Status of Evidence-based Ayurveda Dietetics and Challenges in Research: A Review

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ABSTRACT

Diet is considered one of the basic needs for good health since it is the critical reason for disease as well as the preservation and promotion of health. According to Ayurveda, in both the conditions, viz. health and disease, diet is a prime factor to be thought about. Basics of clinical nutrition, one of the important disciplines in modern medicine can be traced out from the concepts of dietetics in Ayurveda. Though the research of the past few years has focused on various aspects of dietetics mentioned in classical texts of Ayurveda, a systematic review of these studies is still not available. A comprehensive review of evidence-based research works carried out on different aspects of Ayurveda dietetics can be an indicator of present lacunae challenges and future strategies. Though few attempts were made to establish some of the basic aspects of Ayurveda dietetics, individualized approach, seasonal diet, contradictory food (viruddhaahara), contraindication of certain diet are still to be studied systematically. Diet-medicine-lifestyle interface, pharmacovigilance of Ayurvedic diet, systematic review or meta-analysis, preclinical and Randomised Controlled Clinical Trials with standard control in the field of dietetics in Ayurveda are some of the prime areas requiring more attention.

Keywords: Ayurveda, Dietetics, Pathya, Research.


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INTRODUCTION

Ayurveda lays stress on positive health, a blend of physical, mental, sensorial, social and spiritual welfare and this holistic medical science considers three important factors while dealing with the health and disease, i.e. Oushadha (drug and therapies), Ahara (diet) and Vihara (practices). Most health problems develop due to the wrong eating habits and cooking methods. Ayurveda deals with the pathya vyavastha (planning of diet-dietetics) in a comprehensive and individualistic way. Ayurvedic classical literature attributes prime importance to dietetics and separate texts viz. Bhojanakutuhala, Kshemakutuhala, Vaidyajeevanam, Charucharya, Bhavaprakasha and dedicated chapters in major texts such as Charakasamhita, Sushrutasmhita, Astangahrudaya, and Kasyapasmhita, etc. are available on this subject.

Chronic diseases are largely preventable yet are the most common cause of death in the world and present a significant burden for society and health care providers. Particularly, diseases such as obesity, diabetes, cardiovascular disease, cancer originate from faulty lifestyle including diet. Therefore the scope for Ayurveda way of life has expanded for preventive health and management of diseases. Scientific evidence is essential to extensively incorporate Ayurveda-based practices into the public health system even though they have an extensive history of use, measured over thousands of years.

Various research institutions, universities, organizations and individuals are working in the area of Ayurveda dietetics. The research on contemporary dietetics is carried out by several government organizations such as National Institute of Nutrition, Hyderabad, CSIR-Central Food Technological Research Institute, Defense Food Research Laboratory in Mysuru who bring out guidelines and publications from time to time. Since collective information on the status of research done in the field of Ayurveda dietetics is lacking, there is a need to explore the same. Hence a literature search was done to review the status of research in Ayurveda dietetics during the period of October to November 2016.

MATERIALS AND METHODS

An electronic search of the literature on Ayurveda dietetics was done on PubMed, DHARA, Medknow, Ayush Portal, Open J-Gate, Google Scholar, Google by using keywords such as Ahara, Ayurveda diet, dietetics, Pathya. The physical search of the publications such as Journal of Research in Ayurveda and Siddha, Ayurveda
Maha Sammelan Patrika, Heritage Amruth, Journal of Indian Medical Heritage, Indian Journal of Traditional Knowledge, Ayurveda line, Sachitra Ayurveda, Deergayu International were also searched, and relevant publications were compiled.

RESULTS

Ayush Portal had a maximum number of articles on Pathya (38) and dietetics (38). The keyword Ahara showed 1677 articles out of which 46 articles were directly focused on dietetics and others had just mentioned the word "diet" in the publication. In this way, about 100 articles were available in electronic form. Out of about 25 articles searched physically from the library, almost 50% were also uploaded on various internet sites. The analysis of available articles showed that there was not a single systematic review, meta-analysis or randomised controlled trials with standard control. The black box design, supposed to be the best research method in this area was also not available.

The majority of the articles were reviews of the ancient literature.5-7 Publications on preclinical and clinical studies on food ingredients like dairy products, pomegranate, garlic, and other spices8-11 Some clinical work on the effect of a particular diet on a specific condition has also been done.12-24

However, the research work was found to be inconclusive with basic lacunae such as lack of standardization and standard operating procedure for preparation and administration of diet without a watch on compliance and specific outcome. The studies also had considerably short duration, conducted on a small and non-representative sample. Unique features of Ayurveda such as individualized approach, seasonal diet, contradictory food (virudhaahara), contraindication of certain diet were not taken up for scientific work.25-27

Health benefit of vegetables has long been identified by the authors of various classical texts of Ayurveda.28 Based on this leads from Ayurveda literature, food supplements and prophylactic nutritional interventions may be developed.5 Different review articles, focusing on the role of classical vegetables mentioned in Ayurveda indicated as Pathya in diabetes,29 cardiovascular diseases,30 disorders,31 respiratory diseases,32 male infertility33 and gastrointestinal diseases34 have also been reported. But, no attempts have been made to identify the active principles, to examine the long-term beneficial effects, and to understand the mechanism of action of these classical vegetables to establish their dietetic importance.

