



# A Critical Review on Health Security and Non-Communicable Diseases: World at Glance

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## Abstract:

*The epidemiological transition has resulted in a double burden of communicable and chronic non-communicable diseases at global and national level. There is significant and growing opposition to the use of a 'security' justification for global health cooperation, particularly on the part of some developing countries. Reaching consensus on what is meant by 'health security' and 'global public health security', while necessary, will not be easy, because hidden national security agendas will have to be brought out into the open. The Global Burden of Disease study has shown that there is an unequal distribution of total disease burden and health expenditure. The main objective of this research are understand the national and international health related threats like non-communicable diseases and its aim to critically examination the research contributions in the domain of health services. The global label health agencies like World Health Organization and many others originations and associations are arguments health decision makers to develop efficient preventive strategies to halt the increasing trend of non-communicable diseases through the control of risk factors. Still, all most of the developed countries have reacted by pragmatic measures, the trend remain globally passive mainly because developing countries have been, so far, satisfied with adopting national conventions and adhering to international recommendations instead of pragmatic decisions such as which is good place for me doing for any bad practice, controlling alcohol abusers, encouraging physical activity, promoting healthy and nutritional diet and improving basic health facilities (Primary Health Care, CHC) for screening and early detection of chronic diseases as non-communicable disease.*

**Keywords:** Global, Health Security, Life style, Non-communicable Diseases

## 1. Introduction

The health security is relatively new concept it's comes under the public health security. Basically health security concept researcher used in the medical and social sectors. The concept was first described by the United Nation in 1994. Health security means security from chronic threats like, hunger, poverty and uncertain things (natural catastrophe) flood, conflict, disaster epidemic etc. and protection from daily life activities. That time to till now subsequently, many references have used "health security" to depict health issues that have a significant influence on human security (Scharoun, K. 2002, Chiu, 2006). Globally, concentration (spending for global public health) on this field have been rising from last two decades. At Global label public health motivated by two concurrent forces, firstly the realization by governments that health, or rather disease, has national and global security implications; and another the generosity of citizens and philanthropists responding to health inequities, disasters and emergencies (Fauci, 2007 and Garrett 2007). From last two decades to till now various term are used for health zone these are include public health security, global health security, international health security, and global public health security etc. (Aldis, 2008, and Fukuda, 2003). Main concern of health security is that every people have a right to use health care facility and good and healthy life at nationally and globally.

WHO 1994 have define “global public health security” the activities required, both proactive and reactive, to minimize vulnerability to acute public health events that endanger the collective health of populations living across geographical regions and international boundaries. It is difficult to proceed from any unified theoretical approach, however useful this might be as a guide to further study of these complex issues. Various players in the ‘health security’ game include practitioners in the fields of security studies, foreign policy and international relations, development theory and practice of national and international agencies, and in health development in developing countries themselves are playing. Even there is no any such kind of explanation of health security in any country; there appear to be significant differences in understanding and application of the concept of ‘health security’. Given the fact that it words and meanings which are in doubt here, perhaps further research should employ the tools of socio linguistics, what are the origins and consequences of a word or concept being used by different ‘speech communities’ (different stakeholders in global public health), and how can these different usages, and the confusions that result, be resolved? Whatever approach is taken, progress is needed soon. Considering the many rapidly evolving global health problems before us, we have no margin for error and no time to waste.

In 1994 the UNDP published its Annual Human Development Report, titled New Dimensions of Human Security (UNDP, 1994). Although abundant commissions and national groups have issued reports on human security, the UNDP report has been particularly influential. The report describes human security in terms of security of individuals as well as nation-states, and as a platform for sustainable development.

As only one of many attempts to define human security (Reed and Tehranian, 1999; Thomas 1999 and Ax worthy 2001), the UNDP Human Development Report identified seven categories of threats to human security namely as economic, food scarcity, health, environment, personal, community and political. The report has described the process of linking health concerns to human security, a process which many writers have taken forward (Chen et al., 2003). In May 2003, the Commission on Human Security submitted a report titled Human Security Now to the Secretary General of the United Nations (Commission on Human Security, 2003). This report described human security as complementary to state security, but with emphasis on human rights and human development.

In the context of health security some author have discussed it related issued like Aldis have used health security concept is very broadly in own paper last four year back. In 2008 Aldis have raises concerns about the ‘health security’ motive, and has explored the origins and range of interpretations of the terms ‘health security’, ‘human security’ and ‘global public health security’. Aldis explained various tensions along a continuum of human security, public health and bio-defenses that play out in policies and programmers, tensions that may not be explicitly acknowledged by the institutional proponents of ‘health security’, or by the governments receiving contributors assistance.

