

## Non-Communicable Diseases And Use Of Traditional Herbal Medicines In Rural Areas.

Dr. Naresh Vashist.

Doctor of Letters in Management, Singhania University, Pachari Bari, Rajasthan, India.

Email: nareshvashistpharmacist24@gmail.com

### Abstract:

**Background:** Non-communicable diseases (NCDs) are chronic diseases, do not spread from person to person, take a long time to develop and no symptoms in the early stages, require treatment for several years or life-long. NCDs are hypertension, diabetes, coronary heart disease, stroke, cancers, and chronic respiratory diseases like COPD, asthma, autoimmune diseases, some skin diseases etc. Traditional medicines are indigenous or folk medicine, comprise medical aspects of traditional knowledge. Therapeutic knowledge of Indian traditional medicine has propelled various traditional approaches which are of regional significance. WHO recognized scientifically validated traditional herbal medicines and noted that inappropriate use of traditional medicines is dangerous, needed to ascertain efficacy and safety. Medical pluralism is adopted by many patients, which should not be overlooked.

**Objectives:** Survey and analysis of non-communicable diseases and use of the traditional medicines, in rural areas.

**Method:** This is qualitative as well as quantitative research. It includes case study as well as survey method. A cross-sectional descriptive study is conducted, and subjects are conveniently recruited at institutional level and by visiting in different selected rural areas and by questionnaire. Sample techniques used, are random, probability sampling and non-probability sampling. Data is analyzed by digital glucometer, digital sphygmomanometer and verified on the basis of American Medical Association guideline 2018.

**Result:** Total persons investigated=2483, normal= 2029 (81.72%), diseased= 454 (18.28%), HTN=237 (9.54% of total and 52.20% of diseased), DM=113 (4.55% of total and 24.88% of diseased), Other NCDs= 104 (4.19% of total and 22.90% of total diseased), THM users only=107 (4.31% of total and 23.57% of diseased), AM users only= 140 (5.64% of total and 30.84% of diseased), both AM and THM users= 207 (8.33% of total and 45.59%).

**Conclusion:** Patients of non-communicable diseases adopted dualistic approach of treatment in rural areas as compare to use only allopathic treatment or traditional medicines treatment and focused mainly on medical pluralism. 45.59% of patients adopted dualistic approach as compare to 30.84% of patients who approached allopathic medicines and 23.57% of patients who approached traditional medicines.

**Keywords:** Non-communicable diseases, traditional medicines, allopathic medicines, dualistic approach, medical pluralism.

### Introduction:

Non-communicable diseases (NCDs) are chronic diseases, do not spread from person to person, take a long time to develop and do not present symptoms in the early stages, require treatment for several years or life-long. NCDs are hypertension, diabetes, coronary heart disease, stroke, cancers, and chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma), autoimmune diseases, some skin diseases. In India, 60% of all deaths are contributed by NCDs, out of which four major causes of NCD deaths are: Coronary Heart Disease, hypertension and stroke (45%), chronic respiratory disease (22%), cancers (12%), diabetes (3%) and the remaining others (18%). 70% of all NCDs deaths are covered by low-middle-income people of aged less than 70 years.<sup>1,2</sup> Scientifically validated traditional herbal medicines (THM) are recognized by the World Health Organization. National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular diseases and Stroke (NPCDCS) has been implemented through the National Health Mission, including the screening from the age of 18 and above, in community and institutional level. Economy of the individual and country have affected negatively by NCDs Mental, neurological and substance use disorders attribute 14% of burden and large population of these diseases do not get treatment and care.<sup>3,4</sup> 80% of the burden of the NCDs of a country can be reduced by appropriate medicines. Inaccessibility due to intricate interrelationships between delivery and utilization factors, in low-middle-income countries, is the large problem.<sup>5,6</sup> Due to no or less side effects, many modern medical

