Research Paper

Concept Analysis of Thirst as a Symptom and Its Causes From the Perspective of Iranian Traditional Medicine: A Hybrid Model Study

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ABSTRACT

Objective Thirst (Attash) is a diagnostic sign of diseases from the perspective of Iranian Traditional Medicine (ITM).The purpose of this study is to provide a functional definition for the concept of thirst and its causes in ITM.

Methods In this study, we used the concept analysis (hybrid model) which has three phases; in the theoretical phase, the content related to the definition of thirst and its causes were searched in ITM books and an efficient definition of thirst was presented. In the fieldwork phase, main themes were obtained after semi-structured interviewing of 16 ITM specialists. In the final (analytical) phase, the results of the two previous phases were compared to each other to present the final definition for thirst.

Results The thirst is defined as the need for water and any food that is cold and wet, and the increase and decrease in thirst is a sign of disease. For its examination, it is necessary to pay attention to the change in the degree of thirst and the amount of consumed water or cold/wet foods. It is important to differentiate between drinking water as recommended, drinking water as habit, or drinking water because of dry mouth with thirst. Different characteristics of thirst can be used to diagnose the affected organs.

Conclusion In this study, using the concept analysis method, a functional definition of the thirst as a symptom was presented and its causes were investigated. The low number of studies on thirst and lack of access to some ITM specialists were some of the limitations of our study. It is recommended to investigate the prevalence of thirst in patients and its relationship with dystemperament in future studies.

Extended Abstract

1. Introduction

Thirst (Attash in Persian) stimulates the drinking behavior [1], regulates body fluids and is an annoying symptom [2, 3] in patients with chronic heart failure [4], admitted to the intensive care unit [5], chronic obstructive pulmonary disease [6], dialysis [7], diabetes [8] and schizophrenia [9]. In Iranian tradutional medicine (ITM), the symptoms of the disease are described based on observation [10, 11]. In conventional medicine, The Rome criteria are one of the most successful methods of using symptoms to diagnose diseases [12].

The low agreement between ITM specialists in the diagnosis of temperament (Mizaj) and dystemperament (Sue-

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mizaj) [13] shows the need to provide the same practical definitions for concepts such as signs and symptoms. Due to the importance of the symptoms of thirst in ITM and diagnosis of diseases expecially dystemperament, this study used the method of concept analysis to provide a clear and usable definition [14]for the concept of thirst [15].

2. Materials and Methods

A qualitative study of concept analysis was designed using a hybrid method consisting of three steps [16]. At the first phase (theoritical phase), after searching in the Noor library, keywords related to thirst and books with the most relevant content were selected based on the importance and credibility of the book and its author as well as the relevence of its texts. After dividing the texts into semantic units, the overt and covert concepts were identified. The search continued until information saturation was reached. The purpose of second step (fieldwork phase) was to investigate the new characteristics of thirst or Attash based on the clinical experiences of specialists and clarifying the characteristics mentioned in the texts by the interview method.

In this regard, interview questions were designed based on the results of previous step. ITM specialists were selected by usinga a purposive sampling method [17] with maximum diversity. In-depth, semi-structured, and face-to-face interviews continued until information saturation was achieved [18]. To achieve the main themes, after recording and typing the interviews and dividing the interviews into semantic units, coding was done with MAXQAD10 software [19]. At the final step (analytical phase), by comparing the findings of first step and working on determining the differences and similarities, a practical definition of thirst was presented from the combination of the findings of the two previous steps.

3. Results

In ITM, thirst is defined as the need for water and any food that is cold and wet [20, 21]; its moderate level is considered normal but its decrease and increase is a sign of illness [22]. False thirst is exacerbated by cold water and relieved by hot water, and tolerating thirst and sleeping reduces false thirst [22-29]. The time to quench your thirst after drinking water and the temperature and amonut of the water are used to determine the cause of thirst. Increased thirst is a symptom of hot mizaj and dominance of yellow bile (safra) and its decrease is a symptom of cold mizaj and dominance of phlegm [30, 31]. On the other hand, the causes of true thirst are: the need of the organs and the body for moisture, the need to eliminate dryness and abnormal heat, and the dilution of the eaten food [26].

