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A REVIEW ON PROMOTION AND PREVENTION OF NON-COMMUNICABLE DISEASE IN URBAN SLUM OF INDIA

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Abstract-Non-communicable disease continues to be an important public health problem specially in urban slum of India, being responsible for a major proportion of mortality and morbidity. Demographic changes, changes in the lifestyle along with increased rates of urbanization are the major reasons for the non-communicable diseases. Noncommunicable diseases (NCDs) kill 41 million people each year, equivalent to 71% of all deaths globally. Empowerment of the community through effective health education, use of trained public health personnel along with provision of free health care and social insurance would prove beneficial in effectively controlling the growing prevalence of NCDs. **As per SDG goal 2030-** Reduce one third premature mortality from non-communicable diseases through promotion, prevention and treatment.

Key words- non-Communicable disease, Metabolic Risk Factors, Behavioural risk factors
Health Promotion, HBM Model, Empowerment, Prevention.

Introduction-

Noncommunicable diseases (NCDs) are the leading cause of deaths and disability globally, particularly in low- and middle-income countries (LMICs).[1] In India, NCD burden is disproportionately higher (1), It is estimated that NCDs accounted for 53% of the total mortality and 44% of disability-adjusted life-years (DALYs) lost, in 2005, with projections indicating a rise to 67% of the total mortality by 2030.

In 2001, 28% of the total population in India was living in urban areas, which was projected to increase to about 50% (605– 618 million) by 2021–25. [2] Demographic trends show that while the urban average growth rate stabilized at 3% over the past decade (1991–2001), the slum growth rate doubled. An alarming feature of the growth of the urban population is the proportion of people living in poverty; official estimates place it at 32%. Projections suggest that while the urban population will double in the next 10 years. It is evident that the urban poor have the worst of both worlds—they adopt a more urbanized lifestyle which places them at a higher risk for NCDs and have poor access to healthcare, partly related to their poor purchasing ability.

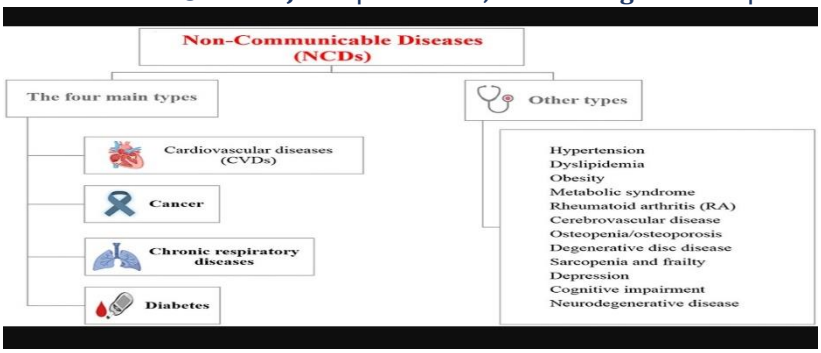

Fig. 1 – **Types of non – communicable disease**

Risk Factors-

The common risk factors for NCD mainly categorized as-

Metabolic Risk Factors-

Nearly half of a group of healthy individuals living in a slum of India were found to be overweight while 17.2 per cent were obese, according to a recent survey. Risks of coronary heart disease, ischemic stroke, and type 2 diabetes mellitus increase with increasing body mass index (BMI). A raised BMI also increases the risks of cancer of the breast, colon, prostate, endometrium, kidney, and gall bladder. The WHO states that increased urbanization has multiple environmental factors that actually encourage physical inactivity. Some of which includes high-density traffic, low air quality and pollution, and lack of parks, sidewalks, sports, or recreational facilities.[3] Illiteracy is another known factor for unhealthy lifestyle. Illiteracy can have a major impact on patient's understanding of the healthcare information provided to them.[4] poor parental knowledge and health illiteracy are associated with obesity in children.

Hypertension- Hypertension accounts for 57% of all deaths from stroke and 24% of all deaths from coronary heart disease in India. Over the last 50 years there has been about 30 times increase in prevalence of hypertension in the urban population of India, a considerable proportion of which lives in the slums. Slum-dwellers have poor socio-environmental conditions and less access to medical care, which make them susceptible to illnesses.

