Policy Brief

COMBATING PRE-DIABETES MELLITUS, PREVENTING FUTURE BURDEN OF NON-COMMUNICABLE DISEASES

Task Force 6
Global Health Security and Covid-19
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Abstract

By the increasing of life expectancy due to improvements of health care services and reduction of infectious diseases, this ageing world is also facing an increasing burden of non-communicable disease (NCDs) including T2DM. NCDs attributed to 71% of deaths and 77% of which are in low- and middle-income countries (LMICs). Several risk factors such as childhood overweight and obesity as well as tobacco use have been established and need determined management. We recommend that G20 countries to establish strong collaborative efforts, strategies, and sufficient funding not only for the curative aspects, but also or even more on preventing the NCDs based on the life-cycle intervention approach.

Keywords: NCD, type 2 Diabetes Mellitus, Ageing, Childhood overweight and obesity, tobacco use
Challenges

Due to the improvements of health services, access to health care, increased quality of life related to socioeconomic status, and controlled birth rate, the world experiences significant escalation of life expectancy (Roser et al., 2019). Unfortunately, this privilege also provides a detrimental effect in the development of non-communicable diseases, bringing the fact that the increasing actual number of life expectancy does not always correspond with years spent in good health (IHME, 2018). The world is now facing an increasing burden of NCDs with a total of 71% of deaths (around 41 million people and expected to rise to 52 million by 2030) attributed to it and 77% deaths of which are in Low- and Middle-Income Countries (LMIC) (IHME, 2018). Despite this, global financing for NCDs is severely limited, indicated by only less than 2% of all health funding has been received for two decades (NCD Alliance, 2022). In low and middle-income countries, even there is only 1% of global health funding is dedicated to preventing and treating NCDs, where NCDs account for nearly 67% of deaths (WHO, 2018b).

The detection and management of NCDs have been even more neglected causing it to be more like a time bomb during the COVID-19 pandemic. On the other hand, people with NCDs are more susceptible to die due to COVID-19. The following details highlight challenges of NCDS in LMIC countries including increasing prevalence of T2DM, challenges in the ageing societies, childhood overweight and obesity, and high prevalence of tobacco use (De Rosa et al., 2018; Khan et al., 2021; Schmidt, 2019).

1. The increasing prevalence of T2DM, a high number of undiagnosed T2DM, and late diagnosis of prediabetes and T2DM

Type 2 Diabetes Mellitus (T2DM) in most countries in the world is significantly increasing among people aged 20-79 years old. As one of the most significant NCDs and the number of people suffering from it has quadrupled in the last 40 years, type 2 - diabetes mellitus (T2DM) is considered as the only one for which the risk of dying early is increasing. T2DM is projected to be suffered by more than 700 million adults globally, costing more than US$ 1.05 trillion, by 2045 (IDF, 2021). High prevalence of undiagnosed diabetes can signal interventions that can delay or even prevent the onset of T2DM and contribute to overall
health and well-being. Moreover, late detection of prediabetes, due to ineffective cooperation and inadequate financing capability for early detection and intervention.

2. **Increasing number of Ageing Population and NCDs, while limited access to Long-term care**

The share of older people in the world’s population is expected to nearly double from 12% to 22% in the coming 30 years. Among people aged 60 years and older, 80% will be living in low-middle income countries by 2050. Challenges associated with an ageing population are expected to increase significantly in LMICs such as psychosocial issues: depression, decreased cognitive function. This reflects that more elderly requires more support for daily life or long-term care (LTC) that is mainly rely on informal care and caregivers. However, there is also tendency that low-cost care givers is decreasing across time while the need of LTC is increasing. The vast majority of LTC support is provided by family caregivers; formal care services are rarely available or do not exist.

3. **Increasing prevalence of childhood overweight and obesity and lack of policy to promote health related food tax.**

Inequality of policy to promote health related food tax and external factors which contribute to the problem of obesity and other health risks bring several externalities, that include health externality, environmental externality, combined externality, and ethics. Limited evidence on the long-term effect on stunting as well as the first 1000 days of life and the risk of NCD in the future also contribute to the neglected issue of malnutrition among children.

4. **High prevalence of tobacco which contribute to intergenerational malnutrition in a family, leading to a vicious cycle of malnutrition and poverty**

Tobacco use is the leading cause of preventable death and morbidity, especially in developing country like Indonesia, knowing that Indonesia has the highest prevalence of smoking among males (63%) (SEATCA, 2016; WHO, 2019). This is a detrimental issue since tobacco use is a significant factor for NCDs, including T2DM (US DHHS, 2014). This is represented by the extremely high direct smoking-attributable health expenditures (SAHE) that reach US$1014 billion and indirect costs from productivity losses due to smoking-attributable disability (US$357 billion) and mortality (US$657 billion). Therefore, the total economic cost of smoking is estimated at US$1436 billion (almost 40% of which occurs in LMICs), equivalent in magnitude to 1.8% of the world's annual GDP. The number of labour
years lost (LYLs) due to smoking-attributable diseases came to 26.8 million years, with 18.0 million years lost due to mortality and 8.8 million years lost due to disability (Goodchild et al., 2018; Meilissa et al., 2022). The costs of using tobacco also contribute to the occurrence of intergenerational malnutrition in a family, leading to a vicious cycle of malnutrition and poverty (Delisle, 2008).
Recommendations