practitioners are practicing the traditional medicines. In rural areas about 80% of the patients their self opt the use of traditional therapies for the treatment of NCDs. The different practices known as traditional medicines include traditional European medicine, Chinese traditional medicines, Mayongia magic traditional medicines and Assam medicines and North East India, indigenous south Indian medicines, nattuvaidyam, Korean traditional medicines, African traditional medicines, Ayurveda, Siddha medicines, ancient Iranian medicines, Iranian (Persian), Islamic medicines, Muti and Ifa. Scientific disciplines which study traditional medicine include herbalism, ethnomedicines, ethnobotany, and medical anthropology. Nattuvaidyam is used before the advent of allopathic medicines which is western indigenous practice of medicines in India.<sup>7</sup> Granny cure also known as home remedy, like spices, herbs, vegetables and other common items used for the treatments and also for placebo effects, are also included in traditional medicines.<sup>8</sup>

**Methodology:** This is qualitative as well as quantitative research. It includes the case study as well as survey method. A cross-sectional descriptive study will conduct, and subjects are conveniently recruited at institutional level and by visiting in different selected rural areas and by questionnaire. Sample techniques used, are random, probability sampling and non-probability sampling. Data is analyzed by digital glucometer, digital sphygmometer and verified on the basis of American Medical Association guideline 2018.

## **Review of Literature:**

Traditional medicines are used for non-communicable diseases in many countries like India, China, Mesopotamia, Roman and Greek, Egypt, and in European countries. Indian traditional medicines are being in use dates from about 5000 years BCE, when health care needs and diseases were noted in ancient literature such as Rigveda (1700-1100 BCE), Yajurveda (1400-1000BCE), Atharva Veda (1200BCE) and later in Charaka Samhita (990 BCE) and Sushruta Samhita (660 BCE) Dhanwantari Nighantu (1800) hold with 341 and 395 herbal medicines separately. Indian Ayurveda is the most ancient practice of traditional medicines.<sup>9</sup> Economic challenges and socio-cultural outlook of many NCD patients have increased dependence on traditional herbal medicines (THM). 75% of all NCDs deaths occur in low and middle income countries, in less than 70 years old. The patients do the dualistic use of medicines as well as traditional herbal medicines. The World Health Organization recognize the role of traditional herbal medicines in resource-constrained settings, should be scientifically validated. The significance of this, in the face of the increasing global practice of medical pluralism cannot be overlooked.<sup>10</sup> Chronic diseases mainly cardiovascular diseases, cancer, chronic respiratory diseases and diabetes were estimated to cause more than 60% (35 million) of all deaths in 2005, more than 80% of these deaths occurred in low-middle-income countries. Non-communicable diseases have negative impact on individual and family economic production and wellbeing. Multi-countries survey showed that 35-50% of serious cases in developed countries and 76-85% in less-developed countries had received no treatment in the previous many months. 80% burden of NCDs, can be reduced by estimating appropriate use of medicines but in low and middle-income countries have inaccessible and non-availability of these medicines especially in rural areas.<sup>11</sup> Public health approaches to Non-communicable Diseases (NCDs), covers all aspects of prevention and control of NCDs in national, regional and global context. Key health system issues including health system strengthening, building partnerships and financing, capacity building of workforce, role of information technology and building home based and palliative care program.<sup>12</sup> Non-communicable diseases (NCDs) are major public problem, cause morbidity and mortality ranking high and second to HIV/AIDS. People living with NCDs rely on traditional herbal medicines (THM) primarily or in combination with conventional drugs. These diseases cause 80% of mortality in low and middle income countries and factors increase the burden of the chronic NCDs are lengthened average life span, decreases in physical activities, increases in consumption of unhealthy food and continued tobacco use. As per the estimation of World Health Organization, 80% of rural populations in developing countries depend on traditional herbal medicines for their health care needs.<sup>13</sup> A total of 56 million deaths occurred worldwide during 2012, 38 million were due to NCDs, out of which 28 million occurred in low and middle income countries. The leading cause of NCD deaths in 2012 were: Cancer (8.2 millions or 21.7% of NCDs deaths), cardiovascular diseases (17.5 million

