

## INTEGRATED APPROACH OF SWASTHAVRITTA AND PSM IN THE PREVENTION OF CHRONIC NON-COMMUNICABLE DISEASES (CNCDS)

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### ABSTRACT

The global burden of disease is shifting from infectious diseases to chronic non-communicable diseases, and now becoming the chief causes of death globally, according to different recent report published by WHO at Geneva. So CNCDS are having increasing in number among the population of developed and developing countries today and reached alarming proportion. This is because changed lifestyle of human being that had made human more dependent, mechanical, isolate, busy or rush, more stressful. The health is inter-sectorial and an integral part of development so all the sections of Swasthavritta can work together in prevention of chronic non-communicable diseases. The aims and objectives of the study are to focus on measures available in Swasthavritta and preventive and social medicine in the prevention of CNCDS. To aware people about burden of CNCDS and their causes (risk factors responsible for CNCDS). So people should educate to adapt the healthy life style. The present approach is in planning for program of positive health to provide a cafeteria choice that is to offer all measures from which an individual can choose according to availability of time and his needs wish to promote health as a way of life and prevent CNCDS.

**Keywords:** Integrated, Swasthavritta, non-communicable, dincharya, yoga, food.

### INTRODUCTION

Lifestyles of populations across the world have been changed dramatically in the 21th century. These changes (collectively termed as epidemiological transition) have been brought about by a number of developments in science and technology that now affect every existence. With rapid economic development and increasing westernization of lifestyle in past few decades changes pattern of diseases also.

Human beings today lived in a highly complicated environment which is getting

more complicated as man is becoming more ingenious. As the day (time) passes man goes away from environment and the life of a person is becoming more and more hectic this added with the emerging new complications also.

The shifting health trends indicate that leading infectious diseases – diarrhea, HIV, tuberculosis, neonatal infections and malaria – will become less important causes of death globally over the next 20 years<sup>1</sup>. According to statistics from the World

Health Organization, non-communicable diseases are responsible for 63% of deaths worldwide, double the number of deaths from infectious diseases (including HIV/AIDS, tuberculosis, and malaria), maternal and perinatal conditions, and nutritional deficiencies combined. The principal known causes of premature death from CNCDS are tobacco use, poor diet, physical inactivity, and consumption of alcohol. By 2020, CNCDS are expected to account for 7 of every 10 deaths in the world, as they already do in the U.S. These projections suggest that NCDs and the death, illness, and disability they cause will soon dominate health care costs and are causing public health officials, governments and multinational institutions to rethink how we approach this growing global challenge. Eighty percent of NCD-related deaths worldwide occur in low- and middle-income countries. Apart from the tremendous adverse effects on the quality of life of individuals involved, these conditions place enormous strains on family and community budgets<sup>2</sup>.

### **Concept of Primordial prevention**

Primordial prevention a new concept, is receiving special attention in the prevention of chronic diseases. Primordial prevention is primary prevention in its purest sense that is prevention of the emergence or development of risk factors in population groups or countries in which they have not yet appeared. Many adult health problems like obesity, hypertension is having their early origins in childhood, because this is the time when lifestyles are formed and have close to habits like smoking, eating patterns, absence of physical exercise. In primordial prevention, efforts are directed towards discouraging children from adopting harmful

lifestyles. The main intervention in primordial prevention is through individual and mass education and thus health promotion<sup>3</sup>.

Primordial and primary prevention are most important. They are the long term measures. Secondary and tertiary prevention is often more expensive and less effective. Primordial prevention and swasthavritta both are one and the same meaning. It is an art of life or we can say way of living.

The aim of swasthavritta is to maintain swasthya of swastha person so automatically all the regimens mentioned in swasthavritta are useful to prevent the chronic non-communicable diseases. If we follow them we can stay away from these diseases. And if we have a disease it can get cure or minimize its suffering. This approach has been taken as Health by the people and placing people's health in people's hand. Healthy people should also get benefit of this study by preventing NCDs.