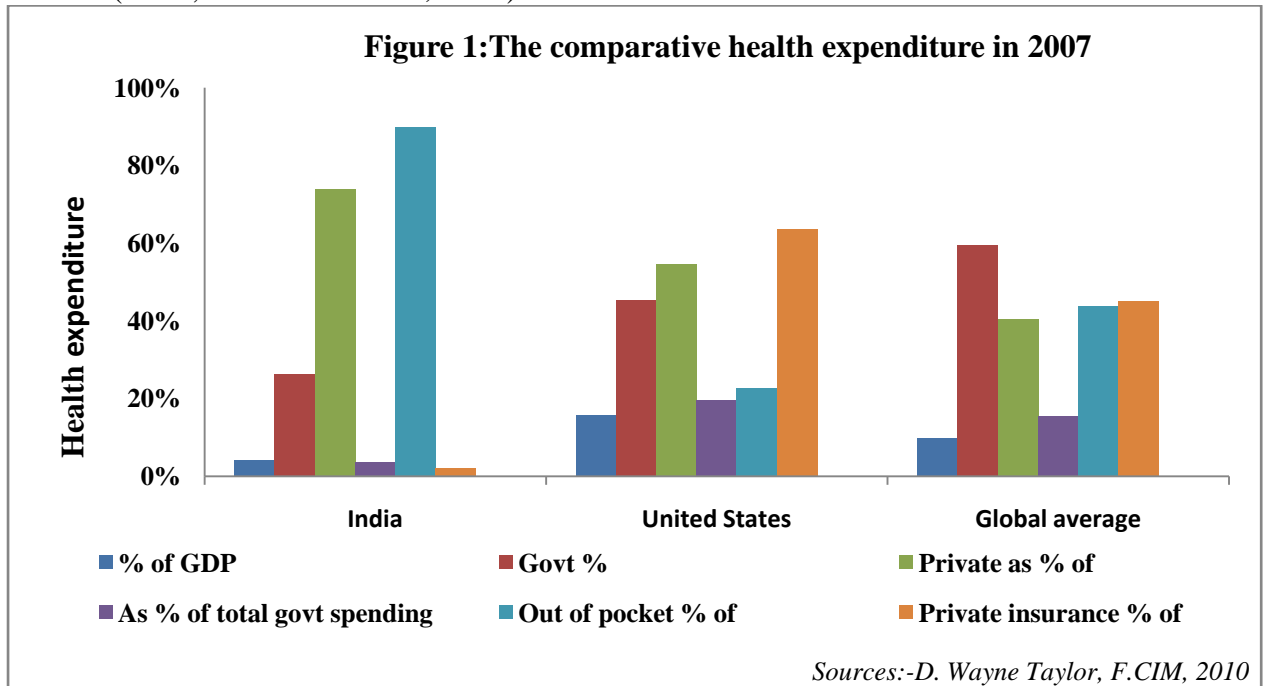
## **2. Concept of health security global and national level**

Health security individually doesn’t have any particular definition. Human security concept is very immeasurable and health security is a part of this. Regardless of the availability of an enormous literature on ‘human security’, ‘health security’ and ‘global public health security’ there is no universally agreed definition. Widespread but inconsistent use of the term by global public health stakeholders with widely divergent perceptions, priorities and agendas has created confusion and mistrust. Many studies explore the origins of health security concept and also describe important issue of public health those are untouchable or less attention of government. Studies are covered several important global public health initiatives, such as global communicable disease, surveillance under the World Health Organization’s International Health Regulations (IHRs).

## **3. Morbidity**

Experiences with non-communicable disease these events are underscored that recognition of outbreaks, management of epidemics, and development of counter measures can depend heavily on

having access to extremely, specific surveillance information that is typically obtained from testing of clinical specimens. In this events health department have noticed the unusual pattern of illness had been occurring among individuals and groups, but some time it was not use a laboratory test was applied to clinical isolate that health authorities noticed that unusual patterns of illness had been occurring among group and individuals, but it was not until a laboratory test was applied to clinical isolates that health authorities were able to understand that a novel virus of pandemic potential was in their midst(Stohr,2003 andMMWR, 2009).



The developing countries have less spending money in health sector then developed countries. The low-middle income country it is not surprising that India's expenditure on healthcare is also quite low. In 2007, India spent 4.1% of its Gross Domestic Product (GDP) on health services or USD40 per capita, only 26% of which was government funding(WHO 2010,World Health Statistics).The health security issue have open eye of the health department because department not much conscious too many illness point of health. Such events have led to a greater emphasis within governments on improving laboratory and diagnostic capacity in order to improve global bio surveillance for infectious diseases (National Security Council).Different methods can be considered to quantify the burden of non communicable diseases. In order to overcome the specific problems of each country, the most used method is the approach that measures the global burden of NCDs in terms of Disability Adjusted Life Years (DALYs) which is a combination of Years of Life Lost(YLL) through premature death, and Years Lived with Disability(YLD)(World Health Report, 2002).