Abnormal thirst is caused by the accumulation of concentrated salty sputum in the stomach, nature's desire to eliminate and wash it [32], factors that prevent the absorption of water into the liver, reduction of main moisture [30] and the warmth of the mouth [32]. Thirst for each body organ

Table 1. The books usied in the first step (theoritcal phase)

Title	Author	Year (Hijri Shamsi)	Language
Firdous Al-Hikmah	Ali ibn Sahl Raban Al-Tabari	3rd century	Arabian
Al Tasreef Liman 'Ajaz 'Aan Al-Taleef	Abu Al Qasim Al Zahrawi	4th century	Arabian
Kamel Al-Senaat Al-Tebieh	Alli Ibn Abbas Al-Majusi	4th century	Arabian
Hidayat Al-Muta`allemin Fi al-Tibb	Al-Akhawyni Bokhari	4th century	Persian
The Canon of Medicine	Ibn Sina	5th century	Arabian
Commentary on Avicenna's Canon	Ibn Al-Nafis	7th century	Arabian
Sharhe Asbaab-o-Alaamaat	Nafis Ibn Avaz Kermani	7th century	Arabian
Bahr Al-Jawahir	Muḥammad Ibn Yusuf Harawi	10th century	Arabian
Kholase Al-Hekmat	Aghili Alavi Khorasani	12th century	Persian
Makhzan Al-Advia	Aghili Alavi Khorasani	12th century	Persian
Mizan Al-Teb	Mohammad Akbar Arzani	10th century	Persian
Mofareh Al-Gholub	Mohammad Akbar Arzani	12th century	Persian
Teb Al-akbar	Mohammad Akbar Arzani	12th century	Persian
Eksir-E Azam	Azam Khan Chashti	13th century	Persian

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Table 2. Diseases in which increased thirst was mentioned as a symptom

Affected Organ	Disease
Nose	Sarsam (meningitis), mania, qotrob (a melancholic diseases) [30].
Heart	Hot dystemperament of the heart [30]
Liver	Enlargment of the liver [30, 40] when becomes hot or very cold (30,36), Hot or cold dystemperament of liver [24], obstruction within the liver and the stomach such as edema or colic [30], obstruction beneath the gallbladder [47]
Stomach	Stomach fever, especially in the mouth [30, 32], dry dystemperament of stomach [30, 32, 46], distended stomach [30], Heyze (Diarrhea and vomiting) [30], the presence of salty or sweet phlegm or bile in the stomach [24, 30, 32, 46], severe zarb (sprue) [30, 36]
Esophagus	hot esophagus and throat, and swelling of esophagus [30]
Kidneys and bladder	Ziabitis, Kidney fever [30], swelling of the bladder [30, 47]
Intestine	Colic when it is caused by swelling or due to piquant (horayf) and pungent (Leza) sputums [30], hot dystemperament of jejunum [30], salty mucus accumulation in the small intestine or mesenteric arteries [46]
Lungs	Hot dystemperament of lungs [30, 46], Purulent lung injury caused by hot mizaj [35]
Uterus	Uterine suffocation, menstrual cessation and uterine tumors [30]
Spleen	hot dystemperament of spleen [30], damavi (sanguine) swelling of the spleen [30, 32], safravi (choloric) swelling of the spleen [30]
Drugs and toxins	Eating euphorbia [24, 32]
Environmental factors	Eating snow [24, 32], actual or potential hot foods such as garlic, old wine, salty foods, sticky and slow-digesting foods such as fish, seawater or salt water (causing heat in the mouth) [24, 30, 32, 36], excessive talking, exercise, strenuous physical activity, sleeping after eating hot meals [30], vomiting after or during taking laxative [24, 30, 32], viper snake bite [30, 46] or eating its meat [32]
Others	Fullness due to yellow bile dominance [30], fever caused by yellow bile dominance (Ghab fever), sarsam (meningitis) and barsam (pleurisy), jaundice, jamrah and namla [46], saher (inability to sleep) [30], excitement caused by yellow bile dominance [47], and final stages of tuberculosis and stroke with the invovlvment of the whole body such as fever [30]

