in Unani.

The paper discusses the diagnostic potential of stool analysis in various gastrointestinal disorders. The critical evaluation of different analytical approaches and their clinical relevance forms a cornerstone of this review, shedding light on the challenges faced and future directions in stool analysis research. In such a case, it is reasonable to organize such studies to compare the results obtained from observation and those obtained through instruments.

Acknowledgment: The author gratefully acknowledges the staff of the library of SUMCH&RC, Bihar, paper is composed in an easy way because of them and to the writers whose papers are referred to as references to composed of this paper.

Declaration of Conflict: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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