## 2. Need for the Review

The health is a very important indicator of the any developed and developing countries; it is sign of the wealth and power (Felix, 2012). Health and Development are known to be highly correlated. Concentrations on these terms means understand the busy life and daily activities related illness or diseases. All people busy in own daily work without compassionate of health and food habits and outcome is that increasing many types disease. Right now, much of the burden of health of global supervision largely falls on international label somewhere developing countries and somewhere developed countries, where trained personnel, diagnostic laboratories, and funding required supporting surveillance are at a premium. However without forceful surveillance, these countries are fall prey to inaccurate reports and rumours which can rapidly lead to social disruption nationally and unwarranted panic internationally (Richard Cash and Vasant Narasimhan, 2000). Aggressive news travels faster than precise diagnoses can be made, especially without a robust surveillance infrastructure. During the

tremendous change in human life and creation much new disease dew to environmental degradation and misuse of natural resources. The outcome from daily activity and food habits is increasing significant non-communicable disease.

Human Life is our highest value; the concept of Health is fundamental to Life and leads to the creation of Wealth. The present review is based on secondary sources of information from last two decades has attempted to assemble available data on the health security and non-communicable diseases. In this paper i want to understand of the health protection with different angles and i make analysis of all the literature available to us between these periods.

### 3. Methodology

#### 3.1 Objective

The main objective of this study to understand the national and international health related threats and diseases specifically its aim to critically examination the research contributions in the domain of health services with special focus on non-communicable diseases (NCD,s) in developed and developing countries.

#### 3.2 Methodology

The review report is based on secondary sources of data and no primary data collection was undertaken from any specified populations for this review. Published national and International literature was gathered. Literature was collected from different international journals, search engine and books. Literature search was undertaken with the following keywords: Health security, International Health security, Health security: non-communicable disease, Health security: Non Communicable disease and health security in India. A variety of databases like Google Scholar, Jstor, PubMed, Scirus, Endnote, RePEc, and others were searched using these key words.

In this study have been used six electronic databases

1. **Google scholar:** This is sea of the National and International Journal, Book and it is American multinational Internet and software corporation specialized in Internet search,
2. **JSTOR:** Short for Journal Storage is an online system for archiving academic journals, founded in 1995. It is connects libraries, researchers, teachers, and students around the world with vital scholarly content in more than 100 disciplines.
3. **PubMed:** It is a free database accessing primarily of references and abstracts on biomedical journal and life sciences. It is one of the largest ever data based used in research
4. **Scirus:** It is the most comprehensive scientific research tool on the web. With over 545 million scientific items indexed at last count, it allows researchers to search for not only journal content but also scientists' homepages, courseware, pre-print server material, patents and institutional repository and website information
5. **End Note:** It is a reference and image database. It specializes in storing, managing, and searching for bibliographic references in your private reference library. One time provides 20 articles with authors' names, year of publication, publication agency, place on publication and abstract of articles. Its total internet based library and you can make own self library on your desktop with this help.
6. **RePEc:** Research Papers in Economics is a collaborative effort of hundreds of volunteers in 75 countries to enhance the dissemination of research in Economics and related sciences. With the help of this software we can find decentralized bibliographic database of working papers, journal articles, books, books chapters and software components, all maintained by volunteers.

### 4. Review of Studies

Special efforts were made to obtain literature from the year 1994 onwards to 2012 current scenario of international health security. To scrutinize the health security basis on different type of disease (non-communicable) through daily life activities and food practice. For this study i have been used articles

national and international health security by different diseases prevalence and pattern of non-communicable disease.

In this review excluded the papers written before 1990, dealt with of National and International label. We have included all the papers in English language and excluded in other languages. Further papers having the information related to disease (both communicable and non-communicable) pattern are included in the study and excluded those which have no information regarding to it. We have used articles in these study full papers (with abstract).