One study was conducted in Kolkata slum , it is a collaborative study between the Kolkata Municipal Corporation (KMC) and the Apollo Gleneagles Hospital, Kolkata. Kolkata has an approximate resident population of 4.5 million (Census 2011), of which about 1.49 million reside in slums (about one-third of the total population). One of the boroughs was selected which has a population of 4, 01,332, of which about 44.3% are slum dwellers. . A total of 10,175 adults aged ≥ 20 years were enrolled in the study and from this study we came to know that overall prevalence of hypertension (known and newly detected) was 42%. Hypertension was newly detected in 19% of the population surveyed and 22% of subjects in the age group 20 years to 40 years of age had hypertension. They were found to be less aware of their condition and also were less likely to be on treatment.

Dyslipidaemia-Lipid disorders are associated with consumption of diet containing excess of trans fats with high calories, sedentary lifestyle and familial history. Dyslipidemia or impaired lipid profile includes lipid disorders such as hypertriglyceridemia, hypercholesterolemia, high LDL-C, low HDL-C. Dyslipidemia and mixed lipid disorders. Studies have shown that prevalence of dyslipidemia is more in co-morbid conditions like diabetes, hypertension and obesity. The causes for high prevalence of Dyslipidemia in this community can be linked to their food habits which consist of consumption of meat, trans fats and alcohol. The awareness rate was low among the population.

Impaired glucose tolerance-Although diabetes is a chronic condition, it can be controlled and managed to prevent complications. Long-standing diabetes with poor glycaemic control leads to many complications. It has

shown in different studies that low socioeconomic status and living in socially deprived areas predispose individuals to IGT and diabetes.[5,6] The psychosocial stress factors also play an important role in glycemic control. Important factors specifically affecting females include lower levels of education, gender bias in the ability to access to healthcare, stress, and poverty.

Behavioural risk factors -

Use of tobacco- Smokers have a markedly increased risk of multiple cancers, particularly lung cancer, and are at a far greater risk for heart disease, stroke, and chronic obstructive pulmonary disease (COPD). People who chew tobacco risk cancers of the lip, tongue, and mouth. Nonsmokers exposed to second-hand smoke have a 25 to 35% increased risk of suffering acute coronary diseases and increased frequency of chronic respiratory conditions.[7]

Excessive intake of alcohol -Excessive use of alcohol causes about 20 to 30% cases each of esophageal cancer, liver disease, and motor vehicle accidents worldwide[8] .The proportion of disease burden attributable to the use of alcohol in the developing world is between 2.6 and 9.8% of the total burden for men and between 0.5 and 2.0% of the total burden for women. Heavy use of alcohol increases the risk of cardiovascular disease and stroke.

Lack of physical activity- Physically inactive persons have a 20 to 30% increased risk of all-cause mortality as compared to those who adhere to 30 minutes of moderately intense physical activity on most days of the week. Globally, physical inactivity accounts for 21.5% of ischemic heart disease, 11% of ischemic stroke, 14% of diabetes, 16% of colon cancer, and 10% of breast cancer. Physical inactivity is a major risk factor for obesity, which itself is a risk factor for other NCDs.

Methods to reduce burden of NCDs in Slum –

1. **Health Promotion**- Health promotion is the process of enabling people to increase control over, and to improve, their health. Health promotion is the major pathway toward building a healthy India, by enabling and empowering its people and communities to control their health. However, there is no single policy or program toward promoting health. In line with the socioecological approach to health, health promotion requires a package of programs and policies, considering key contents of the contributing factors, programs and activities, targets, communication methods, and participant groups at each level of the socioecology model.

Various approaches of Health Promotion

- *Behaviour change approach* - Approaches to behavior change aim to bring about changes in individual behavior through changes in cognitions of individuals through provision of information about health risks and hazards, assuming that humans are rational decision makers whose cognitions inform their actions.