deaths or 46.2% of NCD deaths), respiratory diseases, including asthma and chronic obstructive pulmonary disease (4.0 million, or 10.7% of NCD deaths) and diabetes (1.5 million, or 4% of NCD deaths). The mortality of NCDs will increase upto 55 million by 2030, as projected by WHO.<sup>14</sup> India is facing the increasing burden of non-communicable diseases (NCDs) which amount to nearly 5.87 million deaths, comprising 60% of all deaths in India. A total of 49.8% of the studied NCD patients reported use of both allopathic and alternative medicine treatment and about 3.4% for last one year, seek exclusive alternative medicines, 3.7% in diabetes, 1.0% in hypertension and 5% in chronic lung diseases. The most common form of alternative medicines used are medicinal herbs/biological-based medicines, 62.9%, the common are bitter gourd, aloe vera and others while 27.1% of the patients used Indian Ayurveda medicines in total. Prevalence is of medical pluralism.<sup>15</sup> Multi-morbidity due to NCDs is more in high income countries as compare to low and middle income countries. The prevalence of multi-morbidity increased from 1.3% in 18-29 years old to 30.6% in those 70 years old and above and is common in the Indian adult population. Management should be done for improving the growing financial burden of NCDs in low and middle income classes.<sup>16</sup> India accounts for more than two-third of mortality due to non-communicable diseases in South-East Asia. Non-allopathic Indian medicines have got increasing recognition in recent years with regard to both treatment options and health hazards. Ayurveda, Unani, Siddha, and Homeopathy (AYUSH) is practiced in India as non-allopathic systems which include diet, herbs, metals, minerals, precious stones and their combinations as well as non-drug therapies. Ayurveda is the oldest non-allopathic system of medicine in the world and by far the most commonly used form of non-allopathic medicine in rural India, Non-Allopathic systems of medicines in India is focused due to need to revive a rich tradition, increasing worldwide use of these medicines, the dependency of 80% of the country's population, easy availability, the lack of focused concerted scientific research and the abuse of these systems by quacks.<sup>17</sup> Ayurveda is an Indian traditional medicine system which is used for treatment and management of various diseases in human beings which need to be explored its potential further with modern scientific validation approach for better therapeutic leads. Many Ayurvedic formulations like arka, asavas, aristas, churn, taila, vati, gutika, bhasma etc. and its therapeutic efficacy can be enhanced by identity, purity, safety, drug content, physical and biological properties.<sup>18</sup> Asian countries utilize traditional medicines at large level. The importance of the use of Traditional Complementary and Alternative Medicines is emphasized by WHO. In ASEAN countries, for the different chronic conditions, a range of traditional complementary and alternative medicines types has been used ranging from herbal treatment, Chinese traditional medicines, spiritual treatment, dietary supplements, yoga, acupuncture, homoeopathy, reflexology and massage.<sup>19</sup> Naturopathy is focused for the treatment of the NCDs which is called Prakritik Chikitsa, derived directly from late 19<sup>th</sup> and early 20<sup>th</sup> century forms of European practice.<sup>20</sup> NCDs represent one of the world's major health challenges. Diabetes, stroke, cardiovascular diseases, cancers and chronic lung diseases are major causes of morbidity and mortality, in many parts of the world which leads to the death of 15 million people between the ages of 30 to 69 years annually.<sup>21</sup> The World Health Organization (WHO) estimates that by 2020, NCDs will account for 80 percent of the global burden of disease, causing seven out of every 10 deaths in developing countries, about half of them premature deaths under the age of 70. Almost half of all deaths in Asia are now attributable to NCDs, accounting for 47% of global burden of disease. Over 80% of cardiovascular and diabetes deaths, 90% of COPD deaths and two thirds of all cancer deaths occur in developing countries. The United Nations High-level Meeting on the Prevention and Control of NCDs was organized in September 2011. WHO members state formally agreed on a comprehensive Global Monitoring Framework (GMF) for NCDs, in November 2012 and the Global Action Plan for NCDs 2013–2020 (GAP) was formally agreed at the World Health Assembly in May 2013.<sup>22</sup> The WHO report on non-communicable diseases, including heart diseases, diabetes, cancers and chronic lung disease are collectively responsible for almost 70% of all deaths worldwide, 82% of the 16 million people died prematurely, before reaching 70years of age, in low-middle class income countries. The socioeconomic costs associated with NCDs make the prevention and control of these diseases a major development imperative for the 21<sup>st</sup> century.<sup>23</sup> According to Global Status Report of Non-Communicable Diseases 2010, the NCDs are the leading cause of death globally, killed more people as compare to other diseases. Nearly 80% of NCD deaths occur in low-middle-income countries. In 2008, 36 million deaths out of 56 million total deaths were due to NCDs. About one fourth of global NCD-related deaths take place before the age of 60.