**Table1. Inclusion and Exclusion Criteria**

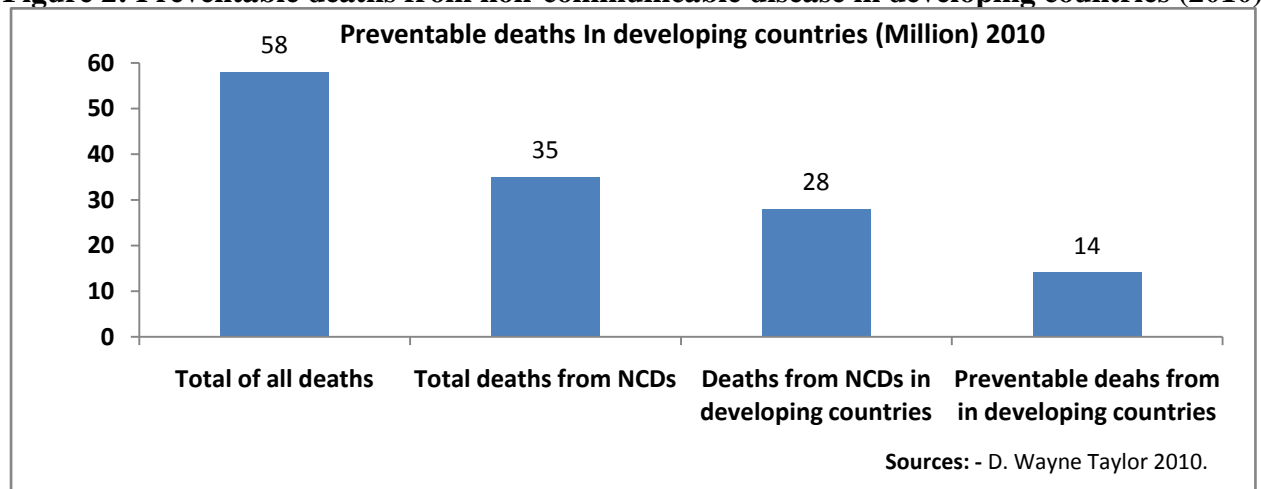
Criteria	Inclusion	Exclusion
Date	1994-2012	Pre 1990
Study area	National and International	(Nil)
Substance use	Non-communicable disease	Out of this disease
Language	Written in English	All other language
Type of papers	With abstract	Without abstract
Use methods	Qualitative & quantitative	(Nil)
Relevance	One quarter to all study's related to Health security	Less than one quarter of the study's results related to health programme

## 5. Preface with non-communicable disease

### 5.1 Non-communicable disease (NCD)

Non-communicable diseases (NCDs) are disease processes that are not contagious or transferable from one human to another. Random genetic abnormalities, heredity, lifestyle or environment can cause of non-communicable diseases. NCDs may be chronic diseases of long duration and slow progression, or they may result in more rapid death such as some types of sudden stroke. They include autoimmune disease, Heart disease, Stroke, Cancer, Diabetes, Alzheimer's etc. Autoimmune diseases, trauma, fractures, mental disorders, malnutrition, poisoning and hormonal conditions are in the category of non-communicable diseases. While sometimes (incorrectly) referred to as synonymous with "chronic disease" NCDs are distinguished only by their non-infectious cause, not necessarily by their duration (<http://www.livestrong.com/article/88312>). According to the World Heart Federation, 35% of all CVD deaths in India occur in those aged 35-64 years (Fuster, and Voûte, 2005).

**Figure 2: Preventable deaths from non-communicable disease in developing countries (2010)**



Non-communicable diseases have potentially serious socioeconomic consequences, through increasing individual and household impoverishment and hindering social and economic development. The global strategy for the prevention and control non-communicable disease like cancer, diabetes, cardiovascular disease and lung cancer which are responsible for the majority of death caused by



NCDs and are largely caused by four shared behavioural risk factor. The broader scopes of non-communicable diseases condition also include health problem like gastrointestinal disease, renal disease and neurological and mental health disorders (WHO, 2000).