Greater advocacy is required to raise global awareness of this growing threat and to help dispel some of the myths surrounding NCDs. Preventing and controlling NCDs will require countries to strengthen their health systems, but the effort cannot stop there; a truly effective response will require action well beyond the health sector. Health practitioners, policymakers, community members and industry leaders must work together in a multilateral fashion to create comprehensive solutions to this growing challenge of CNCDS.

The aims and objectives of this study are: -

1. To focus on measures available in Swasthavritta and preventive and social medicine in the prevention of CNCDS.

2. To aware people about burden of CNCDS and their causes (risk factors responsible for CNCDS).

This is exactly match the above advocacy. So focus swasthavritta regimens. If we give importance to Swasthavritta it also maintains positive health.

#### **Review of literature: -**

In classics the general description of non-communicable diseases, their preventive methods, and swasthavritta regimens is available.

Charaksamhita gave information about swasthavritta mainly in sutrasthan and other also.

Sushrutasamhita explain it in uttararddh.

Ashtangasangrah describe it in sutrasthan.

Bhavaprakash also gave information about swasthavritta.

Hatyogpradipika, Gherandsamhita, explain about yoga.

Preventive and social medicine describes about non-communicable diseases.

#### **Materials and Methods: -**

**Materials:** -It is a review study article. The patients of chronic non-communicable diseases should be selected. Healthy people should also take into consideration.

**Methods:** - Preventive interventions (primordial and primary prevention-health promotion and education, early diagnosis) should advice to the patients which are given in Preventive and Social medicine for chronic non-communicable diseases along with treatment. Swasthavritta from Ayurveda give information of interventions like dincharya, rutucharya, nidra, shodhankarma according to rutu, rasayanasevan. Swasthavritta also told in details about aahar as aahar-parinamkarbhav, aahar-vidhividhan, pathya-apathya, yoga-aasan, pranayam. All

these are also advice to patient for follow. Healthy people should also follow measures and maintain their health.

The present approach is in planning for program of positive health to provide a cafeteria choice that is to offer all measures from which an individual can choose according situation and his needs wish to promote health as a way of life.

#### **Laboratory investigations: -**

Laboratory investigations should be done according to the Chronic Non Communicable Diseases.

#### **Observation: -**

The pattern of diseases changed significantly if one compares the leading causes of death globally. NCDs killing more than three in five people worldwide and responsible for nearly half of the global burden of disease<sup>4</sup>. Every decade produces its own pattern of disease.

During the past decades; the developed world has experienced a dramatic change in pattern of diseases. By far the greatest part of this development there has been decline of many of the infectious diseases. But however problems of a different have achieved ascendancy e.g. coronary heart, cancer, diabetes.

The morbidity pattern also changed. Due to NCDs work efficiency, productivity, and life span decrease. There has been a steady increase in social pathology due to alcohol and drug abuse. Lung cancer due to smoking and obesity due to overeating have become common. Environment health problem connected with toxic, carcinogenic and mutagenic material in the external environment due to industrialization and growing urbanization are assuming growing importance<sup>5</sup>.

The pattern of diseases in developing countries is very different people die due to infectious diseases. On other hand, an increase in the frequency of new health problems such as coronary heart disease, hypertension, cancer, diabetes, accident has been noted. The emerging picture is a mixture of the old and new diseases<sup>6</sup>.

The factors which play a role in the changing patterns of diseases are multiple. They include changing life styles, behavioral patterns, living standards, demographic factors, urbanization and industrialization, medical interventions, maintenance of people with transmissible genetic defects and the widespread effects of technology and ecology these being favorable to the onset of chronic diseases<sup>7</sup>.

The changing pattern of disease in both developed and developing countries and the emergence of new problems emphasize the need for forward looking approaches in health planning and management<sup>8</sup>.

