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The Perspective of Social Determinants of Health (SDOH) for Diabetes Mellitus

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Abstract

Clinical practice for diabetes mellitus requires bio-psycho-social aspects. For continuing adequate health care, the perspective of social determinants of health (SDOH) has been recognized as indispensable intervention target for evaluating health equity. SDOH include socio-economic situation, neighbourhood and physical circumstance, food environment, health care, social context with social support capital and relationship. For contextual factors, American Diabetes Association (ADA) established the writing committee and reviewed the detail of SDOH. They included Healthy People 2020, Social Determinants of Health of WHO, the County Health Rankings Model and others. Thus, enough understanding of environmental and social factors would be necessary for diabetes.

Keywords: Diabetes mellitus (DM); Social determinants of health (SDOH); American Diabetes Association (ADA); World Health Organization (WHO); LCD promotion association (JLCDPA)

Commentary Article

In recent years, non-communicable diseases (NCDs) have become widespread along with changes in medical and social structures. They include diabetes, obesity, hypertension, dyslipidemia, cerebrovascular accidents (CVA), and cardiovascular diseases (CVD). These diseases are very common and may cause various clinical complications. Among them, diabetes is especially crucial disease in the clinical setting of primary care [1].

Authors and collaborators have continued clinical practice and research for long. The overall area includes diabetes, primary care and integrative medicine. For effective regimen for NCDs, low carbohydrate diet (LCD) has been introduced to medical and health area [2]. Three types of LCD were proposed as super-LCD, standard-LCD, petite-LCD including carbohydrate ratio as 12%, 26%, 40%, respectively [3]. Furthermore, we established Japan LCD promotion association (JLCDPA) and developed LCD in Japan as medical and social movement.

During our practice and activities, an important and common clinical concept has been present. It is a bio-psycho-social perspective, and the basis for medical care in any area [4]. In this paper, social perspective on diabetes will be described.

Health care has been gradually emphasized on value-based care and population-based health outcomes. Consequently, the perspective of social determinants of health (SDOH) has been recognized as indispensable intervention target for evaluating health equity [5,6]. Most recently, crucial problem of pandemic infection has been persisting worldwide concerning the COVID-19. It has brought highlighted unequal situation related to racial minority groups and disproportional communities. In responses to these simultaneous occurrence, some proposals of SDOH have been published by professional medical organizations, including American College of Physicians, Society of General Internal Medicine, American Academy of Pediatrics, National Academy of Medicine, and other medical associations [7,8]. Further, their calls to action would focus on the improvement of the determinants at the levels of the organization, individual and policy [9].

For clinical practice for diabetes, several fundamental problems have been present such as economic costs, incidence and prevalence and disproportionate burden in the population [10]. American Diabetes Association (ADA) proposed a statement formerly on socioecological determinants of type 2 diabetes

mellitus (T2DM) and prediabetes [11]. From the viewpoint of SDOH, to understand and to advance the health improvement opportunities will be obtained for diabetic patients. Consequently, ADA has convened the writing committee for diabetes toward the purpose of informing SDOH broadly. It includes the relationship with SDOH and diabetes risk/outcomes, and various literature review concerning SDOH [11].

When searching for medical literature for the keyword of SDOH, the results include several categories concerning SDOH [12]. They are i) socio-economic situation (occupation, income, education), ii) neighborhood and physical circumstance (building environment, residence condition, toxic exposure in the environment), iii) food environment (accessibility for food, insecurity for food), iv) health care region (affordability, accessibility, quality), v) social context (social support, social capital and budget, social relationship). These factors and their linkages are investigated in the light of health care and community-based perspective.

To recognize the definitions of some key words would be important. Diabetic risks and outcomes are not same but different, in which multiple contributors exist such as clinical, biological, social and other related factors [13]. Lots of scientific literatures showed the adverse influence of health disparities related to diabetes [14]. In order to investigate the matter of healthy equity, enough understanding of environmental and social factors would be required, in which 50-60 % of outcomes of health problems can be included. Those environmental and social factors have been collectively recognized as SDOH.

For contextual factors, the writing committee of ADA has reviewed the detail of SDOH in the light of terminology and classifications. They included Healthy People 2020 [15], Social Determinants of Health of WHO, the County Health Rankings Model and others. Common elements in the frameworks are economic and socioeconomic determinants as foremost. In the case of food SDOH factors, they are divided into several groups, such as material circumstance, neighborhood environment, built environment, economic stability and independent category [15].

As related to the perspective of SDOH, a statistic marker of the adherence has been observed concerning the problems of actual satisfactory intake of medicine. The number of the patients with diabetes mellitus is increasing across the world. From the data of World Health Organization (WHO) (2020), adults aged 18 yo and older had diabetes mellitus as 8.5% in 2014. An increase of 5% was observed in premature mortality from diabetes during 2000-2016. In the countries with lower-middle-income level, the premature mortality rate due to diabetes gradually increased during this period. Furthermore, diabetes became the direct cause in 2016 as 1.6million deaths and hypertension was the cause in 2012 as 2.2 million deaths worldwide [16]. High blood glucose or hyperglycemia has been the common situation of uncontrolled diabetes, and it will bring serious complications to various systems in the body.

United States Center for Disease Control and Prevention showed the increasing number of adults diabetic patients, who take pills, insulin or both [17]. On the other hand, higher ratio of them seemed to have inadequate adherence and acceptance due to the shortage of the knowledge [18]. Consequently, sufficient information about diabetes has to be learned in order to continue optimal glucose variability with satisfactory medication adherence.

Concerning the medication adherence of diabetic patient, a review on knowledge of diabetes and actual practice was investigated [19]. For the analysis, 18 articles were included, with the result that the knowledge level did not guarantee the medication adherence for health-seeking practice. Some factors were observed that predicting the information level and actual practice are probably from sociodemographic characteristics [19].

In summary, this article introduced some clinical matters of SDOH and its related perspective concerning diabetes mellitus. Diabetes and endocrine diseases have characteristics of long period treatment, in which patient and medical staff can understand bio-psycho-social situation and cooperate together. This article will hopefully become a useful reference in the clinical diabetic practice.

Conflicts of Interest

The author declares that they have no conflicts of interest.

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