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REVIEW ARTICLE

THE ROLE OF YOGIC PRINCIPLES AND PRACTICES IN THE PREVENTION AND MANAGEMENT OF NONCOMMUNICABLE DISEASES (NCDs)

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ABSTRACT

Until 100 years ago the epidemiological scenario of human diseases was concerned with the major killer infectious communicable diseases. In the latter half of the twentieth century there was a progressive decline in infectious communicable diseases and concomitant increase in chronic, degenerative, noncommunicable disease (NCDs). One of the major development challenges in the 21st century is premature death from NCDs. It is estimated that up to 80 per cent of NCDs are preventable by modifying common risk factors including diet and lifestyle. The national strategies in India focus on prevention and health promotion as key to reduce disease burden.

The holistic perspective of prevention and management can be achieved by following the holistic approach through the principles and practices of yoga. It helps the understanding of our body on the basis of Panchakosa theory for self realization and expansion of awareness or consciousness. This in turn helps the person to modify his lifestyle and maintain an optimum state of health.

Yoga is beneficent to prevent the incidence, to cure the manifested disease and can be used as rehabilitative measure to minimize the complications of disease. So this is an inevitable part to fight against the burden of NCDs.

INTRODUCTION

The early decades of twentieth century witnessed a number of wars, famine, natural disasters and the major share of global mortality was contributed by these adverse events and infectious disease epidemics. Infectious diseases include small pox, malaria, tuberculosis, plague, diarrhoea as the major share. Infant and maternal mortality rate were very high and the life expectancy was very short. The socioeconomic and political scenario changed abruptly in the later decades after the world wars. The improvement in standard of living, sanitary awakening, healthy habits and hygiene, nutrition, introduction of antibiotics and immunization has hastened the decline of infectious diseases and premature mortality rates[1]. There was a rapid decline in the maternal and infant mortality rates and a marked advancement in life expectancy which was associated with the marked change in disease patterns[2]. The leading cause of death by the end of twentieth century was chronic degenerative noncommunicable diseases (NCDs) like heart disease, cancer, stroke and chronic respiratory diseases which gives a clear evidence of an epidemiological transition.

There was a paradigm shift in public health attention to chronic disease prevention and control and interventions were directed towards individual behaviour and lifestyle[3]. The understanding of these chronic degenerative non communicable diseases (NCDs) is much difficult since there is conspicuous absence of a specific disease causative agent. The causation of NCD is explained with the help of the concept of multi factorial causation[4, 5]

Palattu parambil, Neeleswaram P O, Omasseri, Kozhikode, Kerala, India 673582 The recent WHO reports reveals the impact of the NCDs that they are the leading global cause of death and are responsible for 70% of deaths worldwide. In India 61 percentage death is contributed by NCDs[6]. According to the 2014 reports more than 40 percentage NCD deaths were premature, affecting people under 70 years of age. The majority of premature NCD deaths are preventable. The World Health Organization estimates that over 20 million deaths could be prevented each year by reducing the level of exposure to these modifiable risk factors.

India's secret weapon in the upcoming years is its young population. India's workforce, those between 15 and 64, is expected to rise from almost 64 percent of its population in 2009 to 67 percent in 2020. Meanwhile, the European, Japanese and American demographic trend shows the decline of their workforce. According to some estimates China's started declining from 2014 resulting in a labor shortfall by 2050. India will have the largest young workforce by 2020, as we are one of the youngest countries in the world with 65 percent of the population under the age of 35. Demographers and economists have heralded the window of opportunity

presented by this "demographic dividend", wherein the relative abundance of working-age people can lead to new innovations, increased savings, higher productivity and more rapid economic growth[7].

So it is high time to make our youth population healthy in every aspect and prevent the premature death to fight against the challenges in our country like poverty eradication and rapid economic growth.

Risk factors of NCD

Identification of the risk factors is the most important thing in the prevention and management of NCDs and it facilitates the safest and low cost intervention. Risk factors are further divided into two, modifiable and non modifiable. Intervention is possible only in the case of modifiable risk factors whereas in the case of non modifiable risk factors intervention is of minimal role. Age, gender, family history, ethnicity, history of prior stroke etc. are few examples of non modifiable risk factors. High risk strategy should be followed for these groups. Unhealthy diet, smoking, overweight, excess alcohol, physical inactivity, stress etc comes under the modifiable risk factors.

Prevention and Management of NCDs

The whole goals of medicine can be embodied in the word prevention which has four levels i.e. primordial, primary, secondary and tertiary prevention. The concept of primordial prevention receives special attention in the prevention of NCDs. In India the national strategies focus on prevention and health promotion as key to reduce disease burden and premature death.

The prevention was initially divided into three levels – primary, secondary and tertiary. Primary prevention implies the action taken prior to the onset of the disease. Secondary prevention is being done in the early stage after the onset of disease including early diagnosis and treatment. Tertiary prevention has role when the disease has advanced beyond its early stages and it include disability limitation and rehabilitation as its targets[8]. Later in 1978, Tom Strasser introduced the term primordial prevention to denote activities that prevented the penetration of risk factors into the population by intervening to stop the appearance of the risk factors[9]. The act of primordial prevention is supposed to be the part of the whole life i.e. from womb to tomb[10].