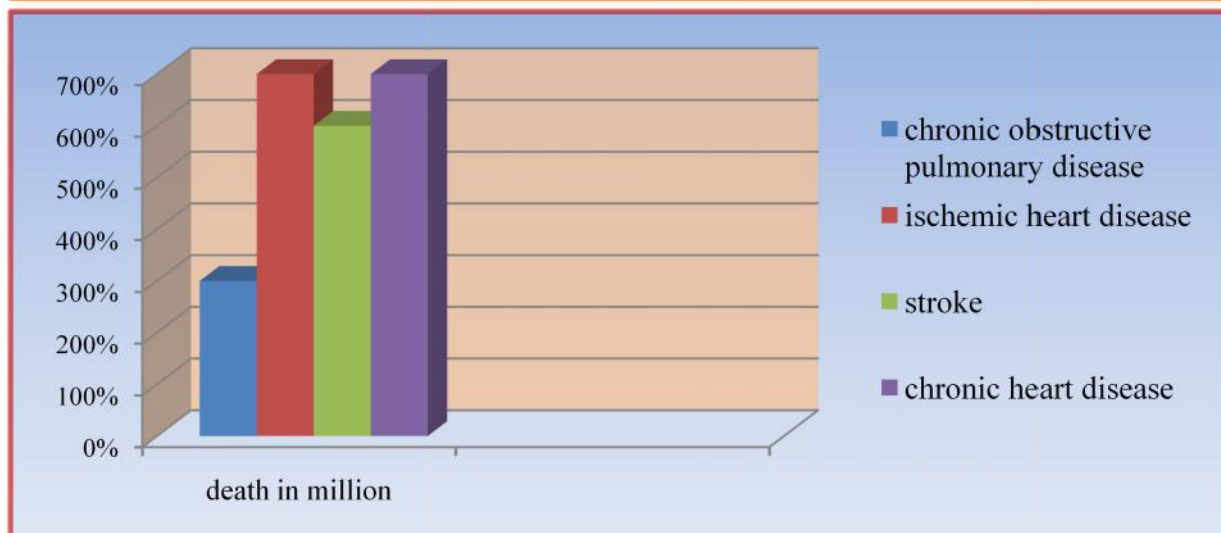
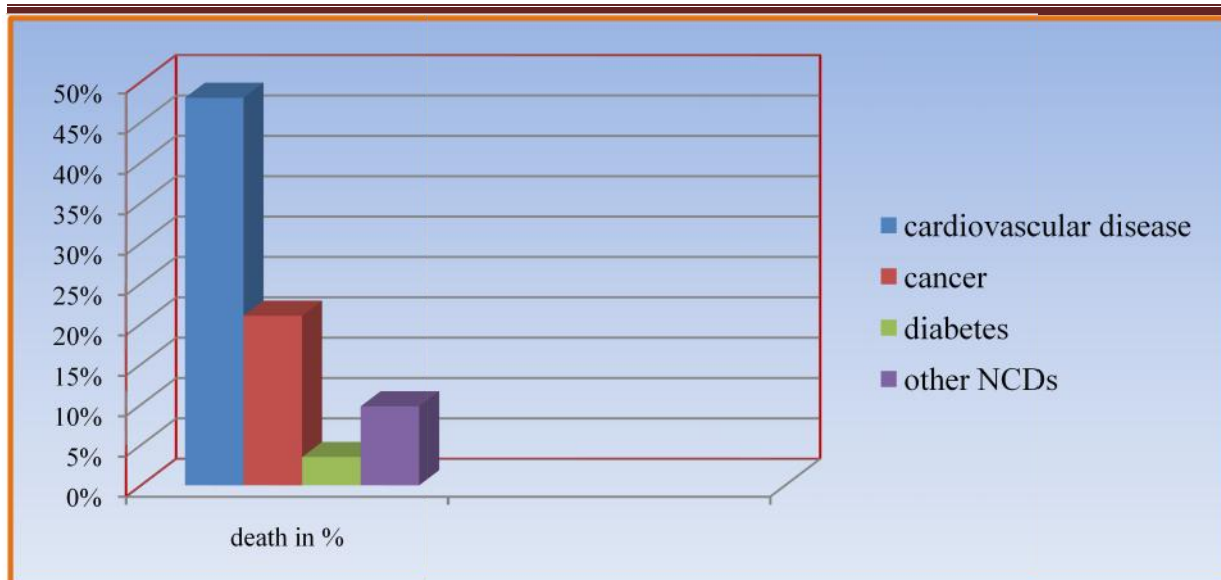
Chronic non communicable diseases are assuming increasing importance among the adult population in both developed and developing countries<sup>9</sup>. Developing countries are now warned to take appropriate steps to avoid the epidemics of non communicable diseases.