  Proponent of this approach will be convinced that a healthy lifestyle is in the interest of their clients and that they are responsible to encourage as many people as possible to adopt a healthy lifestyle. One approach which is used commonly in this regard is based on the health belief model (HBM)[9]. The Health Belief Model predicts that a specific health behaviour is more or less likely based on an individual's perceptions of disease severity and personal susceptibility to the disease combined with perceived benefits and barriers to that behaviour .

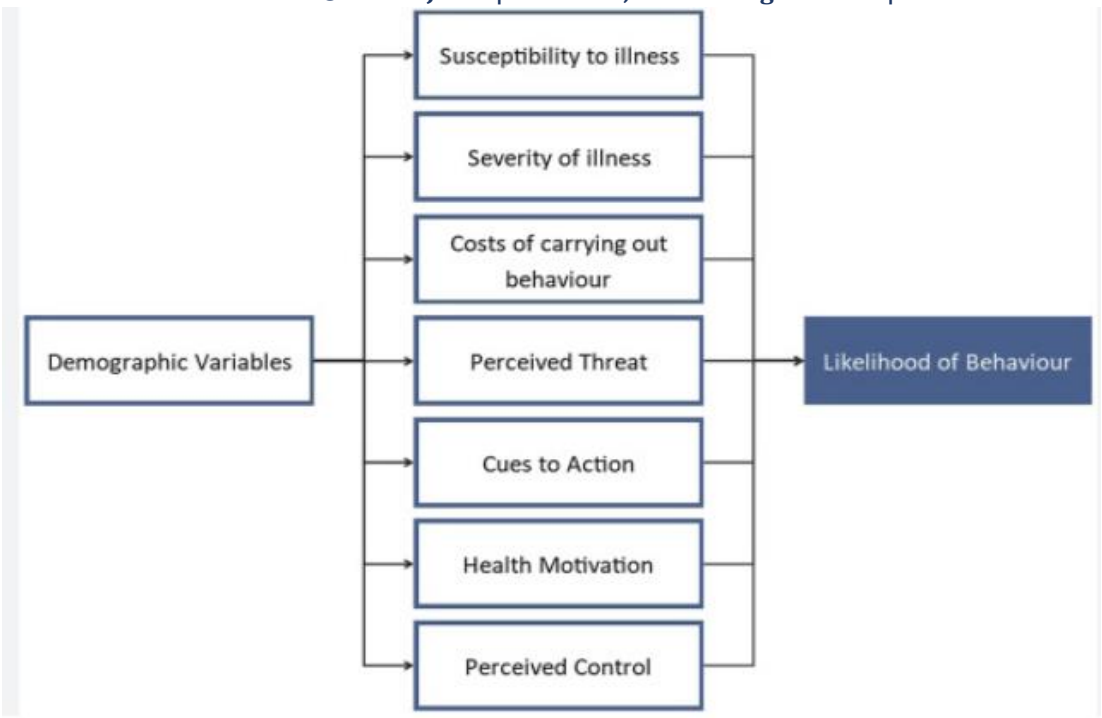

Fig.2- **Health Belief Model**

- *Educational Approach*- Aim is to give information and ensure knowledge and understanding of health issues and to enable well informed decisions to be made Information about health is presented and people are helped to explore their values and attitudes and make their own decisions. Help in carrying out those decisions and adopting new health practices may also be offered.
  Health coaching can also be a valuable approach to health care personnel in promoting preventative care. Health coaching is defined as "helping patients gain the knowledge, skills, tools, and confidence to become active participants in their care so that they can reach their self-identified health goals[10].Physicians themselves can do health coaching; however, it is also done by health educators or social workers who serve as the "bridge" between the patient and the physician. It requires extensive training in communication skills. Evaluation of the health coaching practice in the UK found higher patient compliance, reductions in episodes of care, improved care quality, potential reduction of waiting times, and less waste of unnecessary medication .

- *Client centric approach (Empowerment)*- Although empowerment is one of the core principles of the World Health Organization's approach to health promotion,[11] This approach (also known as the self-actualisation model) seeks to develop the individual's ability to control their own health status as far as possible within their environment. Health promoter's role is to act as a facilitator in helping people to identify their own concerns and gain the knowledge and skills they require to make things happen.