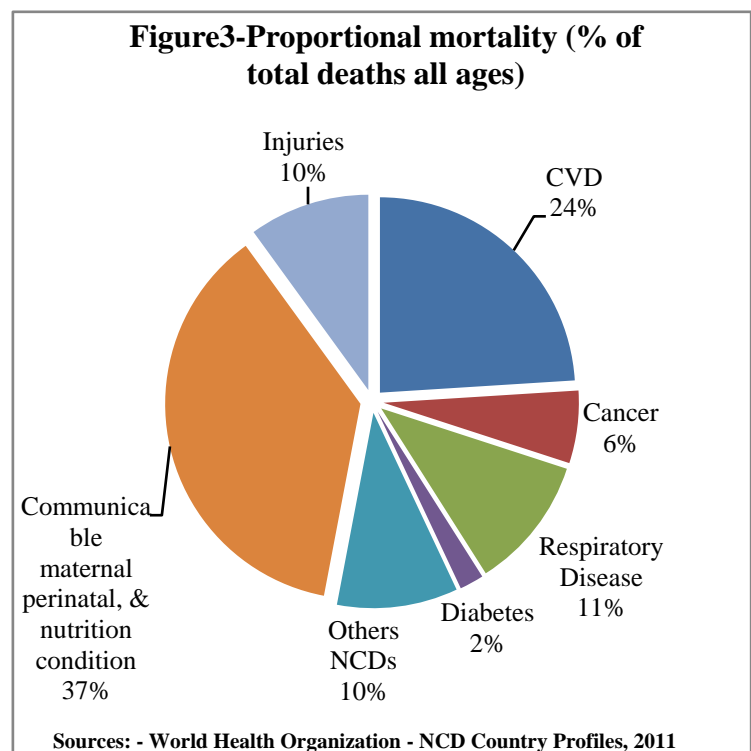
According to the Global Status Report, International label epidemic of cardiovascular diseases, cancer, diabetes and chronic respiratory diseases, along with their risk factors and determinant non-communicable disease was first time reported 36 million people die due to non-communicable disease in 2008 and maximum death before 60 years and most people belong to reproductive age group. The magnitude of these disease continues rise due to cast of doctors is very expensive, low income and life style bases(Global Status Report, 2010).The report has reviews current status of non-communicable diseases and provides a road map for reversing the epidemic by strengthening national and global monitoring and surveillance, scaling up the implementation of evidence-based measures to reduce risk factors like tobacco use, unhealthy diet, physical inactivity and harmful alcohol use, and improving access to cost-effective healthcare interventions to prevent complications, disabilities and premature death. The report, and subsequent editions, also provides a baseline for future monitoring of trends and for assessing the progress Member States are making to address the epidemic (Global Status Report, 2010). The figure have describe of proportion of non-communicable disease deaths under the age 70, by cause of deaths. The prevalence rate of diabetes is very high then other NCD,s.

The proportion of Non-communicable disease in India rapidly increases. The figure is describing most of the people die due to NCD,s in India, ceiling population fall in the cardiovascular disease followed by respiratory disease and injuries. The maternal, prenatal and nutritional is very high in India due to lack of health facility, unable to pay medical cast and proportion of low income category is very high (WHO, 2011). The India have also one another problem unhealthy food, this is also factor of increasing NCD,s.

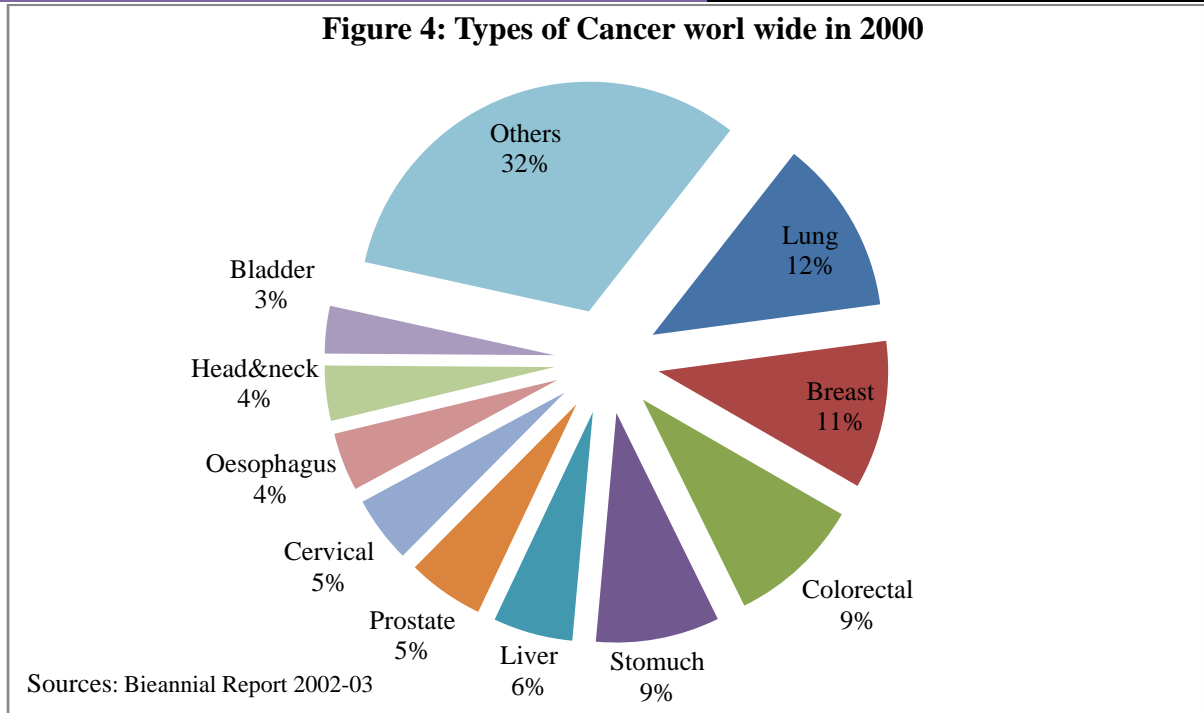
The World Health Organisation (WHO) has categories of most common non-communicable diseases. In this study, major NCDs have been described. Many researchers are

highlighted major NCDs born due to daily activity. The global label about 57 million people passing away in 2008. The 36 million deaths occurring due to non-communicable disease (near about 80 percent) in low and middle income countries (29 million).The major on-communicable disease is cardiovascular disease, cancers and respiratory diseases, including asthma and chronic obstructive pulmonary disease (WHO, 2012).