Improved health care, early detection and timely treatment is effective approach for reducing the impact of NCDs.<sup>24</sup>The U.S. Government and Global non-communicable diseases efforts report published on dated 29<sup>th</sup> January 2019 stated that non-communicable diseases (NCDs) are the leading causes of death and disability globally, killing more than three in five people worldwide and responsible for more than half of the global burden of disease. If they continue their upward trend, NCDs are estimated to cause a cumulative loss of output of \$47 trillion between 2011 and 2030.<sup>25</sup> In recent years, non-communicable diseases, have appeared as key public health challenges due to high number of deaths, 38 million in 2012 or 68% of total deaths worldwide which is expected to reach 52 million by 2030. Nearly three-quarters of NCD deaths occurred in low-middle-income countries in 2012 which is expected to increase by 20% by 2020.<sup>26</sup> In rural India the disease pattern has undergone a significant shift over the last fifteen years. The report of year 2001-2003, revealed that the deaths in rural India due to communicable diseases is 41% which is almost matched to NCDs about 40% while the report for the year 2010-13 showed that NCDs accounted for 47% of all deaths while communicable and other accounted for 30% which indicate that NCDs have unquestionably become a healthcare priority.<sup>27</sup> The Ministry of Health (MoH) needs to steer the NCD battle in India, as the main steward in a networked governance structure fit for the twenty-first century, coordinating among others with non-health ministries, the for-profit sector and other legitimate stakeholders. Achieving these goals requires structural governance and policy shifts that are firmly rooted in a rights-based approach.<sup>28</sup>

## **Results:**

Total persons investigated=2483, normal= 2029 (81.72%), diseased= 454 (18.28%), HTN=237 (9.54% of total and 52.20% of diseased), DM=113 (4.55% of total and 24.88% of diseased), Other NCDs= 104 (4.19% of total and 22.90% of total diseased), THM users only=107 (4.31% of total and 23.57% of diseased), AM users only= 140 (5.64% of total and 30.84% of diseased), both AM and THM users= 207 (8.33% of total and 45.59%).

HTN= Hypertension

DM = Diabetic mellitus

NCDs = Non-communicable diseases

THM = Traditional herbal medicines

AM = Allopathic Medicines

## **Discussion:**

In the survey of rural population, total persons investigated are 2483 out of which 2029 are normal and 454 are diseased. The normal persons are 81.72% as compare to diseased persons which are 18.28%. Patients suffering with hypertension are 257 (9.54%) of the total persons investigated and 52.20% of the total diseased, patients of diabetic mellitus are 113 (4.55%) of the total persons investigated and 24.88% of the total diseased, where as other NCDs are 104 (4.19%) of the total persons investigated and 22.90% of the total diseased. The NCD patients who use only traditional medicines, are 107 (4.31%) of total investigated and 23.57% of the total diseased, only allopathic medicines users are 140 (5.64%) of the total investigated and 30.84% of the total diseased where as both allopathic and traditional herbal medicines users are 207 (8.33%) of the total persons investigated and 45.59% of the total diseased. Table1.

