A literary review on lifestyle intervention through ayurveda in increasing pattern of non-communicable diseases due to urbanization.

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ABSTRACT

Non-communicable diseases (NCDs) are of increasing concern for global health due to their high mortality rate. The major risk factors of NCDs can be classified into categories of self-management, genetic factors, socio-demographic factors, environmental factors and factors of medical conditions. Consuming alcohol, smoking, physical inactivity and unhealthy dietary habits are the vulnerable risk factors. NCDs are driven by factors like rapid unplanned urbanization, unhealthy lifestyle and aging also. The metabolic risk factors include hypertension, increased blood sugar level & blood pressure may be due to unhealthy diet and physical inactivity, lead to NCDs.

The description of bahudosha, snatarpanjanya vyadhhi, medoroga and santarpanjanya prameha in Ayurveda has similarity to metabolic risk factors. The management of these conditions in Ayurveda involves predominantly Aahara (proper diet), Vihara (physical activity, exercise and stress management) and shodhana (purification). The main focus is on the elements of self-management and to understand the importance of lifestyle intervention and risk factors modification in order to prevent NCDs at all stages of life.

This paper will discuss epidemiological data of non-communicable disease and urbanization. The review of this condition along with its management from Ayurveda perspective and its importance in clinical practice will be discussed.

Key Words: risk factors, non-communicable disease, life style intervention.

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INTRODUCTION

There is increasing burden of NCDs globally. Earlier communicable diseases are being replaced by non-communicable diseases, a concern for developing countries.1 The urban population is growing day by day. Rapid urbanization causes changes in food habits, increased stress level and sedentarity lifestyle which are responsible for increasing risk factors of NCDs.2 Non-communicable diseases (NCDs), also known as chronic diseases, are medical conditions that are associated with long duration and slow progress. Most NCDs are non-infectious and are result of several factors, including genetic, behavioral, physical, and environmental factors.3 According to World Health Organization (WHO), NCDs are the leading cause of death, globally, responsible for 71% of the total mortality each year. The four major NCDs are cardiovascular disease, cancers, respiratory disease, and diabetes.4 However, the term NCDs cover a wide range of health problems, such as hepatic, renal, and gastroenterological diseases, endocrine, hematological and neurological disorders.5 The main risk factors contributing to NCDs involve unhealthy diets, physical inactivity, tobacco use, and alcohol misuse.6 Hence, most of these diseases are preventable as they eventually progress in early life due to lifestyle aspects.7 There is an increasing concern that poor diet has increased the potential risk, causing chronic diseases.8 The risk factors impose large burden on the national health system.9

An important way to control non-communicable diseases is to focus on reducing the risk factors associated with these including lifestyle modification, weight reduction, diet management, physical exercises, behavior therapy etc. Pathology of metabolic syndrome occurs due to cross sectional communication between insulin resistance and chronic inflammation. The description of bahudosha, snatarpanjanya vyadh, medoroga and santarpanjanya prameha in Ayurveda has similarity to metabolic risk factors. The management of these conditions in Ayurveda involves predominantly Aahara (proper diet), Vihara (physical activity, exercise and stress management) and shodhana (purification).10 Health and well-being are the primary goals of individuals in regards to food choice.11 Many researchers have indicated that the core of the health-conscious lifestyle is directed towards a wellness-oriented lifestyle and the behavior of people determines their health status.12,13 Thus, lifestyle modifications and interventions to reduce the risk of NCDs are the priorities in the primary prevention of diseases.14 Hence, there is a need to study prevention strategies in ayurveda for non-communicable diseases.

METHODOLOGY

Aim: Management of non-communicable diseases by risk factors modification from Ayurveda perspective.

Objectives:
To explain role of ayurveda in preventing non-communicable diseases.
Risk factor modifications of non-communication diseases through ayurveda.

MATERIALS

Ayurvedic treaties
Epidemiological data by World Health Organization
Review articles of Ayurveda on non-communicable diseases and its risk factors like metabolic syndrome.
Articles related to life style management in urbanized era from Ayurveda and contemporary science.