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Table 3. Diseases in which decreased thirst was mentioned as a symptom

Affected Organ	Disease
Nose	-
Heart	-
Liver	Cold and wet dystemperament of liver, phlegmatic and cold swelling of of liver [30]
Stomach	Wet stomach [47], Cold and wet dystemperament of stomach [30], shahvat-e kalbi (polyphagia), hiccups, and zarb (sprue) caused by a cold stomach [32], sodavi (melancholic) swelling of stomach [22]
Esophagus	-
Kidneys and bladder	Cold dystemperament of kidney [22]
Intestine	Cold dystemperament of intesine [30], phlegmatic zahir (stomach cramp) [22]
Lungs	Pulmonary edema caused by phlegm dominance [35], Cold and wet dystemperament of lungs [46]
Uterus	-
Spleen	Cold dystemperament of spleen [22]
Drugs and toxins	-
Environmental factors	-
Others	Fullness due to phlegm dominance [30]

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has different characteristics [30, 33-35]. After interviewing 16 ITM specialists for 41 hours, the criteria for diagnosing thirst were reported: the amount of cousumed water and fluids, and change in tendency towards drinking water. Consumption of water based on habit and advice, suppression of thirst and drinking fluids to help relieve dry mouth were determined as the differential diagnosis of increased and decreased thirst. In the final analysis stage, a functional definition of thirst was obtained.

4. Discussion

In Iranian medical books, thirst is defined as the need for a cold and wet substance [21]; a strong desire for food of this quality is also considered as thirst [34]. In conventional medicine, thirst is a feeling that prioritizes receiving water [36, 37]. The degree of thirst from the perspective of ITM depends on the individual's temperament, in addition to other individual and environmental factors [38]. Thirst and its decrease have been mentioned in most ITM books in the section related to diseases and symptoms of dystemperament, but in the section related to the symptoms of healthy temperament; sometimes the increase and decrease in thirst degree has been used to diagnose the dominant humor in a disease [30]. According to Hakim Jorjani, the causes of thirst are divided into two groups: bodily and non-bodily; bodily causes are divided into two groups: dystemperament and swelling/obstruction [39, 40].

Some scholars of ITM consider the "false thirst" as being thirsty due to the presence of a sticky sputum in the stomach, and the thirst due to the hot temperament of the stomach and liver and the thirst after eating the food is considered as "true thirst" [22]. Some Scholars belive that the thirst after eating, despite drinking enough water, is also a false thirst [28]. ITM specialists have also reported that the three factors recommended for the use of water by the Institute of Medicine (IOM) and the European Food Safety Authority (EFSA) are effective regardless of individual differences [41, 42], impaired thirst due to its suppression [43, 44] and dryness of the mouth [45] which must be distinguished from thirst and redcued thirst. The low number of studies on thirst and lack of access to some ITM specialists were some of the limitations of our study. It is recommended to investigate the prevalence of the symptom of increased and decreased thirst in patients and its relationship with the dominance of humors and dystemperament in future studies.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles were considered in this article and this study has ethically approved (Code: IR.SBMU.RETECH.REC.1395.625). Participants were assured of the confidentiality of their information and were free to leave the study at any time.

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Authors' contributions

Study Design, Conceptualization and Methodology: Morteza Mojahedi, Roshanak Mokaberinejad, Parisa Jafari ; Research, Original Writing: Parisa Jafari; Data Collection, Data Analysis and Interpretation: Parisa Jafari, Fatemeh Hakimi, Elham Parsa; Editing and Supervision: All authors.

Conflicts of interest

There is no conflict of interes in this sudy.

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