

An Overview of Karnataka's Health Issues

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Abstract: *Karnataka, one of India's fastest-developing states, faces a complex health landscape shaped by demographic transition, epidemiological shift, urbanization, and socio-economic disparities. While improvements in maternal and child health indicators have been observed, the state continues to struggle with communicable diseases, non-communicable diseases, nutritional deficiencies, mental health disorders, and healthcare accessibility gaps. This review paper synthesizes available literature to present a comprehensive overview of Karnataka's major health issues, highlighting trends, determinants, and challenges, and offering insights into future public health priorities.*

Keywords: Public Health System, Disease Burden, Communicable Diseases.

I. INTRODUCTION

Karnataka is the eighth largest state in India by population and demonstrates considerable diversity in socio-economic and health indicators. The state has made progress in institutional deliveries, immunization coverage, and life expectancy. However, regional inequalities between northern and southern districts, rural and urban populations, and socio-economic classes persist. Rapid urbanization, lifestyle changes, and environmental degradation have also contributed to a rising disease burden. The present review aims to summarize key health issues affecting Karnataka's population and evaluate the challenges within the public health system.

Karnataka, one of India's most economically and socially dynamic states, presents a complex public health scenario shaped by demographic transition, rapid urbanization, industrial growth, and socio-economic diversity. With a population exceeding 61 million, the state exhibits wide inter-district variation in health outcomes, reflecting disparities in income, education, sanitation, nutrition, and healthcare accessibility. While Karnataka has achieved commendable progress in several health indicators such as institutional deliveries, immunization coverage, and life expectancy, it continues to face persistent challenges related to communicable diseases, non-communicable diseases, malnutrition, maternal and child health, and mental health disorders (IIPS, 2021).

Over the past two decades, Karnataka has experienced a significant epidemiological transition. The disease burden has gradually shifted from predominantly communicable diseases to a growing prevalence of NCDs, particularly cardiovascular diseases, diabetes, cancers, and chronic respiratory illnesses. However, communicable diseases such as tuberculosis, dengue, malaria, and HIV/AIDS remain major public health concerns, especially among vulnerable populations living in urban slums and rural areas. The coexistence of infectious diseases and lifestyle-related chronic illnesses reflects a "dual burden" that places increasing pressure on the state's health infrastructure (WHO, 2020).

Urbanization has profoundly influenced Karnataka's health landscape. Bengaluru, the state capital, is one of India's largest metropolitan cities and a major technology hub, attracting large migrant populations. Rapid urban growth has led to overcrowding, inadequate housing, air pollution, water contamination, and increased exposure to environmental health risks. These factors contribute to a rising prevalence of respiratory diseases, allergies, mental stress, and lifestyle disorders. At the same time, urban residents show higher rates of obesity, hypertension, and diabetes due to sedentary lifestyles and unhealthy dietary habits (MoHFW, 2021).

In contrast, rural Karnataka, particularly the northern districts such as Raichur, Yadgir, Kalaburagi, and Koppal, continues to struggle with poverty, undernutrition, limited healthcare access, and poor sanitation. These regions report higher infant mortality rates, maternal mortality ratios, and child malnutrition levels compared to the southern districts.

Nutritional deficiencies, especially iron-deficiency anaemia among women and children, remain alarmingly high, adversely affecting cognitive development, work productivity, and maternal health outcomes (IIPS, 2021).

Maternal and child health remains a critical component of Karnataka's public health priorities. Although institutional delivery rates have improved substantially due to government initiatives such as Janani Suraksha Yojana and state-sponsored maternal health programs, challenges such as anaemia, low birth weight, inadequate antenatal care, and malnutrition persist. According to NFHS-5, more than half of women of reproductive age in Karnataka suffer from anaemia, indicating a serious nutritional crisis that undermines maternal well-being and child survival (IIPS, 2021).

Another significant concern in Karnataka's health profile is the growing burden of mental health disorders. Depression, anxiety, substance abuse, and suicide rates have shown disturbing trends across both urban and rural populations. Farmers facing economic distress, students dealing with academic pressure, and urban professionals experiencing work-related stress contribute to the increasing mental health burden. Karnataka consistently records suicide rates above the national average, highlighting the urgent need for comprehensive mental health interventions and awareness programs (NCRB, 2022).

Environmental and occupational health hazards further complicate Karnataka's health challenges. Industrialization has increased exposure to chemical pollutants, hazardous waste, and contaminated water sources in several districts. Groundwater contamination with fluoride has led to fluorosis in parts of the state, causing chronic bone and joint disorders. Agricultural workers are frequently exposed to pesticides, increasing their risk of neurological, respiratory, and reproductive health problems (MoHFW, 2021).

