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Editorial

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Persisting Diabetic Burden from International Medical Point of View

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Abstract

WHO Global Diabetes Compact has taken the role of addressing the burden of diabetes across the world for a long time. Its vision for 2030 includes attaining good glycemic control, blood pressure (BP) control, and a higher ratio of statin intake. A close relationship exists between diabetes and primary care medicine. By the NCD Risk Factor Collaboration (NCD-RisC), research data included 141 million cases from 200 countries and districts over 33 years. The estimated number of adults with diabetes was 828 million in 2022, showing an increase of 630 million from 1990. The Global Burden of Disease (GBD) Study showed an increased number of diabetic patients by 8.3% between 2000 and 2023.

Keywords

WHO Global Diabetes Compact, NCD Risk Factor Collaboration, Global Burden of Disease, World Organization of Family Doctors, Integrative Medicine

Abbreviations

WHO Global Diabetes Compact: WHO Global Diabetes Compact; NCD-RisC: NCD Risk Factor Collaboration; GBD: Global Burden of Disease; WONCA: World Organization of Family Doctors; IM: Integrative Medicine

Editorial

The WHO Global Diabetes Compact has taken the role of a global initiative for tackling the burden of diabetes. It reframes diabetes for health-system benchmarking and universal health coverage [1]. As the vision for 2030, 80% of people with diagnosed diabetes will attain good glycemic control (HbA1c < 8%), blood pressure (BP) control (less than 140/90 mmHg), and a higher rate of statin intake (more than 60%). Among various collaborative research efforts, cardiometabolic disease reports will be useful for comprehensive assessment [2].

From a holistic medicine (HM) point of view, the author has been involved not only in diabetes, but also in primary care (PC) and integrative medicine (IM). I have served as the president of the annual assembly of the Japan Primary Care Association (JPCA) in 2017, and as the representative of the Shikoku division of Integrative Medicine Japan (IMJ) for more than 15 years [3]. I have attended many world conferences of the World Organization of Family Doctors (WONCA) so far [4], and developed the philosophy of HM and Hinohara-ism by Dr. Shigeaki Hinohara [5]. WONCA has collaborated on various projects with WHO until now,

and has presented the WHO-WONCA mental health conference, Global Coalition for Circulatory Health, Innovation and Technology Transforming Rural Health Care Delivery, digital health webinar series, and others.

A close relationship exists between diabetes and PC. In usual PC settings, diabetes can be detected across the world. Then, effective and responsive management in early stages can lower the risk of comorbidities and complications. The NCD Risk Factor Collaboration (NCD-RisC) reported data from 200 countries and districts over 33 years [6]. It included 1108 studies with 141 million cases for HbA1c, fasting glucose, and related medical information. The estimated number of adults with diabetes was 828 million in 2022, showing an increase of 630 million from 1990. For comparison, diabetic cases that did not receive treatment were 445 million in 2022. They represent 59% of diabetic adults (≥30 years), which is 3.5 times higher than in 1990.

The global prevalence of diabetes was recently studied worldwide [7]. The method involved modelling analysis from the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD), covering 204 countries and districts over 23 years. Among current diabetic patients, 21.2% had optimal glycemic control in 2023 globally. Regional differences were observed, with the highest diagnosis rates in high-income North America and the highest treatment rates for diagnosed diabetes in high-income Asia Pacific. Between 2000 and 2023, the number of people diagnosed with diabetes increased by 8.3%, and the number of patients receiving diabetic treatment increased by 7.2%. In this study, hierarchical Bayesian modelling was used, and attainment of the four Compact metrics was estimated across population subgroups (age, sex, BMI, and education). The results complement statistics from the GBD study and the NCD Risk Factor Collaboration.

As characteristic global aspects, cardiometabolic risk management appears to be insufficient, especially in low-resource countries [8]. These gaps are driven by structural issues such as poor accessibility to diagnostic services, shortages of skilled staff, imbalance in specialist care, and fragmentation of PC. Several discussions arise from these findings [9]. First, longitudinal monitoring may include electronic health records or repeated health surveys, each with strengths and limitations. Second, whether various types of diabetes should be included in studies remains a question. These include rare types such as type 1 diabetes (T1D), multiple long-term conditions (MLTC), early-onset T2D, ethnic minority populations, and elderly diabetic patients. Third, which factors should be evaluated? Basic markers include HbA1c, BP, and statin use, but additional elements such as treatment intensity, MLTC development, and cardiovascular, kidney, and liver events may also be considered.

WHO has been actively involved in diabetes management worldwide [10]. It has contributed to the Global Diabetes Compact by uniting stakeholders to implement effective measures for reducing diabetes risk and ensuring access to affordable, comprehensive care and prevention. With the increasing prevalence of T2D, changes in care and prevention strategies have been required. These dynamics are influenced by demographic, behavioral, social, economic, and health system factors.

The relationship between hemoglobin glycation index (HGI) and mortality in diabetic cases has also been studied [11]. The protocol included 1760 cases with diabetes or prediabetes with comorbid cardiovascular disease (CVD) from NHANES over 20 years. During this period, 793 all-cause deaths and 274 cardiovascular-related deaths were recorded. Detailed analysis revealed that baseline HGI showed a U-shaped association with both all-cause and cardiovascular mortality. For adequate diabetes management, four important domains are included in the Global Diabetes Compact [12]: i) structural, policy, behavioral, care process, and biomarker factors; ii) health events and related outcomes; iii) three risk tiers (diagnosed diabetes, high risk, and whole population analysis); and iv) prioritization based on modifiability, health importance, availability, and global inequality.

As a specific subtype, early-onset T2D is defined as T2D diagnosed in individuals aged <40 years, and its prevalence is increasing in association with socioeconomic factors and significant health burden

[9]. It is characterized by a high-risk and aggressive phenotype, often with increased obesity, greater insulin resistance, and rapid decline in pancreatic beta-cell function. It shows accelerated progression of microvascular and macrovascular complications, leading to premature mortality. Additional characteristics include higher risks of reproductive disorders, metabolic-associated steatotic liver disease (MASLD), certain cancers, and impaired mental health (anxiety, depression, and psychotic disorders).

Some limitations may exist in this article. Although diabetes is a major medical and social problem with multiple challenges, effective strategies can be identified to overcome existing barriers.

In summary, the current global situation of diabetes has been outlined in this article. Appropriate management in each region is expected to contribute to the advancement of diabetes practice and research in the future.

Conflict of Interest

The author has read and approved the final version of the manuscript. The author has no conflicts of interest to declare.

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