METHODS

Literary review from various research articles from Ayurveda and contemporary text, previous studies, census, epidemiological data, updated information available on internet have been critically analyzed, assessed and evaluated as a problem selected here.

RESULTS AND DISCUSSION

According to various scientific articles non-communicable diseases sharing pathology vis a viz samprapti like Prameha , medoroga, Ama, Santarpanjaniya vyadhı.15 According to Ayurveda, ama is root cause of all metabolic diseases and degenerative diseases, since it blocks strotas of micro-channel that nourishes tissue.16 Ama is believed to have anti-genetic and pre-inflammatory property.17 Non-communicable diseases, are also known as chronic diseases tend to be of long duration and are the result of combination of genetic, physiological,
environmental and behavioral factors. Main cause of non-communicable diseases are cardiovascular diseases, Cancer, Chronic respiratory diseases and Diabetes which shows low grade chronic inflammation.18

Obesity is a natural consequence of over nutrition, sedentary lifestyle.19 Persistent obesity deregulates metabolic process including action of insulin on glucose lipid free fatty acid metabolism and severely affects process controlling blood glucose, blood pressure, and lipids. Thus begins a cluster of conditions, dysglycemia, dyslipidemia, and hypertension and pro coagulant state known as metabolic syndrome.20

Data suggest that obesity and metabolic syndrome are immediate precursors of type II diabetes mellitus and cardiovascular diseases.21 Obesity and medoroga both have same causes, signs, symptoms and treatment. This is primarily due to increased dependency on mechanized transport and labor-saving technology at home.22 The best treatment found for this is proper dietary intake and increasing physical activity i.e., apatarpana and vyayama that our acharyas have mentioned in chikitsa of sthautya.23

Ayurveda also addresses the management of physiologic factors that contribute development of prameha. Ayurvedic treatment known as apatarpana (balanced diet with restricted calories) and santarpana (highly nutritious, high caloric diet intended to increase weight) are recommended for patients with type II and type I diabetes, respectively.24

As mentioned above, it is evident that non-communicable diseases mainly arise due to inappropriate dietary habit and sedentary life style. We all know that “prevention is better than cure”, to avoid non-communicable diseases, life style modification is given in terms of Dincharya (daily regimen), Rutucharya (seasonal regimen). These can be elaborated mainly through two parts of Aahar (diet management) and vihar (physical exercise and stress management).

Insulin resistance and chronic inflammation are two main reasons for non-communicable diseases. According to Ayurveda, chronic inflammation can be correlated with the condition of ama. Ama is the main root cause of disease, due toagnimandya it is responsible for obstruction in micro channels (strotas) and causes inflammation and tissue damage.25 In Charak sutra sthan symptoms of bahudosha resemble to metabolic syndrome. And treatment of this aggravated doshas is by langhana (lightning) and pachan (digestion), but these never recur if they subdued with evacuation therapy (Panchakarma).26

As the main reason behind non-communicable disease is change in life style. Hence, life style modification is compulsory for prevention of NCDs. Dincharya and Rutucharya can be coined as physical adaptation by human to acclimatize physiological need of body. The daily regimen (routine) to be followed in order to maintain our health is called dincharya. All disorders in current era mainly because of daily routine not being followed like eating at inappropriate time, irregular sleeping pattern. Thus, in order to maintain health acharyas have specifically mentioned that the routine that has to be followed. The seasonal regimen is to be followed to avoid disease occurring due to seasonal variations. In rutucharya specific diet regimens are mentioned to avoid these diseases.

CONCLUSION

Urbanization has a massive role in disease pattern shift towards non-communicable disease. The best strategies are lifestyle modifications and interventions to reduce the risk of NCDs and these are the priorities in the primary prevention of diseases. The Ayurveda’s Aahara (proper diet) and Vihara (physical activity, exercise and stress management) will help to control NCDs up to greater extent.

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