

REVIEW ARTICLE

NON-COMMUNICABLE DISEASES IN PAKISTAN; A HEALTH SYSTEM PERSPECTIVE

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ABSTRACT

Global shifting of disease burden from communicable to non-communicable diseases (NCDs) has led to large proportion of deaths in developed and developing countries. Gravity of the situation is further intensified in low and middle-income countries due to major health system inadequacies in responding to the emerging challenge. Similar situation is being faced by Pakistan where despite availability of comprehensive National Action Plan, no significant improvement is seen at policy level. Prior to development of any intervention, there is need to assess the issue of NCDs through health system perspective. This will help us to understand interplay of various factors crucial for health system's response to NCDs. World Health Organization (WHO) framework of six building blocks will help us in identification of bottlenecks in our system and areas that are not performing well. Gaps and inadequacies in the system can be tackled through appropriate measures like development of knowledge, skills, system thinking and leadership to enable our system to respond to NCD challenges effectively and efficiently. Political commitment, good financing, collaborative working, comprehensive integrated NCD plan, team-based services to patients through care pathways, incorporation and incentivization of general physicians, efficient logistics support, integrated health information system with development of population based surveillance system and use of multi-sectorial and holistic approach can lead to efficient control of NCDs in the country.

Keywords: Health care systems, Health policy, Low-income countries, Mental health.

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INTRODUCTION

Disease is the companion of human beings and humanity since its inception. With transitions and changes in civilization, it has also evolved in different shapes. For long, the world has been tackling the menace of communicable diseases but last century has witnessed the shifting of disease paradigm from communicable to NCDs. More than 38 million people died in 2012 from NCDs accounting for 68% of global deaths¹. Major killers of the NCDs are cardiovascular diseases (48%), cancers (21%), chronic respiratory diseases (12%) and diabetes (3.5%). It has been estimated that these four categories account for 82% of the deaths due to NCDs². In contrast to previous belief as diseases of wealthy populations, three quarter of the burden of these deaths (28 Million) is borne by low and middle-income

countries with 16 millions of premature deaths i.e. in age group less than 70 years². In addition to deaths, there are colossal losses due to disability caused by NCDs. In 1999, NCDs were responsible for 43% disability adjusted life years (DALY) worldwide while the same has risen to 54% in 2010³. Estimates regarding the financial impact depicts that during 2011-2025, NCDs are expected to lead to the economic losses of 7 trillion US dollars only for low and middle-income countries with grave situation for low and middle-income countries because of major inadequacies in the capacity of their health systems to respond to the emerging burden¹. To strengthen the response of the health systems, it is imperative to analyze the issues with the perspective of the health systems. To address this aspect, WHO suggested a framework of six building blocks on which the health system of any country can be assessed⁴. These blocks help in identification of bottlenecks in the system and areas that are not performing well which can then be tackled through appropriate measures.

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Non-Communicable Diseases - Situation in Pakistan

Pakistan is a country with rapidly growing population. Increase in population, rural to urban migration, changing dietary patterns and reduction in physical activity is leading to increase in modifiable risk factors of NCDs in Pakistani population. Consequently, Pakistan is experiencing double burden of disease due to upsurge in NCDs in addition to already prevalent communicable diseases. Same is evident from data regarding the global burden of disease that 62% of the crude deaths and 77% of the age standardized deaths in Pakistan occur due to NCDs and injuries⁵ (fig-1).

Time trends illustrate that there is steady rise in premature deaths in Pakistan due to NCDs in both males and females⁵ (fig-2).