## **Conclusion:**

The patients of non-communicable diseases are using allopathic as well as traditional herbal medicines in the rural areas as compare to the allopathic treatment and traditional medicines treatment only. As per the study 18.28% of the total investigated persons are found suffering with non-communicable diseases like diabetes, hypertension and other NCDs (cancer, COPD, CKD, autoimmune diseases etc) and 81.72% are found normal. The dualistic approach of treatment is adopted by the patients and medical pluralism is focused mainly. 45.59% of the patients adopted dualistic approach as compare to 30.84% of the patients who approached allopathic medicines and 23.57% of the patients who approach traditional medicines. Non-communicable diseases are increasing at an alarming rate in rural India, with long-term consequences on people's health and finances.

### **Acknowledgement and Funding:**

“This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors”

### **Conflict of Interest:**

No conflict of interest.

**Ethical Clearance:** The study is ethically clear. It is not disturbing the ethics of any person as no experiment has been done on human beings or on any animal. The consent has been taken during collecting the data.

### **Reference:**

1. Mendis S, Bettcher D, Branca F. World Health Organization Global Status Report on Non-communicable Diseases. 2014.
2. Chestnov O. World Health Organization Global Action Plan for the Prevention and Control of Non-communicable Diseases. Geneva, Switzerland. 2013.
3. Kohn R, Saxena S, Levav I, Saraceno B. The treatment gap in mental health care. *Bulletin of the World Health Organization*. 2004;82:858-66.
4. Meyer AC, Dua T, Ma J, Saxena S, Birbeck G. Global disparities in the epilepsy treatment gap: a systematic review. *Bulletin of the World Health Organization*. 2010;88:260-6.
5. Cameron A, Ewen M, Ross-Degnan D, Ball D, Laing R. Medicine prices, availability, and affordability in 36 developing and middle-income countries: a secondary analysis. *The Lancet*. 2009 Jan 17;373(9659):240-9.
6. Mendis S, Fukino K, Cameron A, Laing R, Filipe Jr A, Khatib O, Leowski J, Ewen M. The availability and affordability of selected essential medicines for chronic diseases in six low-and middle-income countries. *Bulletin of the World Health Organization*. 2007;85:279-88.
7. Wujastyk D, Smith FM, editors. *Modern and global Ayurveda: pluralism and paradigms*. Suny Press; 2013 Sep 9.
8. Placebo Effect. *A Cure in the Mind*. *Scientific American*: February-March 2009.
9. Adhikari PP, Paul SB. History of Indian traditional medicine: A medical inheritance. *HISTORY*. 2018;11(1).
10. Hughes GD, Aboyade OM, Beauclair R, Oluchi N, Puoane MTR. Characterizing Herbal Medicine Use for Non-Communicable Diseases in Urban South Africa. *Hindawi Publishing Corporation Evidence-Based Complementary and Alternative Medicine*. 2015, 736074.
11. Abegunde D: Essential Medicines for Non-Communicable Diseases. *Medicine access and rational use of essential medicines and pharmaceutical policies: WHO*. 2015.
12. Sharma AK. Public health approaches to non-communicable diseases. *Indian Journal of Public Health*. 2016 Jul 1;60(3):243-.
13. Hughes GD, Aboyade OM, Hill JD, Rasu RS. The role and Importance of Economic Evaluation of Traditional Herbal Medicine Use for Chronic Non-Communicable Disease. *Comparative Effectiveness Research*. 2015;5 49-55p.
14. Sandhu S, Singh MS, Chauhan R, Mazta SR, Prashar A. Risk factor profile for non-communicable diseases in public institutions of Shimla, Himachal Pradesh, India. *Int J Community Med Public Health*. 2016 Nov;3:3063-7.
15. Nailwal D, Reddy VB, Gupta A. Patterns and Predictors of Complementary and Alternative Medicines Use in People Presenting with the Non-Communicable diseases in an Urban Health Facility, North India: *J Public Health Res*. 2021 Jan 14;10(1): 2109, 2021 March 2.
16. Pati S, Agrawal S, Swain S, Lee JT, Vellakkal S, Hussain MA, Millett C. Non communicable disease multi-morbidity and associated health care utilization and expenditures in India: cross-sectional study. *BMC health services research*. 2014 Dec;14(1):1-9.