Of the 57 million global deaths in 2008, 36 million (63%) were due to NCDs. In these

cardiovascular disease were responsible for 48% followed by cancer 21%, chronic diabetes (1.3 million deaths or 3.5%) and rest of the NCDs were responsible for 9.78% of deaths. The annual NCD deaths are projected to 52 million in 2030. Worldwide during 2011 the leading diseases causes deaths are ischemic heart disease (7 million), stroke (6.2 million), chronic obstructive pulmonary disease (3 million)<sup>10</sup>. With 7.2 million deaths and 12.2% of total deaths CHD is a worldwide disease.<sup>11</sup> During 1990s road traffic injuries ranked ninth among the leading causes of death in the world.<sup>12</sup>

Non-communicable diseases also include renal, nervous and mental diseases, musculoskeletal condition such as arthritis and allied diseases, chronic non specific respiratory diseases (asthma, chronic bronchitis) permanent results of accidents, blindness, senility, and obesity and various other metabolic and degenerative diseases and chronic results of communicable diseases.<sup>13</sup>

India is experiencing a rapid health transition with arising burden of NCDs causing significant morbidity and mortality both in urban and rural population with considerable loss in potentially productive years (age 35-64 years) of life. In India NCDs are estimated to account for about 53% of all deaths<sup>10</sup>.



### Non-communicable diseases risk factors: -

A set of risk factors are responsible for a major of adult CNCD morbidity and premature mortality. A large percentage of NCDs are preventable through the changes in these factors. The influences of these risk factors and other underlying metabolic physiological causes on the NCD epidemic include

1. Tobacco– Almost 6 million people die from tobacco use each year both from direct tobacco use and second from smoke. Smoking is estimated to cause about 71% of lung cancer, 42% of chronic respiratory disease and nearly 10% of cardiovascular disease.<sup>10</sup>
2. Insufficient physical activity- approximately 3.2 million people die each year due to physical inactivity. People who are insufficient physically active have a 20% to 30% increased risk of all-cause mortality.<sup>10</sup>
3. Harmful use of alcohol- approximately 2.3 million die each year from the harmful use of alcohol, accounting for about 3.8% of all deaths in the world. More than half of these deaths occur from

NCDs including cancer, cardiovascular disease and liver cirrhosis.<sup>10</sup>

4. Unhealthy diet – Most populations consume much higher levels of salt than recommended by WHO for disease prevention. High salt consumption is an important determinant of high blood pressure and cardiovascular disease<sup>10</sup>.
5. Over weight and obesity – At least 2.8 million people die each year as a result of being overweight or obese. Risk of heart disease, certain cancer, stroke and diabetes mellitus increase steadily with increasing body mass index.<sup>10</sup>
6. Raised cholesterol is estimated to cause 2.6 million deaths annually. It increases the risk of heart disease and stroke.<sup>10</sup>
7. Raised blood pressure: Raised blood pressure is estimated to cause 7.5 million deaths; about 12.8% of all deaths. The prevalence of raised blood pressure is similar across all income groups, though it is generally lowest in high-income populations.<sup>10</sup> It is a major risk factor for cardiovascular disease.
8. Failure or inability to obtain preventive health services (e.g. for hypertension control).
9. Environmental risk factors (e.g. occupational hazards air and water pollution and possession of destructive weapons in case of injuries).
10. Stress factors.<sup>14</sup>

There are many gaps while going through the natural history of chronic diseases. These gaps cause difficulties in etiological investigations and research. Those are

1. Absence of known agent- Many chronic diseases the causative agent is not known where as in some CNCd the

cause is known. The absence of a known agent makes both diagnosis and specific prevention difficult.<sup>15</sup>