These trends necessitate immediate public health actions, if delayed; the NCD epidemic is projected to cost the lives of 3.87 million people, aged 30-69 years, from 2010 to 2025. Moreover, it is estimated that cumulative financial loss for Pakistan will be US\$ 358 billion to 862 billion for these 3.78 million pre-mature deaths⁶. Though, based on global concern over NCDs, some realization has been felt to initiate work on the control of these diseases. This work should cater for short and long term aspects because there is high prevalence of risk factors like unhealthy diet, physical inactivity, use of tobacco and alcohol, increase in obesity especially during childhood, cholesterol rise, diabetes mellitus and hypertension amongst population. Consequently, it is anticipated that the scenario of co-morbidities will be more complex for Pakistan than estimated now. Moreover, proportion of NCD prone population i.e. 65 years or older, is also projected to increase from 3.9% in 2000 to 5.4% in 2025 leading to rise in NCDs in parallel to the aging population. Currently, available data on NCDs shows a substantial amount of risk factors in Pakistani population which are estimated to rise rapidly, if current life style patterns continue⁷ (table).

Keeping in view all these factors in context of Pakistan, there is a need to explore the issue of NCDs with health system perspective and bottlenecks should be identified and tackled to ensure efficient and effective service delivery.

DISCUSSION

Health systems encompass organizations, people and actions whose primary purpose is to promote health⁸. Multidimensional nature of health systems and involvement of various stakeholders across multiple sectors pose huge challenges to measure system performance. Health system frameworks have been developed

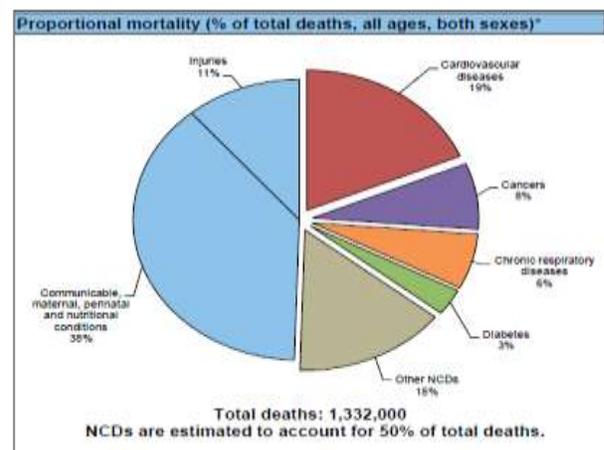


Figure-1: Proportionate Mortality due to NCD (Source: WHO NCD profile, 2014).

by WHO to monitor the performance of health system⁹. Analysis of health issues and challenges through health system perspective is essential to identify the inadequacies in the system and strengthen it towards the forethought of a multipronged strategy with involvement of multiple stakeholders. This can guide us to development of integrated curative and preventive, individual level and population based services. Applying the same perspective to the major challenge of today i.e. NCDs as evident from the statistics will give us an insight towards problems and inadequacies in the system to tackle this menace. System factors regarding this challenge based on six building blocks are:

i. Leadership and Governance

Recent years have shown an increase in sensitization of think tanks, NGOs, academia and

government towards rising trends of NCD and its risk factors. Pakistan became the first developing country to develop an integrated national action plan for NCD through collaboration of Heart file organization, Ministry of Health and Government of Pakistan¹⁰. This collaboration demonstrated the government’s commitment to accord priority to NCD challenge in Pakistan but later no significant progress could not be made due to change in the government. Government has directed its efforts in right direction for tobacco control through adoption of Framework convention on Tobacco control (FCTC) in 2004 to mandatory pictorial warning with introduction of tobacco control messages in 2010, followed by

curative and rehabilitative services. Risk factors and root causes of NCD sare embedded in non-health sectors i.e. policies related to food chains, food labeling, tobacco products and deficient educational measures targeted towards children and adults. Lack of attention towards town planning to provide of space for physical activity, environmental measures and traffic control further aggravates the problem. Therefore, effective prevention and control necessitates that all stakeholders should collaborate to develop a multipronged strategy for prevention and control of NCDs with stewardship role of health sector. Currently, services in Pakistan are dominated by curative services through secondary and tertiary