Two types of empowerments:

♣ Self-empowerment - based on counselling and aimed at increasing people's control over their own lives.

♣ Community empowerment - related to community development to create active, participating communities which can change the world about them through a programme of action

Methods

- Client-centred, including counselling, community development and advocacy.
- Health advocacy refers to the action of health professionals to influence and shape the decisions and actions of judgment- and policy-makers who have some control over the resources which affect or influence health.
- Promoting public involvement and participation in decision-making on health-related issues.

- *Societal/Social Change Approach*: It aims to bring about changes in the physical, social, and economic environment, enabling people to enjoy better health.
- Radical health promotion - makes the environment supportive of health.
  to make the healthy choice the easier choice.
- The focus is on changing society, not on changing the behaviour of individuals.

Methods

- Focus on shaping the health environment
- lobbying/advocacy
- development of healthy public policies and legislation
- fiscal measures
- creating supportive social and physical environments

2. **Screening**- Screening is a process of identifying a disease condition among apparently healthy individuals, who may be at increased risk of a disease or condition. Screening programmes can be undertaken for a population at large, or targeting high-risk groups. Early detection of common non-communicable diseases leads to better health outcomes. The ideal screening method should be simple, easy to do, cost-effective, and helps in early detection of the disease. It should be safe, non-invasive, reliable and acceptable to the population.

Method and Frequency of Screening[12] -

Type of NCDs	**Age of Beneficiary**	**Method of Screening**	**Frequency of screening**
Hypertension	30 years and above	Blood pressure apparatusDigital or Aneroid Sphygmomanometer	One year
Diabetes	30 years and above	Glucometer	Once in a year
Breast cancer	30- 65 years	Clinical breast examination	Once in a five year
Oral Cancer	30- 65 years	Oral visual inspection	Once in a five year
Cervical Cancer	30- 65 years	Visual inspection with acetic acid (VIA)	

While conducting screening at community level, following principles need to be followed:

a) No individual should need to travel more than half an hour to be screened.

b) Screening is conducted in a site where privacy is assured.

c) Screening is carried out according to standard protocols.

Referral and Treatment: Ensuring Continuity of Care [13]

 Those diagnosed with Hypertension and Diabetes would be referred to a Medical officer (MBBS), at the nearest facility, for confirmation, conducting relevant laboratory investigations, and initiation of treatment.

 Those who are found positive for cancer/ precancerous lesions will DH for confirmation and treatment by trained specialists, as per the Operational Framework developed for Cancer Screening and Management.

Community follow up will be done by frontline workers through home visits.

Recent Government program on NCDs[14] -

- Considering the rising burden of NCDs and common risk factors to major Chronic Non –Communicable Diseases, Government of India initiated an integrated National Programme for Prevention and Control of Cancers, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) under the National Health Mission.
- The focus of the Programme is on health promotion and prevention, strengthening of infrastructure including human resources, early diagnosis and management and integration with the primary health care system through NCD cells at different levels for optimal operational synergies.
- During the period 2010 - 2012, the programme was implemented in 100 districts across 21 States. The programme at present covers the entire country.
- During February 2021, Ministry of Health and Family Welfare launched the operational guidelines for Integration of NAFLD (Non-Alcoholic Fatty Liver Disease) with NPCDCS.

Conclusion- India must orient the health system towards prevention, screening, early intervention and new treatment modalities with the aim to reduce the burden of chronic disease. Surveillance of NCDs and their risk factors should also become an integral function of health systems. It was found through this review that health promotion is the process of enabling people to increase control over, and to improve their health. Comprehensive education programs and IEC distribution (verbal and written) on NCDs were also found as strong instruments. Health promotion involves the implementation of specific measures that help individuals exercise more control over and improve their health. It's focused on addressing and preventing the root causes of illness, rather than focusing solely on treatment and cure. community-based screening services allow beneficiaries to have the opportunity to detect existing diseases and seek next-level treatment if needed. These findings are also supported by this review. The current review revealed that maintaining patient privacy, confidentiality is also crucial.

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