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Integrative Medicine Research

journal homepage: www.imr-journal.com

Review Article

Systematic review of type-specific pathophysiological symptoms of Sasang typology

Yoo Ri Han[a], *Han Byul Lee*[a], *Sang Yun Han*[a], *Byung Joo Kim*[a], *Soo Jin Lee*[b], *Han Chae*[a,*]

[a] *Division of Longevity and Biofunctional Medicine, School of Korean Medicine, Pusan National University, Korea*
[b] *Department of Psychotherapy, School of Nursing and Public Health, Kyungil University, Daegu, Korea*

ARTICLE INFO

Article history:
Received 2 October 2015
Accepted 19 November 2015
Available online 7 December 2015

Keywords:
autonomic reactivity hypothesis
Sasang typology
systematic review
type-specific pathophysiological symptoms (TSPS)

ABSTRACT

Previous studies on the Sasang typology have focused on the differential diagnosis of each Sasang type with type-specific pathophysiological symptoms (TSPS). The purpose of this study was to elucidate the latent physiological mechanism related to these clinical indicators. We searched six electronic databases for articles published from 1990 to 2015 using the Sasang typology-related keywords, and found and analyzed 35 such articles. The results were summarized into six TSPS categories: perspiration, temperature preference, sleep, defecation, urination, and susceptibility to stress. The Tae-Eum and So-Eum types showed contrasting features with TSPS, and the So-Yang type was in the middle. The Tae-Eum type has good digestive function, regular bowel movement and defecation, high sleep quality, and low susceptibility to stress and cold. The Tae-Eum type has relatively large volumes of sweat and feels fresh after sweating; however, the urine is highly concentrated. These clinical features might be related to the biopsychological traits of the Tae-Eum type, including a low trait anxiety level and high ponderal and body mass indices. This study used the autonomic reactivity hypothesis for explaining the pathophysiological predispositions in the Sasang typology. The Tae-Eum and So-Eum Sasang types have a low threshold in parasympathetic and sympathetic activation, respectively. This study provides a foundation for integrating traditional Korean personalized medicine and Western biomedicine.

* *Corresponding author*. Division of Longevity and Biofunctional Medicine, School of Korean Medicine, Pusan National University, 30 Jangjeon-dong, Geumjeong-gu, Busan 50610, Korea.
E-mail address: han@chaelab.org (H. Chae).

http://dx.doi.org/10.1016/j.imr.2015.11.002

1. Introduction

The Sasang typology is traditional Korean personalized medicine based on the yin–yang philosophy and Confucianism along with the thousands of years of medical heritage in Korea.[1,2] The Sasang typology classifies humans into four types—Tae-Yang, So-Yang, Tae-Eum, and So-Eum—and provides type-specific clinical guidelines for prevention, intervention, and rehabilitation using acupuncture and medical herbs.[2] The Sasang type of person is a clinical prototype explaining type-specific pathophysiological symptoms (TSPS), prognosis, and responses to type-specific intervention.[3]

Each Sasang type has typical temperament and physical characteristics.[3] The So-Yang type is an extroverted, easygoing, and impulsive person, whereas the So-Eum type is an introverted, organized, and nervous person. Although the psychological characteristics of the Tae-Eum type is in between the So-Yang and So-Eum types, the Tae-Eum type has higher ponderal and body mass indices and greater chest and neck circumferences than the So-Yang and So-Eum types.[3,4] The Tae-Yang type is an originative, persistent, and independent person physically akin to the So-Eum type and psychologically akin to the So-Yang type.