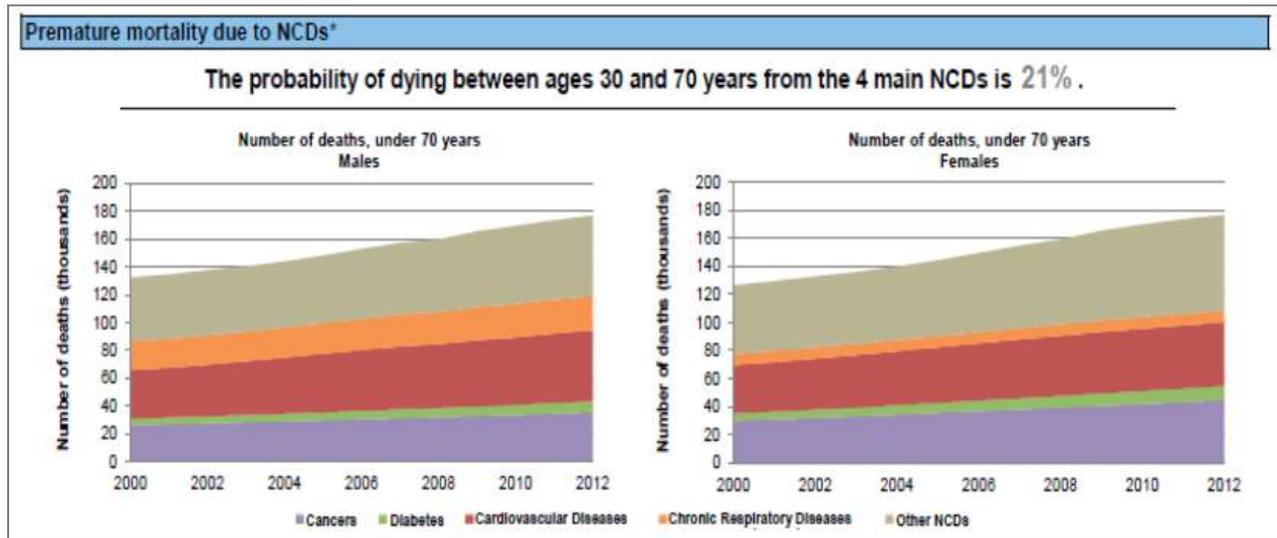


Figure-2: Trends of deaths due to major NCDs (Source: WHO NCD Profile, 2014).

85% coverage of pictorial health warning in February 2015¹¹. Recently, efforts have been initiated by Ministry of National Health Services Regulation and Coordination (NHSR & C) and NCD units established in federal and provincial health setups are working for NCD control. Despite this, governance and stewardship role of government to integrate academia, research organizations, private sector, NGOs and provincial health department does not seem up to mark¹².

ii. Health Service Delivery

Challenges of the NCDs entail provision of cocktail of services i.e. promotive, preventive,

public health structure with lot of management by general practitioner’s clinics, private health care setups and hospitals working under philanthropist support, which are not integrated in our routine health care delivery system. Primary care services at Basic Health Units (BHU) and Lady Health Workers (LHWs) are not involved to deliver any sort of preventive, curative services for NCDs at basic levels. Though, few initiatives have been undertaken at community level for prevention and control of NCDs in 2004 but still no up scalability of services could be done¹³. Despite pilot implementation of NCD surveillance system in 2003, there

is non-availability of population level surveillance system for reporting on nine global NCDs targets¹⁴⁻¹⁶. Recently, some initiatives have been taken by Ministry of National Health Services Regulation and Coordination (NHSR & C) in collaboration with Eastern Mediterranean Regional organization (EMRO) and Provincial health departments for integration of NCDs in primary care services but more is needed to be done¹⁷.

iii. Human Resource for Health

Availability of trained human resource for prevention and control is one of the key challenges in the fight against NCDs. There is drastic deficiency of physicians, nurses and other work force. According to WHO 2006 Report, Pakistan is one of the 57 countries with critical deficiency of human resource for health¹⁸. As per

health information, data collection systems of vertical programmes and Armed Forces. The problem with these health information systems is lack of uniformity, absence of horizontal integration at any level and lack of weightage to NCDs in the indicators. Moreover, there are issues of wrong or delayed reporting, lack of quality, reliability, analysis and use of data for evidence based decision making. Lack of authenticity of deaths registry due to NCDs and absence of data from small GP clinics and private sector are important inadequacies. In 2003, attempt was made to develop integrated population based surveillance model in Pakistan but it could not be up-scaled nationwide¹⁶. Hence, there is need for development of valid, integrated data systems with due weightage to NCDs and their risk factors.