The state's healthcare system has expanded over the years with improved infrastructure, health insurance schemes, and digital health initiatives. Programs such as Ayushman Bharat and state health assurance schemes have enhanced healthcare coverage, particularly for economically weaker sections. However, disparities in the distribution of healthcare facilities, shortage of skilled health personnel in rural areas, overcrowding in government hospitals, and high out-of-pocket expenditure continue to restrict equitable access to quality healthcare services (NHM, 2022).

Furthermore, socio-economic determinants such as education, gender inequality, poverty, sanitation, and access to clean drinking water significantly influence health outcomes in Karnataka. Open defecation, poor hygiene practices, and unsafe drinking water remain prevalent in certain rural pockets, increasing vulnerability to water-borne and vector-borne diseases. Educational status, particularly among women, plays a crucial role in health-seeking behavior, nutrition practices, and utilization of healthcare services (WHO, 2020).

In recent years, Karnataka has also faced emerging public health challenges linked to climate change, including heat-related illnesses, changing patterns of vector-borne diseases, and food security issues. Rising temperatures and erratic rainfall have affected agricultural productivity, exacerbating malnutrition and farmer distress. Climate-sensitive diseases such as dengue and malaria have expanded into newer regions, further stressing public health systems (NHM, 2022).

Karnataka's health profile reflects a state undergoing rapid socio-economic transformation while grappling with long-standing structural inequalities. The coexistence of infectious diseases, chronic lifestyle disorders, malnutrition, mental health issues, and environmental health risks underscores the need for an integrated and equity-oriented public health strategy. Understanding these multidimensional health challenges is essential for designing effective policies, improving healthcare delivery, and ensuring sustainable health development across all regions of Karnataka.

MAJOR HEALTH ISSUES IN KARNATAKA

Karnataka, a rapidly developing state in southern India, is experiencing a significant transition in its public health profile. While notable progress has been achieved in improving healthcare infrastructure and service delivery, the state continues to face serious health challenges arising from communicable diseases, non-communicable diseases, nutritional deficiencies, maternal and child health concerns, and mental health disorders. These health issues reflect the combined influence of socio-economic inequality, urbanization, lifestyle changes, and environmental factors (IIPS, 2021).

Communicable diseases remain a persistent public health problem in Karnataka, particularly among rural populations and urban slum dwellers. Tuberculosis continues to be one of the leading infectious diseases reported in the state, with

Karnataka ranking among the high-burden states in India. Vector-borne diseases such as dengue, malaria, and chikungunya show seasonal surges, especially during monsoon months, due to poor sanitation, stagnant water, and inadequate waste management. HIV/AIDS also remains a significant concern, with higher prevalence rates observed in certain districts, indicating the need for sustained prevention and awareness programmes (NHM, 2022).

Non-communicable diseases have emerged as the leading cause of morbidity and mortality in Karnataka. Cardiovascular diseases, diabetes mellitus, hypertension, chronic respiratory illnesses, and cancers are increasing rapidly, particularly in urban areas. Sedentary lifestyles, unhealthy dietary habits, tobacco consumption, and alcohol use are major contributors to this growing burden. According to recent surveys, a substantial proportion of adults in Karnataka are either overweight or obese, and nearly one-fourth suffer from hypertension, placing them at high risk of heart disease and stroke (WHO, 2020).

Maternal and child health remains a key area of concern despite improvements in institutional deliveries and immunization coverage. Anaemia among pregnant women, low birth weight, and child malnutrition continue to affect maternal and neonatal outcomes, particularly in northern Karnataka districts such as Raichur, Yadgir, and Kalaburagi. High prevalence of stunting, wasting, and underweight children highlights the persistent nutritional challenges faced by economically disadvantaged populations (IIPS, 2021).

Nutritional deficiencies are widespread, especially among women of reproductive age and children under five years. Iron-deficiency anaemia affects more than half of women in the state, leading to fatigue, reduced productivity, and increased risk of pregnancy-related complications. Food insecurity, poor dietary diversity, and limited access to fortified foods contribute significantly to this problem, particularly in rural areas (MoHFW, 2021).

Mental health issues have emerged as a critical but often overlooked public health challenge in Karnataka. The state has consistently reported suicide rates above the national average, particularly among farmers, students, and young adults. Depression, anxiety, substance abuse, and stress-related disorders are becoming increasingly prevalent due to academic pressure, unemployment, financial stress, and social isolation (NCRB, 2022).