2. Multifactorial causation- Most chronic diseases are the result of multiple causes. Chronic diseases appear to result from the cumulative effects of multiple risk factors. Many more are yet to be identified and evaluated.<sup>16</sup>
3. Long latent period- Next obstacle to understanding the natural history of chronic disease is the long latent period between the first exposure to suspected cause and the development of disease. This makes it difficult to link suspected causes with outcomes.<sup>17</sup>
4. Indefinite onset- Most chronic diseases are slow in onset and development, and the distinction between diseased and non-diseased states is indefinite or may be difficult to establish. In many chronic diseases the underlying pathological processes are well established long before the disease manifests itself.<sup>18</sup>

Preventive measures: - The preventive attack on chronic diseases is based on the knowledge that they are multifactorial in causation, so their prevention demands a complex mix of interventions.

With identification of risk factors health promotion activities aimed at primary prevention are being increasingly applied in the control of chronic diseases.

1. Regular physical activity reduces the risk of cardiovascular disease, including high blood pressure, diabetes, breast and colon cancer and depression. Regular physical activities should be a part of normal daily life. It is particularly important to encourage children to take up

- physical activities that they can continue throughout their lives<sup>10</sup>.
2. Dietary changes - Dietary modifications is the principle preventive strategy. Adequate consumption of fruit and vegetables reduces the risk for cardiovascular diseases, stomach cancer and colorectal cancer<sup>10</sup>.
  3. Avoid high consumption of saturated fats trans-fatty acids because it is linked to heart disease.<sup>19</sup>Reduction of fat intake to 20-30 percent of total energy intake, a reduction of dietary cholesterol to below 100mg per 1000kcal per day.<sup>20</sup>
  4. Control of water and air pollution, reducing accidents, influencing patters of human behavior and life styles through intensive education.<sup>21</sup>
  5. Smoking control, control use of alcohol and drug abuse is automatically happen by following the sadvritta.

## DISCUSSION

A broader concept is emerging that is to arrange an overall integrated program for prevention and control of NCDs and attack several risk factors known to be implicated in the development of non-communicable diseases. All these concerted preventive action should reduce major CNCDS with an overall improvement in health and length of life.

Primordial prevention it means prevention of the emergence or development of risk factors in population groups. By this means we have accurate the lifestyles of people or adapt healthy lifestyles. In dincharya, from time to wake up on bramha muhrta, abhyanga, eye care, timing for drinking water, all the things are explained. Benefits of sound Sleep and manners to go for sleep are explained. Bramhacharya

means our oja or essence of all dhatus is protected so vyadhibalavirodhatwa and vyadhiutpadakpratibandhak both Vyadhikshamtwa are improved. Aahar is prana. Aahar-parinamkarbhav, aahar-vidhividhan, dwadash-aashanavichar, ashta-aaharvidhivisheshayatan, all are helpful and give advice about manner to take aahar. Rutucharya explain shodhankarma and aaharvihar, Pathya-apathya, according to rutu so our dosha and dhatu remains in equilibrium conditions.

Vegdharan is most prime contributing factor in developing of all NCDs. Swasthavritta explain all the dharneeya and adharneeya vega and benefits by dharan and expel on time to time. Sadavritta explain about all the rules and regulations of behavior. We should follow these such as following of traffic rules, do the practice of truth, serve for community and participation by this we maintain our social health and also individual. If we see today's lifestyles it is more hectic and stressful; we have not spent much time to follow all these things because of our ignorance. Some people are aware about this but did not give importance. If we adapt preventive measures of both sciences and follow them we maintain our health. We stay away from NCDs. We spent much more time in entertainment; we are in continuous work and have more stress. Our life is becoming more mechanical, artificial. So if we see the causative factors for NCDs they emerging due to today's lifestyles, eating patterns, insufficient physical activity and did not getting proper sleep or time management. All these things change our physiological body functions into pathology which contributes for NCDs. Due to stress, sedentary lifestyles and other factors our

hormonal secretion like insulin or bile secretion are altered. And also alterations happen in circulatory system like change in pulse, blood pressure, heart rate. All these are causative factors for NCDs. We have to explain all these things to people and educate them to adapt the healthy lifestyles. By adapting swasthavritta lifestyle it corrects the pathology of NCDs in direct indirect manner into normal physiology.