DISCUSSION

Crichton et al. reported the challenges of dietary intervention trials.35 The diet planning mentioned in Ayurveda is more intricate though rationally based on certain principles. Importance is given to the diet with regard to its processing, quality, quantity and so on. Due consideration is given to the atmosphere, psychosomatic constitution, age, habitat, status of health, digestion, liking, etc. of the person while planning a complete diet. Therefore the diet is precisely individualized and variable with different given conditions.

The diversity of raw materials, watch on compliance in adopting gold standards in designing research proposals. The diet component is difficult to test on animals for the efficacy. There is a lack of appropriate models in consonance with basic principles of Ayurveda. There are several differences between Ayurveda and modern understanding of dietetics, e.g. curd is contraindicated in Amaavata (rheumatoid arthritis) however, allopathy does not have any such recommendation. Mutual understanding of the issues between Ayurveda and conventional practitioners is essential for planning the appropriate study. There is an enormous opportunity for conducting basic research by using systems biology approach. According to Singh, truth-trust-teamwork is the vital chain in interdisciplinary research, which has been lacking and has been the main cause of failure of otherwise well-conceived projects.36 Poor publication culture and publication bias is a major problem in any research. There is no research culture among students and practitioners.

Therefore the need of the hour is developing coordination between all interested organizations and individuals to plan whole system research by incorporating contemporary technology and tools. Single case studies are ideal for generating pilot data. The case series in selected communities and a small group study can be undertaken based evidence. Several authors in the fast recommended black box design, whole system analysis. Multidisciplinary approach at every stage of research planning like involving biostatistician, botanist, chemist, pharmacist, pharmacologist, nutritionist, food scientist. The protocol should focus on Ayurvedic principles, which need to be tested through rationally used contemporary techniques. Maintenance of uniformity of the ingredients, finished products, standard operating procedures for preparation, storage, way of eating gives reliable and replicable results. Research orientation to huge students and practitioners will ensure generation of the enormous amount of data. Publication in peer-reviewed journals will help in the generation of evidence and wide dissemination of the information. This will facilitate the better understanding of Ayurveda by the research scientists, medical practitioners, academicians, manufacturers,
health authorities as well as the general public. This will also encourage the integration of the mainstream health service delivery system.

CONCLUSION

There is ample scope for research on Ayurveda diet intervention in the prevention and management of lifestyle disorders. The research should focus on fundamental aspects mentioned in Ayurveda. There is a need to prove the importance of traditional diet scientifically with the help of evidence focusing on wholesomeness and not just nutritional or disease pacifying activities. The diet-medicine-lifestyle interface needs to be documented to ascertain the complementary role of food and lifestyle to potentiate the effect of the medicine. The pharmacovigilance of Ayurvedic diet to prove the concept of wholesomeness and unwholesomeness of food articles is also essential.

There is need of systematic review or meta-analysis, preclinical and randomised controlled clinical trials with standard control in the field of dietetics in Ayurveda using black box design to generate data as complementary as well as standalone therapy for lifestyle disorders as well as wholesomeness and unwholesomeness of food for prevention of diseases.

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हिंदी सारांश
प्रमाण—आयुर्विदिक आयुर्विद आहार विज्ञान की स्थिति एवं अनुसंधान में चुनौतियों की एक समीक्षा

सुलोचना भट, राधेश्याम नाईक, साम्रती देशमुख, विनोद के लवणिया

आहार को अच्छे स्वास्थ्य की मूलभूत आवश्यकता के रूप में माना जाता है क्योंकि यह शरीर के साथ-साथ स्वास्थ्य के संबंध और संबंधों के लिए मुख्य कारण है। आयुर्विदिक आनुसंधान, स्वास्थ्य और शैक्षण, दोनों प्रक्षेपणों में, विशेष रूप से एक प्रमुख कारक आहार है। नैविक प्रेमण के गूढ़ताव, आयुर्विदिक विश्लेषण के महत्वपूर्ण विषयों में से एक है जिनका पता आयुर्विद में आहार विज्ञान के अवस्थाओं से लगाया जा सकता है। हालांकि बिलास कुछ नई की शीघ्र ने आयुर्विद के सातीय दृष्टिकोण में वर्णित आहार विज्ञान के विभिन्न पहलुओं पर ध्यान केंद्रित किया है, लेकिन इन अनुसंधानों की व्याख्या समीक्षा अभी भी उपलब्ध नहीं है। आयुर्विद आहार विज्ञान के विभिन्न पहलुओं को प्रस्तुत करने साधन—आयुर्विदिक शोध कार्यों पर व्यापक समीक्षा, वृत्तांत क्वालिटी, नैविक तथा भौतिकी की उपपरिभाषाओं का संयोजन हो सकता है। भविष्य आयुर्विद आहार विज्ञान के कुछ बुनियादी पहलुओं को स्थापित करने के लिए काफी प्रयास किए जा पुर्खे हैं। व्यक्तिगत स्वास्थ्यकोण, नैविक आहार, विशेष शाळीं, गृह (विशेष वातावरण), नियम आहार के निषेध के लिए अभी भी व्याख्यात सूची से अलग किया जाता रहेगा।

आयुर्विदिक आहार विज्ञान के क्षेत्र में आहार—विश्लेषण—वृत्तांतीय अंतर्वक्तक, आयुर्विदिक आहार के फार्मासीकोल्जिस, व्याख्या समीक्षा या गहन—विश्लेषण, विश्लेषण और व्याख्यात विश्लेषण विश्लेषण के साथ मानक नियंत्रण इसे कुछ प्रमुख क्षेत्रों में अधिक व्यापक देखने की आवश्यकता है।