17. Gogtay NJ, Bhatt HA, Dalvi SS, Kshirsagar NA. The Use and Safety of Non-Allopathic Indian Medicines: National Library of Medicines.2002. PMID:12408732.
18. Mukherjee PK, Harwansh RK, Bahadur S, Banerjee S, Kar A, Chanda J, Biswas S, Ahmmed SM, Katiyar CK. Development of Ayurveda–tradition to trend. Journal of ethnopharmacology. 2017 Feb 2;197:10-24.
19. Peltzer K, Pengpid S, Puckpinyo A, Yi S. The utilization of traditional, complementary and alternative medicine for non-communicable diseases and mental disorders in health care patients in Cambodia, Thailand and Vietnam. BMC complementary and alternative medicine. 2016 Dec;16(1):1-1.
20. Alter JS, Nair RM, Nair R. Nature Cure and Non-Communicable Diseases: Ecological Therapy as Health Care in India. International journal of environmental research and public health. 2017 Dec;14(12):1525.
21. Tran B, Ho R, Latkin CA. Controlling Non-Communicable Diseases in Transitional Economies: BioMed Research International, BMC Complementary and Alternative Medicine. 2019 May 1(92)16.
22. Islam SMS, Purnat TD, Phuong NTA, Mwingira U, Schacht K, Froschl G. Non-Communicable Diseases in Developing Countries: A Symposium Report. Globalization and Health. 2014(81)10. PMID:25498459.
23. World Health Organization Report: <https://www.who.int/health-topic/noncommunicable-diseases>
24. Global Status Report of Non-Communicable Diseases 2010 and 2014. WHO library Chronic Diseases-prevention and Control, epidemiology, mortality, cost of illness, delivery of health care. ISBN 978 92 4 156422 9 and ISBN 978 92 4 156422 4.
25. The U.S. Government and Global Non-Communicable Diseases Efforts. Global Health Policy. 2019 Jan 29.
26. Pham BD, Kim BG, Nguyen TT, Hoang VM. Exposure to messages on risk factors for non-communicable diseases in a rural Province of Vietnam. BioMed research international. 2019 Apr 30;2019.
27. Kalkonde Y. Rural India faces epidemic of non-communicable diseases.2018.
28. Mondal S, Van Belle S. India’s NCD strategy in the SDG era: are there early signs of a paradigm shift? Globalization and health. 2018 Dec;14(1):1-9.

**Table: 1**

NCDs patients and use of THM:

S . N .	Total Persons Investigated	Normal Persons	Diseased	HT N	DM	Oth er NC Ds	TH M Onl y	AM Use rs Onl y	Both THM & AM Users
1 .	2483	2029	454	237	113	104	107	140	207
2 .	Total (%) Percentages	81.72 %	18.28 %	9.5 4%	4.5 5%	4.1 9%	4.3 1%	8.3 3% 5.6 4%	8.33 %
3 .	Total Percentage (%) of Diseased Persons		100%	52. 20 %	24. 88 %	22. 90 %	23. 57 %	30. 84 %	45.59 %

HTN= Hypertension

DM = Diabetic mellitus

NCDs = Non-communicable diseases

THM = Traditional herbal medicines

AM = Allopathic Medicines