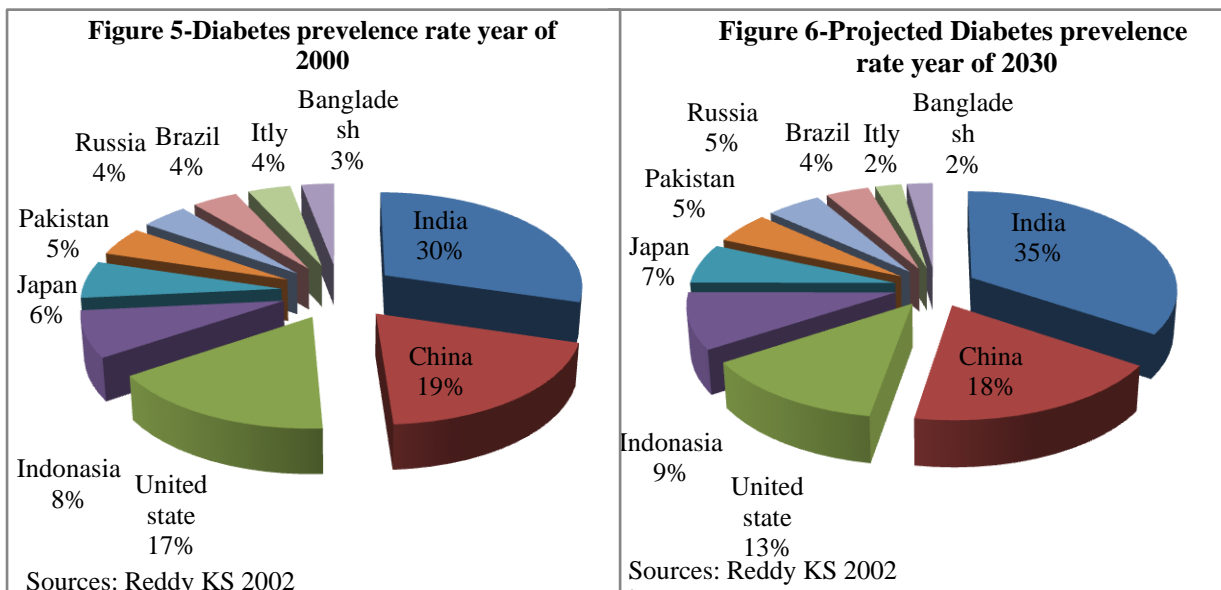
**Cancer** - Cancer is a non-communicable disease that affects all ages. As stated by the Centre for Disease Control and Prevention (CDC) in 2005, the three most common cancers among women are breast, lung and colorectal. The three most common cancers among men are prostate, lung and colorectal. Lung cancer is at the top of the list for cancer deaths in men and women. Cancer is major cause of death in the world over 10 million cases and over 7 million deaths from cancer in 2000(WHR technical report series 2003Geneva, Biennial Report 2002–03 and Parkin et al., 1999).



**Figure 4: Types of Cancer worl wide in 2000**



**Diabetes:** Diabetes affects the way the body uses blood glucose. The Mayo Clinic states that type's one diabetes develops when the immune system destroys the insulin-producing producing cells in the pancreas, allowing a buildup of glucose in the blood in type two diabetes, the cells resist the insulin and cause increase glucose in the blood. Healthy diet, regular physical activity, maintaining a normal body weight and avoiding tobacco use can prevent or delay the onset of types two diabetes. Diabetes is defined as having a fasting plasma glucose value  $\geq 7.0$  mmol/L (126 mg/dl) or being on medication for raised blood glucose (Black RE et al, 2008). The number of diabetes in the world to increase from 194 million in 2003 to 330 in 2030 with their four developing countries and most of people belong to age group of 35 to 64 years (WHR 2003 Geneva, Reddy KS, 2002).The WHO projects that diabetes deaths will double between 2005 and 2030(www.who.int/mediacentre).Given the predominance of private



financing of healthcare in India, it is no surprise that 60% of diabetics - irrespective of their socio economic status - pay for the treatment and management of their disease from their personal savings (MV Hospital 2010).