Recommendations to tackle challenges in the future NCDS, aging, child overweight and obesity, and tobacco control are as follows:

1. **Collaborative effort to strengthen responsive health care and increase universal health coverage to combat NCDs**
   - Collaboration. Collaborative efforts in the formulation of national-regional policies that can become an umbrella for any coordinated action among all stakeholders in the effort to combat pre-diabetes.
   - Public-Private Partnerships (PPP). The government and the private sector can become partners that are connected more strongly than ever in the pre-diabetes control network that drives health-minded development. The determinant is whether or not there is a clear mechanism that regulates the function and synergy of each role. To date, private sectors have already started to have a scheme to monitor their employees’ health using technology.
   - Data sharing. Exchange of information and research related to pre-diabetes (across the border) that can encourage the involvement of health organisations, experts, and academics.
   - Financial Support. Adjustment steps are needed to ensure adequate financial support and expansion of service coverage for the prevention and management of chronic diseases. To support this, increasing financing for NCDs prevention and control is very critical to be done by NCD team of WHO. Effective measures to prevent and control NCDs costs just an additional US$ 1.27 per person per year in low- and lower-middle-income countries. The health gains from this investment will save 8.2 million lives through 2030 and in turn, generate US$ 350 billion through averted health costs and increased productivity, increase employment and longer life during the same period (WHO, 2018b). It is suggested that for every US$1 invested in each policy area, the following returns have been documented:
     - US$12.82 from promoting healthy diets
     - US$9.13 from reducing the harmful use of alcohol
     - US$7.43 from lower tobacco use
     - US$3.29 from providing drug therapy for cardiovascular disease
     - US$2.80 from increasing physical activity
     - US$2.74 from managing cancer (WHO, 2018a)
   - Life cycle-based intervention. To prevent the risk of NCDs development, life cycle-based intervention approach, empowerment of health care volunteers and community via education are pivotal.
2. **Ensure healthy Ageing and comprehensive Social Protection for ageing population**
   - Integrating a comprehensive approach for the ageing population, whether in the context of medical education at any level, as well as in any stage of medical facilities, might be a proper solution to tackle this issue.
   - Establish health-care facilities based on the course of diseases: acute, subacute, chronic, and palliative treatment.
   - Lifestyle modification, nutritional support, rehabilitation programmes; those have to be done consistently, but not in the acute care setting.
   - Ensure healthy ageing and retirement policy as social protection for the older population including the scheme for LTC among the older population. To do this, countries should also find new innovations to anticipate and prepare the higher need of LTC that might include robotic or prevention of disability due to NCD.

3. **Sin Tax design and Physical Active for Childhood with overweight and obesity**
   - Closing the gaps in governance with fat and tickle tax by accommodating under the implementation of sin tax. The fat & tickle tax idea introduced looks at the mechanisms through which product design/formulation can lead to unhealthy eating behaviors/patterns of consumption/preferences for unhealthy foods. “Tickle” refers to factors that influence the overconsumption or physical inactivity that includes substances that promote sensory sensation (taste, colour, smell, texture, etc) which lead to addiction, price and quantity discounts (or any marketing offers), and obesogenic environment (the availability of unhealthy food and beverages as well as advertisements). This is important in understanding how/why we would expect food policies to work. Therefore, analytical capacity is critical to minimise the inequality of tax policy implementation. Strong political will to control both, supply, and demand sides, including enforcement on the compliance of the industries are critical.
   - G20 should encourage all member countries to promote healthy eating behaviour, one of which is by understanding consumption experience. Food choice may also be due to influences over the mind of a particular person, that includes: 1) Purchase of food products due to price offers that may lead to excessive consumption, 2) The traditional practice of not wasting any food on the plate. Excessive consumption is possible if the food served generally exceeds the requirement, and 3) Loyalty points offered by big retailers may influence a decision.
   - A best practice for stress management as a mechanism of reduction in food consumption. Physical activities and exercises, including yoga, creates space by reducing stress in an individual that reduces the chances of any stress-induced food consumption,
such as binge eating. Stress reduction improves the capability of thinking & decision-making with regards to various areas including food.

4. **Collaborative Policy on Tobacco Control to regulate the use of tobacco and ban tobacco use for future generations**

- The government should consider formulating a legislative foundation to totally ban tobacco for future young generations, using age as a threshold while at the same time strengthening the implementation of current tobacco-free policies. In addition, more significant restrictions on shops allowed to sell tobacco products were also introduced. This is due to despite being the highest rank of smoking prevalence, Indonesia, specifically, compared to other countries, has considerably low tobacco control-related regulation and enforcement.
- Conducting community-based participatory research (CBPR). This human-centred approach acts as a complement to the current framework that is limited in generalizability. We propose that youth-based participatory research can precisely address tobacco smoke issues in terms of prevention, cessation, and advocacy, among G20 countries according to its own needs and yield applicable and culturally accepted programs and policies.
- Expanding awareness campaign. Legislation should be balanced with educational and preventive measures, including an urgent need to not only communicate how tobacco, including e-cigarettes, affects individual health, but also how it contributes to poverty, childhood malnutrition, NCDs, environment, and unprecedented threat such as COVID-19, emphasizing children’s rights to smoke-free air.
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