Approach of both primordial and primary prevention for CNCDS is preventing the emergence of and spread of risk factors and lifestyles that have not yet appeared or become endemic. This applies to developing countries like India. These countries should seek to preserve their traditional eating patterns and lifestyles associated with low levels of CNCDS risk factors.

Risk factors	
Not modifiable	Modifiable
Age, sex, family history	Salt intake, use of alcohol, cigarettes, tobacco, high blood pressure, diabetes, elevated serum cholesterol, obesity, sedentary habits, stress, physical activity, saturated fat and dietary fiber.

Nidan-Parivarjana - avoidance of etiological factors like faulty dietary habits, smoking and excessive alcohol consumption, excessive physical exertion, emotional stress etc. is helpful in prevention of CNCDS. The etiology is multifactorial so the approach to prevention should also be multifactorial aimed at controlling or modifying as many risk factors. The aim should be to change the community as a whole, not the individual subjects living in it.

Several well planned risk factors intervention trails have demonstrated that primary prevention can achieve substantial reduction in the incidence of CHD<sup>22</sup>. For all CNCDS the regimen advocated by swasthavritta are we can take as preventive measures. It includes dincharya, rutucharya, shodhankarma according to rutu, rasayana-sevan. Swasthavritta also told in details about aahar as aahar-parinamkarbhav, aahar-vidhividhan, pathya-apathya. Meditation and sleep are one of the best ways to relax, dissolve stress and allow the body to heal and clam the mind, nerves and emotions. From Yoga yama, niyam controls excessive emo-

tions. Aasan, pranayama looks after endocrine, metabolic and other physical aspects. Sadavrittaaacharan is implicated for control the pradyanaparadh.

Our acharya told this science which is essence for productive life after so many experiences. According to Bhavaprakash everyone wants to be healthy so it is better for vaidya to advice specially those things which are helpful to maintain swasthya. Daily routine (dincharya), ratricharya(sleep & other), rutcharya(seasonal regimen), described in science is helpful to maintain swasthya by following it otherwise we will not get health.<sup>23</sup>Vagbhat told in Ashtangsan-grah that the man who always takes hitakaraahar-vihar should know all the good and bad things and he should follow them. He should stay away or in the limit from sensory objects, do the practice of truth and equity, donate, do the charity for human beings, and be kind so he should always remain healthy.<sup>24</sup>These references are telling the importance of swasthavirtta.

### CONCLUSION

Finally we can conclude that



1. Non-communicable diseases are the biggest global killers today. CNCDs are a smolder problem.
2. Non-communicable diseases are strongly influenced by four main behavioral risk factors: tobacco use, insufficient physical activity, harmful use of alcohol, and unhealthy diet, which lead to elevated blood pressure, raised blood glucose and cholesterol levels, and excess body-weight.

Primordial and primary prevention are the most important preventive levels at which we emphasize and apply the modes of interventions like health promotion, health education, environmental modifications, nutritional interventions, life styles and behavioral changes which are told by preventive and social medicine. In health education we advice swasthavritta lifestyles to people. We have to use PSM and swasthvritta combine for prevention of CNCDs.

Swasthavritta regimens are fit according to these modes of interventions. The aim of swasthavritta is ultimately to promote health, to preserve health, to restore health. The focus of Swasthavritta has always remained in prevention and promotion of health alongside the curative aspect of Ayurveda. Swasthavritta envisages the living functional balance between the various components of the living system and harmonious existence with nature is a pre-requisite for prevention of CNCDs.

Thus considering the observations pertaining to the literary study we draw logical conclusion that Integrated Approach of Swasthavritta and preventive and social medicine is applicable for the Prevention of Chronic Non-Communicable diseases along with treatment.

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