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A review of Akhlat theory in Unani medicine in light of hematology and modern fluid physiology

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Abstract

The theory of Akhlat (humours) forms the basis of pathophysiology and treatment in Unani medicine. The four humours—Dam (blood), Balgham (phlegm), Safra (yellow bile), and Sauda (black bile)—are believed to maintain health through their quantitative and qualitative balance. This review explores the Akhlat theory in correlation with modern hematology and fluid physiology. Blood, a dominant humour in Unani thought, is examined in light of its modern components: red and white cells, plasma, electrolytes, immune factors, and acid-base balance. The role of humoral imbalance is discussed vis-à-vis disorders of pH, immunity, inflammation, and dehydration. The paper presents a framework for integrating Unani diagnostic insight with contemporary clinical hematology, fostering a bridge between traditional and modern approaches to systemic health.

Keywords: Akhlat, Unani Medicine, Blood Physiology, Hematology, pH Balance, Electrolytes, Immune Function.

1. Introduction

Unani medicine, a Greco-Arabic system of healing, is grounded in the concept of Mizaj (temperament) and Akhlat (humours), where the harmony of four humours sustains life and health. Among them, Dam (blood) is considered the most nourishing and essential humour, formed in the liver and circulating to sustain all organs. Modern hematology has expanded our understanding of blood as a complex fluid comprising cells, plasma, proteins, and ions that regulate immunity, oxygen transport, coagulation, and homeostasis. This review attempts to correlate these ancient and modern paradigms to offer a cohesive perspective on human physiology and systemic balance.

2. The Concept of Akhlat in Unani Medicine

Humour	Classical Attributes	Functions in Unani Theory
Dam (Blood)	Hot & Moist	Nourishment, vitality, growth
Balgham (Phlegm)	Cold & Moist	Lubrication, immunity, cooling
Safra (Yellow bile)	Hot & Dry	Metabolism, heat production
Sauda (Black bile)	Cold & Dry	Structure, stability, concentration

Each humour arises from digestion and contributes to the body's temperament (Mizaj), metabolic state, and disease predisposition. Health is maintained when these humours remain in balanced quantity and quality.

3. Modern Understanding of Blood and Fluids

Modern physiology classifies blood as a connective tissue comprising:

- **Cells:** RBCs (oxygen transport), WBCs (immune defense), Platelets (coagulation).
- **Plasma:** Water, proteins (albumin, globulin, fibrinogen), glucose, hormones.
- **Electrolytes:** Sodium, potassium, calcium, chloride, bicarbonate.
- **Acid-Base Regulation:** Maintains pH ~7.35–7.45 via buffer systems.

Body fluids also include interstitial and intracellular fluids, regulated through osmosis, hormonal control (RAAS, ADH), and renal function.

4. Correlating Akhlat with Hematological Components

Unani Humour	Modern Equivalent/Function
Dam (Blood)	RBCs, Plasma proteins, Hemoglobin
Balgham (Phlegm)	Lymphocytes, Mucosal secretions, Immunoglobulins
Safra (Yellow Bile)	Liver enzymes, Bilirubin, Metabolic heat
Sauda (Black Bile)	Iron metabolism, Melanin, Neurochemicals

Each humour has a unique biochemical footprint

- Dam corresponds to hemoglobin levels, hematocrit, and circulatory dynamics.
- Balgham is linked to immune modulation and lymphatic secretions.
- Safra reflects catabolism, oxidative stress, and bilirubin metabolism.
- Sauda may correspond to mood regulation, dense tissue deposition, and mineral balance.

5. pH Homeostasis and Humoral Balance

Unani medicine recognizes that imbalance in Safra and Sauda can lead to excessive heat or dryness, symptoms often overlapping with metabolic acidosis or alkalosis in modern medicine.

Humoural Disturbance	Likely pH Response	Possible Modern Correlate
Excess Safra	↑ Heat → Metabolic acidosis	Fever, inflammation
Excess Balgham	↓ Heat → Alkalosis tendency	Hypometabolism, cold intolerance
Excess Sauda	Dry, cold → Depressive states	Acid retention, constipation
Excess Dam	Fluid overload → Vascular congestion	Polycythemia, hypertension

6. Immunity, Electrolytes, and Humours

Unani views immunity as governed by Tabiat (vital force) and supported by Balgham. Modern correlations suggest:

- **Balgham:** Elevated WBC count in infection, IgA in mucosal immunity.
- **Safra:** Pro-inflammatory cytokines like IL-6, TNF- α .
- Electrolyte imbalance (e.g., hyperkalemia) mimics humoral imbalance signs such as irritability, muscular fatigue.

7. Clinical Implications and Integration

By comparing signs of humoral imbalance with clinical lab reports:

- A Dam-dominant patient with ruddy complexion and hypertension may correlate with increased hematocrit.
- A Sauda-prone individual may exhibit anxiety, low iron, or chronic constipation.

This integrative model can help

- Interpret patient symptoms holistically.
- Apply modern diagnostics while respecting traditional insights.
- Customize therapy based on temperament and lab values.

A Review of Akhlat Theory in Unani Medicine in Light of Hematology and Modern Fluid Physiology

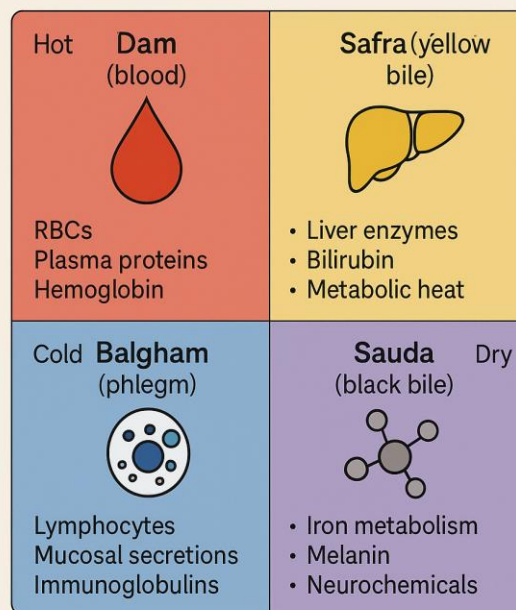


Fig 1: Infographic Diagrammatic Representation of Akhlat and Modern Correlations

8. Conclusion

The Unani concept of Akhlat remains relevant when reframed through the lens of modern hematology and fluid physiology. Both traditions recognize the critical role of internal fluid balance, immunity, and homeostasis. Future interdisciplinary research may validate these ancient principles and enhance personalized medical care by merging temperament-based diagnosis with biochemical analysis.

Conflict of Interest

Not available

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