The prevalence of diabetes is gaining pace in India and more and more people are finding them self trapped in the web of this grappling disorder, one of the major risks of this grim disorder like obesity also rising. The need of the hour therefore is for appropriate measures to tackle this issue that are directly or indirectly related to diabetes (Times of India, Mumbai, 2012).

- **Hypertension** - Hypertension is a non-communicable disease diagnosed when the systolic reading (top number of the blood pressure reading) is consistently higher than 140 and/or the bottom number, or diastolic reading, registers higher than 90. A blood pressure of 140/90 millimeters of mercury (mmHg) or higher indicates hypertension. Causes of hypertension include excessive salt intake, smoking, diabetes, and obesity and kidney diseases.
- **Heart Disease** - Heart disease is a broad category of non-communicable diseases that affect the way the heart and circulatory system performs Heart disease includes rhythm irregularities, heart attack, congenital heart disease, heart failure, mitral valve prolapsed, unstable angina, mitral stenosis, endocarditic, aortic regurgitation and carcinogenic shock.
- **Raised blood pressure**- The rise of blood pressure due to food habit specially junk food and no time for healthy exercise. The estimated to cause 7.5 million deaths, due to blood pressure and about 12.8% of all deaths. It is a major risk factor for cardiovascular disease. The prevalence of blood pressure increased according to their income and especially high income groups in low income (Global Status Report, 2010).
- **Overweight and obesity**- Every year 2.8 million people going to die due to overweight and obesity. The gradually risk of disease increasing like heart disease, strokes and diabetes and differ to body mass index (BMI). If BMI increase it means cancer chance is very high and prevalence of overweight is highest in income wise (Global Status Report, 2010).
- **Harmful tobacco and alcohol**- The global label 6 million deaths due to different type tobacco use (both direct & indirect) and near about 2.3 million people fall in deaths due to consumption of alcohol. All above number continues increase and create different types disease like cardiovascular disease, cancer and heart disease etc. While adult per capita consumption is highest in high-income countries, it is nearly as high in the populous upper-middle income countries (Global Status Report, 2010).
- **Osteoporosis** - Osteoporosis, also known as porous bone, is a non-communicable disease resulting from low bone mass. Brittle bones weaken and break from a minor fall or movement. The National Osteoporosis Foundation states that of the 10 million Americans with osteoporosis, 80 percent are women. High risk factors for osteoporosis include low sex hormone levels, inactivity, smoking and diseases such as rheumatoid arthritis. This is also going to investigator-initiated clinical trial is examining the impact of traditional risk factors for osteoporosis as well as characteristics of HIV infection and antiretroviral (ARV) therapy on the prevalence of osteoporosis and the rate of bone loss in HIV-infected postmenopausal women (Biennial Report on women's health research,2007-08).
- **Others** - Many others non-communicable disease also existing but we have described here only significant NCD, s those very crucial in the national and international label. The distribution of disease is inadequate and sometime occurring due to unhealthy food habits and life style activity but somewhere economic crises has play very important role in growing NCDs.

In recent years, the statement that diseases know no borders has become a platitude, validated by infectious disease threats such as Severe Acute Respiratory Syndrome(SARS), avian influenza, and drug-resistant tuberculosis. The World Health Organization (WHO) defines global health security as the reduction in vulnerability of people around the world to new, acute or rapidly spreading risks to health, particularly those that threaten to cross international borders.

## 7. Findings

William Aldis (2008) has described in this study "Health security as a public health concept: A critical analysis" The seven categories of health threats like human security, economic security, food security, health security, personal security, community security and political security. The author have used in



this study qualitative research with the tool of Key Informants and participant interviews. The articles have published by oxford university press in 2008. The nature of international health security (Asia Pac J ClimNutr) paper has written by Chiu et al (2009) has described the health security concepts. Authors have reviewed more than 300 national and international articles but all articles not given any precise and universal definition of health security. This article published in Asia journal ClimNutr in 2009.

Fu-Kuo Liu (2009) has described the food security as a health security with deferent magnitude. Awareness about the health security and which type's people secure own health. The paper published in journal of Asia journal ClimNutr in 2009. The Title of this paper Human security in the Asia Pacific: Perspective of food and health security. According to authors health is Invaluable part of the life and it's secure thru bad food and unwanted things. Some time many things happened in life those things are not in our hands. Kumanan Wilson et al. (2008) have written articles protecting global health security through the international health regulation: requirement and challenges. This article published in journal of Canadian Medical Association Journal in 2009. Author have described in this articles health related regulation and also discussed the current and past situation about the health regulation. The authors' have focused much utilized the health care services and healthy foods. The one factor have discuss in articles those people have not good health (poor health) because they are not capable to take health care facility and healthy foods.