There have been studies on the psychological,[5–7] physical,[3,8] genetic,[9,10] and pathophysiological symptoms[8] of each Sasang type, and these have shown that the biopsychosocial profile of each Sasang type is stable across the lifespan using the Sasang Personality Questionnaire[3] and the ponderal index.[4] The biopsychological distinction between Sasang types may be related to specific mechanisms, such as extroversion and neuroticism,[5] novelty seeking and harm avoidance,[6,11,12] behavioral activation and inhibition systems (neurotransmitters),[3,12,13] hypothalamic activity,[4] basal metabolic rate,[4] thyroid activity,[4] and the autonomic nervous system.[14–16] The detailed mechanisms can be examined through macroscopic system biology.[9,10]

The Sasang TSPS are type-specific clinical symptoms in digestion, sweat, sleep, urination, and defecation, and they are considered important clinical indices for diagnosis, intervention, and prognosis along with the biopsychological traits of each Sasang type.[3,8,17] As for the underlying physiological systems, the Tae-Yang type is a person with strong sympathetic activation and weak anabolism and energy-storing characteristics, whereas the Tae-Eum type has strong anabolism and energy-saving and weak sympathetic activation. The So-Yang type has strong intake and digestion and weak waste discharge; by contrast, the So-Eum type has strong waste discharge and weak intake and digestion.[3]

Although TSPS and their related clinical symptoms are pivotal for the clinical application of the Sasang typology, previous studies have focused on finding clinical symptoms for differential diagnosis between Sasang types[18] rather than examining the fundamental pathophysiological mechanisms underlying these differences.[3] The pathophysiological mechanism is crucial for understanding Sasang typology; however, previous sporadic studies emphasizing clinical conditions for Sasang type discrimination have inevitable limitations.[15,19]

For that reason, we systematically reviewed the TSPS of the Sasang typology by searching six electronic databases for articles published during the past 25 years, and analyzed them to elucidate the underlying Sasang type-specific physiological mechanisms. Jema Lee's *Longevity and Life Preservation in Eastern Medicine*[2] and clinical studies[8,15,19] consider five categories of TSPS—perspiration, sleep, digestive function, urination, and defecation—to be clinically important. In the present study, we incorporated three more proven TSPS categories: temperature preference, susceptibility to stress or fatigue, and physical characteristics. For the analysis, we integrated previous reviews on digestive function,[8] body shape,[3] and temperament[6,11] because satisfactory systematic reviews had been published elsewhere.

This study aims to provide a foundation for understanding the Sasang typology and its type-specific clinical symptoms, and contribute to establishing integrative medicine incorporating traditional Korean personalized medicine and Western biomedicine.

2. Methods and materials

2.1. Search strategy and data sources

We searched the following six electronic databases in either Korean or English: PubMed (www.pubmed.org), DBpia (www.dbpia.com), the Research Information Service System (RISS, www.riss4u.net), the Korean Traditional Knowledge Portal (www.koreantk.com), the Korean Studies Information Service System (kiss.study.com), and National Discovery for Science Leaders (www.ndsl.kr).

The keywords entered for screening were "Sasang," "Sasang typology," "Sasang constitution," and "Sasang classification" in Korean and English, and we extracted only articles published from 1990 to 2015. We excluded duplicate or irrelevant articles and then manually searched additional articles from our departmental files and relevant journals.

2.2. Article selection and data extraction

2.2.1. Inclusion and exclusion criteria

Articles presenting specific and detailed Sasang TSPS in perspiration, sleep, defecation, urination, temperature preference, and response to stress were included. Sasang TSPS in digestive function,[8,17] body shape,[1,3,8] and temperament[6,11] were also included from previous systematic reviews.

We excluded articles with type-specific interventions or their therapeutic effects, hypotheses, clinical cases, or type-specific diagnostic methods. Reviews on medical classics, textbooks, or translated texts were also excluded. Only articles with detailed, specific, clear, and objective measures on Sasang type-specific clinical symptoms were analyzed.

2.2.2. Data extraction

All selected articles were independently reviewed by two authors (Y.R.H. and H.C.), and data from the articles were extracted based on the predefined criteria. Data pertaining to demographic characteristics, such as the number of participants, sex distribution, description of the participants, and mean age, were collected. The Sasang-type classification method and the prevalence of each Sasang type were also