Life-course approach

Interventions to prevent and control NCDs in early life often offer the best chance for prevention. A life-course approach is key to prevention and control of NCDs, starting with maternal health including preconception, antenatal and postnatal care, and maternal nutrition; and continuing through proper infant feeding practices, including promotion of breastfeeding and health promotion for children, adolescents and youth; followed by promotion of a healthy working life, healthy ageing and care for people with NCDs in later life. The "Draft action plan for the prevention and control of noncommunicable diseases 2013–2020" which were discussed at the 66th World Health Assembly in May 2013, calls governments to reduce modifiable risk factors for NCDs and underlying social determinants[11].

Integrated Approach of Yoga in NCDs

Identification of risk factors is the stepping stone in the integrated approach. The practice of unwholesome diet (ahara), unhealthy activities (vihara), mental factors (manasa bhava) and beeja swabhava are the risk factors. Among these first three are modifiable whereas the fourth one is non modifiable. All unhealthy eating practices, lack of physical activity, addictions to smoking and alcoholism, stress, ignorance, ego obsessions are the primary risk factors of NCDs. The pathogenesis of all NCDs begins with the interaction of these risk factors which in turn results in metabolic disturbances.

Concept of Panchakosa and management of diseases at different levels

Indian philosophers investigated the human being through five layers of subtlety varying from the gross to the subtlest layer, i.e. the panchakosa or the five layers of existence[12]. Taittiriyopanishat describes panchakosa viveka that is the process of self analysis of these layers to discriminate between the self and non-self. The gross layer is the annamayakosa or the physical body which grows because of the essence of food and at the end it goes back into this food alone. The second layer is pranamayakosa, the energy sheath which provide energy for all physical activities. The third layer the layer of our personality, the manomayakosa. Fourth one is intellectual sheath includes our intellect and sense faculties, the vijnanamayakosa. The subtlest layer is the anandamayakosa, the bliss sheath which determines our personality, attitude and aptitude.

The root cause for disease generation is the lack of knowledge which is the absence of ultimate realization of character of soul and nature. This leads to the lack of control or mastery over our sense faculties which in turn leads to incessant growth of desire and egoism in mind. This will causes mental agony and manifestations such as eating of unwholesome food, living in unhealthy places, doing things at unseasonable hours, infliction of injuries, association with wicked, longing after improper things, evil desires and bad thoughts. As per panchakosa theory the seeds of diseases are sprouting at vijnanamayakosa in the form of ignorance. Insidiously it affects manomayakosa as negative thoughts and stress and the manifestations are over ambition, unhealthy competition, anxiety, anger, depression and insomnia. The stress further creates imbalance in the pranamayakosa which leads to functional disorders like respiratory diseases, cardiovascular diseases and autoimmune disorders. The effect of this stress eventually affects the annamayakosa and the resultant manifestations are degenerative diseases, obesity, carcinoma, tissue inflammations, diabetes etc.

Diseases at manomayakosa are known as adhi and that manifest in body are vyadhi. The effect of the stress in anandamayakosa results in imbalance at this layer and drive of residual impressions of previous generation and improper utilization of human potentials. When stress occurs, body is spending large amount of energy to cop up. This results in the loss of efficiency and deterioration of the quality of life.

The management at anandamayakosa is achieved through karmayoga which aims the utilization of maximum human potential. Removal of ignorance through health awareness and counselling is the tool for correction at vijnanamayakosa. This will help the individual to follow healthy lifestyle and to eliminate deep rooted misbelieves. Expansion of awareness is the good measure to reduce the stress through meditation, devotional session, group activity etc. Pranayama and other

breathing techniques help to alleviate the stress at the level of pranamayakosa. Loosening exercise, yogasana, sudhikriya and dietary modification are the measures to address the imbalance of annamayakosa. These practices will prevent afflictions of body organs and also help to cure the various ailments like diabetes, asthma, coronary artery diseases etc.

The prevention of the occurrence of various diseases and the resolution of the disease pathogenesis in early stages are achieved through these guidelines based on the concept of panchakosa. This includes primordial, primary prevention. Lifestyle education program based on yoga helps to improve the physical and psychological wellness of the individual and helps to lose weight, reduce stress, regulate the metabolism of lipids and glucose, reduces the risk of cardiovascular diseases and other metabolic disorders[13-16]. The same principles and practices can be adopted in case of secondary and tertiary prevention i.e. after the onset of disease and when the disease is advanced beyond its early stages. It is being proven as highly effective alternate therapy in hypertension, complimentary therapy in addiction, depression, diabetes, obesity, anxiety disorders, various other NCDs[17-21]. Its efficacy is highly significant in case of the rehabilitation of stoke and helps to improve the quality of life even in terminally ill cases.

CONCLUSION

The prime aim of the Indian health policy should be to make a physically and mentally healthy Indian youth to address the basic challenges like poverty. Yoga is a way of life which offers a wide range of holistic health benefits covering preventive, promotive, curative, rehabilitative and rejuvenative needs. Prevention is the only measure to save our globe from the burden of NCDs. Practice of Yoga, the healthy way of living, should start in preconception stage and should continue from womb to tomb.

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