Meri Koivusalo and Maureen Mackintosh (2008) have used quantitative method. And looked over all the people have affected many diseases those are direct related to human health base on their daily activity and foods habits. Authors have also given fact behind the poor health and elaborate those people belong to low economic background and lack of information about the health. Those people belong to low social and economically background they have much contribute rising the non-communicable disease than others groups. The article "Global Public Health Security: Inequality, Vulnerability and Public Health System Capabilities" published in Open Research On line's dataoro.open.ac.uk in 2008.

Global Health Security: Closing the Gaps in Responding to Infectious Disease Emergencies this article written by Jennifer B. Nuzzo and Gigi Kwik Gronvall (2001). Author has describe every diseases have given to learn something about the public health and also alarm to health department for future health security. H1N1 disease has indicated the future health planning, solution with screening and detecting of diseases. This article published in journal of Springer in 2011. In this article authors have discussed, learn from current diseases as well as alert for future diseases and secure public health.

Masja Straete mans et al (2007) the authors have used qualitative methods as well as quantitative method in this study with the help of Key Informants interviews, emails and phonic interviews. Through the current satiation it will help in future and Influenzas patent vaccination description in seventy countries with their ranking, 61% countries reported whole population immunized with the pandemic vaccination. Particular this disease worked at future alarms and invents of medicine. The title of this paper is that "Prioritization strategies for pandemic influenza vaccine in 27 countries of the European Union and the Global Health Security Action Group: a review" this article published by journal of BMC Public Health in 2007.

*"To stop disease that spread across borders, we must strength our system of public health. We will focus on the health of mother and children. And we must come together to prevalent, detect, and fight every kind of biological danger – weather is it a pandemic like H1N1, a terrorist threat, or a treatable disease"* (President Barack Obama, September 21st, 2011. Address to the United Nations General Assembly).

## 8. Scope of future work

In further on-communicable disease will rise because people daily activity going to change and also food habits. Health security also has been covered at national and global label. This study will help for

future research work. In this study trying to critically examine to non-communicable disease based on people food habit and work based.

### 9. Criticism

Through many published articles I have found many of study explain only one particular theme or disease not more than one issues. The national and global label many type of disease and others illness available in the society, researcher hold only some critical disease. Researcher should include empirical data quantitative methods as well as quantitative methods for the better results. Many proponents of the health security paradigm look to the historical record to buttress their claims about the importance of infectious disease in altering the international system.

### 10. Research Gap

Majority of researcher have done research those are straightforwardly in society. The researcher has leaved exact terminology of health security and incomplete elaboration of health security and also don't discuss what the actual main issue happen in the global label. The global label non-communicable disease happens inaccurate they don't elaborate behind the any concrete facts.

Some of the Constraint of this study is;

- Unavailability of articles: I cannot access some of the journals which are very much related with my topic those are easily not available on the search engine.
- Time constraint: Time is most important factor in any studied so I have also followed the time factors.

### 11. Rational

The global labels mainly in developing countries have no focus more attention on the non-communicable diseases, but they have giving priority on maternal and child nutrition. The insurance courage also very less in developing countries due to lack of money perhaps lack of information. Many times food habits and life style of people may leads to various non-communicable diseases. The high cast of Doctors, medicine and screening; demonstrable of non-communicable diseases they are not able to pay money.

### 12. Conclusion

This paper has trying to understand the public health concept and their security with non-communicable diseases developed and developing countries. The global sticker non-communicable disease percentage is continuous increasing because people have change life style due bourdon of work. They have less time for their health and also use tobacco and alcohol due to work bourdon. People has eat non healthy food (nutrition less foods) and doing hard work all those thing origin many non-communicable diseases. The most of the developing country have paid attention only Mothers and child nutrition but now day's government not responsive about the chronic diseases as a non-communicable diseases. The economic burden of non-communicable disease can be catastrophic for a nation's economy yet go relatively unnoticed or not even addressed. In 2009, the World Economic Forum boldly stated that non-communicable diseases were among the most severe threats to global economic development right along with fiscal crises, natural disasters, and other diseases. This types diseases has given economic bourdon on the individual and family, here poverty have play very important role increasing a non-communicable disease in many part of developing countries. There is a need for better health awareness in the global label specially developing countries the NCD prevalence is counties going up.

Non-communicable diseases one of the high challenges to public health at national and global labels, these contributions substantially to costs associated with cardiovascular disease, cancer, and diabetes etc. The needs of developing countries growing a health care facilities, health education and health awareness programme at local label government.

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