Table: Risk factors of NCD in Pakistani population (Source: WHO NCD Country Profile, 2014).

Adult Risk Factors	Males	Females	Total
Current tobacco smoking	38%	7%	23%
Alcohol per capita consumption (litres)	0.1	0	0.1
Raised blood pressure	25.6%	24.8%	25.2%
Obesity	3.3%	7.8%	5.5%

estimates, there is only one physician to treat 1099 persons while only one nurse is available for 2-3 doctors in Pakistan¹⁹. The density of nurses and midwives is 0.557 per 1000 population¹⁸. Status of availability of psychiatrist is even worse. The distribution of this available human resource is inequitable and large numbers of physicians are working in the urban area while rural areas suffer extreme shortages¹⁵. Another important aspect is that this resource is not trained to tackle NCDs and large number of general physicians are not versed with the standard guidelines for treatment. In public sector, sparing the people for training of specialized care of NCD is difficult without compromising the service delivery.

iv. Health Information

An extensive countrywide network of Health Management Information System (HMIS) was established in Pakistan in 1991²⁰. In addition, there is a parallel system of LHW program based

v. Access to Essential Medicine

Access to essential medicines, vaccines and technologies is imperative for any well-functioning health system. In Pakistan, the essential drug list contains 335 medicines but there are frequent shortages at primary, secondary health care systems and district hospitals²¹. An attempt was made at local level in Punjab to provide essential medicines including medicines for NCDs in Emergency Medical Services in Public sector hospitals but the programme could not be sustained for long²².

vi. Health Financing

Health financing is an important aspect in efficient delivery of health care system. System of collection of finances in Pakistan comprise of taxation, user fees, insurance mechanisms and donation. Revenues generated from taxations are spent as health care spending which has always remained below the requisite standard. In 2013-

14, total public sector expenditure on health was 86 Bn PKR, which equates to 0.40% of GDP¹⁹. In this expenditure, main focus remains on the communicable diseases while NCDs remain a neglected priority. Only 21.92% of the population is covered through vertical non-integrated health service delivery systems like Armed Forces, Fauji Foundation, Employees Social Security Institute, autonomous organizations while 70.08% of the population pays through out of pocket expenditure²³. This spending is totally unplanned and enormous in case of NCDs with long debilitating illnesses and becomes major reason for pushing a household into poverty. Current change in focus of government towards financing the integration of NCDs in primary care and social insurance revenues are expected to improve the situation in near future.

In addition to these areas, Pakistan is also facing issues of access, coverage, safety and quality of services related to NCDs.

CONCLUSION

Identification of gaps and weaknesses through health system perspective is crucial in development of cost effective interventions. Inadequate stewardship role, lack of risk factors surveillance, disintegrated health services delivery mechanisms, least prioritization of NCDs in information system and high out of pocket spending are the major health system bottle necks in Pakistan. Insufficient human resource for health, inequitable distribution of resources and lack of access to essential medicines further compounds the issue. Ensuring high political commitment, collaborative working, effective stewardship role, comprehensive NCD plan integrated into people centered primary care with efficient referral mechanisms are the strategic steps to strengthen the health system response. Moreover, multi disciplinary team-based service delivery, use of care pathways and human resource training is of immense importance. Efforts to integrate GPs through performance-based payments on achievement of requisite targets for identification,

management, reporting and referrals may contribute towards achievement of service delivery targets. Development of basic infrastructure, continuous logistics support, updation of essential list of medicines, integrated health information system and development of population based surveillance system is the key to success. Reduction of out of pocket spending through National level health insurance system, monitoring and follow up through electronic medical records and strong monitoring and regulatory mechanisms will ensure quality and safety of services. These steps will lead to strengthening of health system and ensure smooth and effective delivery of the NCD services in Pakistan.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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