Environmental and occupational health hazards further aggravate Karnataka's health burden. Industrial pollution, vehicular emissions, and groundwater contamination have contributed to rising respiratory diseases and chronic conditions such as fluorosis in certain districts. Agricultural workers exposed to pesticides face increased risks of neurological and respiratory disorders, emphasizing the need for stronger occupational safety measures (NHM, 2022).

Karnataka faces a complex mix of traditional and emerging health challenges. Addressing these major health issues requires a comprehensive public health approach focusing on preventive care, nutritional improvement, mental health services, environmental protection, and equitable healthcare access.

COMMUNICABLE DISEASES

Communicable diseases continue to impose a significant burden, especially in rural and semi-urban regions. Tuberculosis (TB), dengue, malaria, chikungunya, and HIV/AIDS are among the major concerns. Karnataka reports high TB notification rates, and urban slums in Bengaluru and other cities show persistent vulnerability to vector-borne diseases. Seasonal outbreaks of dengue and malaria remain common due to climatic conditions, water stagnation, and population density (National Health Mission, 2022).

NON-COMMUNICABLE DISEASES

NCDs have emerged as the leading cause of morbidity and mortality in Karnataka. Cardiovascular diseases, diabetes mellitus, hypertension, chronic respiratory diseases, and cancers are increasing rapidly. Lifestyle changes such as reduced physical activity, unhealthy diets, tobacco use, and alcohol consumption have contributed to this trend. Studies indicate that nearly one-fourth of adults in Karnataka are either hypertensive or pre-hypertensive, and diabetes prevalence is significantly higher in urban populations (IIPS, 2021).

MATERNAL AND CHILD HEALTH

Despite improvements in maternal mortality ratio and infant mortality rate maternal and child health remains a priority. Anaemia among pregnant women, low birth weight, and malnutrition among children are prevalent in northern districts such as Kalaburagi, Raichur, and Yadgir. Poor sanitation, inadequate nutrition, and limited access to healthcare facilities exacerbate these issues (NFHS-5, 2021).

NUTRITIONAL DEFICIENCIES

Malnutrition is a persistent challenge in Karnataka, particularly among children under five and women of reproductive age. Stunting, wasting, and underweight prevalence remain above national averages in several districts. Iron-deficiency anaemia affects more than half of women aged 15–49 years, impacting maternal health and productivity. Food insecurity, poverty, and lack of dietary diversity are key contributing factors.

MENTAL HEALTH ISSUES

Mental health disorders such as depression, anxiety, substance use disorders, and suicide have shown alarming trends in Karnataka. The state has recorded high suicide rates compared to the national average. Stress due to academic pressure, unemployment, financial insecurity, and social isolation contributes to poor mental health outcomes, especially among youth and farmers (National Crime Records Bureau, 2022).

ENVIRONMENTAL AND OCCUPATIONAL HEALTH

Industrialization and urban growth have increased exposure to air and water pollution. Bengaluru and other urban centers face severe air quality issues, contributing to respiratory diseases. Rural agricultural workers are exposed to pesticides, leading to occupational health problems. Contaminated groundwater in certain districts has also been linked to fluorosis and other chronic conditions.

KEY HEALTH INDICATORS OF KARNATAKA

Indicator	Status in Karnataka	Major Concern
Infant Mortality Rate	Moderate decline	Regional disparities
Maternal Mortality Ratio	Improved but uneven	Anaemia, institutional access
TB Notification Rate	High	Urban slums vulnerable
Prevalence of Diabetes	High in urban areas	Lifestyle-related
Anaemia among women	Very high	Nutritional insecurity
Suicide Rate	Above national average	Mental health burden

HEALTH SYSTEM CHALLENGES

Karnataka's public health system faces shortages of healthcare professionals, infrastructure gaps in rural areas, and unequal distribution of facilities. Overcrowding in government hospitals, limited availability of specialized services in backward districts, and financial barriers to private healthcare restrict access. Although government initiatives such as Ayushman Bharat and state-sponsored insurance schemes have improved coverage, out-of-pocket expenditure remains high.

DISCUSSION

The health scenario of Karnataka reflects a dual burden of disease—persisting communicable diseases alongside rapidly rising NCDs. Social determinants such as poverty, education, sanitation, and urbanization significantly influence health outcomes. Northern Karnataka remains particularly disadvantaged, requiring targeted interventions. Strengthening primary healthcare, improving nutrition programs, enhancing mental health services, and promoting preventive healthcare are crucial to addressing the emerging challenges.

II. CONCLUSION

Karnataka's health landscape is undergoing a critical transition. While notable progress has been achieved in maternal and child health and infectious disease control, rising NCDs, mental health issues, and nutritional deficiencies present major challenges. A comprehensive, equity-focused public health approach is necessary to improve overall health outcomes and reduce regional disparities.

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