Ottawa charter framework as a guide for type 2 diabetes prevention and control in Iran

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Abstract

The growth of T2DM in Iran is predicted to be even greater than the global trend. So a new public health movement to effectively prevent and manage T2DM is required more than ever. The solution has lain in the heart of the Ottawa Charter, the first international conference on health promotion more than 30 years ago. The charter contains five useful actions to facilitate the process of diseases prevention and control: 1) building healthy public policy, 2) creating supportive environments, 3) strengthening community action, 4) developing personal skills, and 5) reorienting health care services toward promotion of health. The charter articulates health in all policies and their frameworks. The aim of this review is to examine how the five actions have been implemented in Iran and can serve as a guide to prevent and control diabetes. Several national case studies will be examined to illustrate the challenges facing Iran's health system. It enables the identification and sharing of best practice between countries.

Keywords Type 2 diabetes · Ottawa charter · Disease prevention · Health care system

Introduction

Type 2 Diabetes Mellitus (T2DM) is one of the most common Non-Communicable Diseases (NCDs) worldwide and a serious global health problem [1]. According to latest International Diabetes Federation (IDF) report, 415 million people are affected with T2DM in 2015, which is anticipated to reach 642 million by 2040. The growth of T2DM in Iran, a developing country, is predicted to be even greater than the global trend. Today, there are an estimated 4.6 million people with T2DM in Iran (8.5% of the population) which is expected to double by 2040 [2].

Over the past few decades, Iran has experienced rapid cultural and social changes: aging population, increasing urbanization, dietary changes, reduced physical activity and unhealthy behaviors [3]. It can be hypothesized that these

lifestyle and demographic changes are responsible for high diabetes prevalence in Iran [4].

T2DM is a major public health concern in Iran and its prevention and management is a question of efficiency and sustainability [3]. Iranian patients with T2DM die about 7 to 10 years sooner than those without diabetes [5]. A recent systematic review in Iran has displayed significantly worse health-related quality of life in patients with T2DM [6]. The cost of T2DM is not only a threat to health care systems but is a far broader economic and social problem and thus a threat to future long-term sustainable development [7].

Although great strides have been made towards providing diabetes prevention programs and sustained care for patients with diabetes from 2004 onwards [8, 9], the status quo is far from satisfactory. A recent nationwide diabetes survey affirmed a subpar control of glycemic and lipid indices among the Iranian patients with diabetes, with only 13.2% and 11.9% of patients achieving all preset glycemic and lipid targets. Also, only 20.2% of them achieved all preset ABC (A1C, blood pressure and cholesterol) goals [10]. These results show that the health system infrastructure is not wholly ready for the rising tide of T2DM in Iran. With that said a new approach to effectively prevent and control diabetes is required, resulting in better health outcomes for Iranians and reduced health care expenditures overtime. Focusing our attention upstream on the root causes of T2DM is a starting point in shaping a new

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model of care [11, 12]. In this paper, we consider prevention and care of T2DM as an example of health promotion in Iran as a developing country.

Health promotion is more relevant today than ever in addressing public health problems. Health promotion goes beyond health care. It puts health onto the policy agenda in all sectors and at all levels (individuals, groups and communities) [13]. The fact that health is determined by factors not only within the health sector but also by factors outside of it especially social, economic and political forces.

This fact has found reflection thirty years before in the Ottawa Charter for health promotion.

It was the first international conference on health promotion held in Ottawa in November 1986 by the World Health Organization, as a framework for constructing health promotion programs that address the wider determinants of health [13, 14]. The Charter called for advocacy for health actions for making political, economic, social, cultural, environmental, behavioral and biological factors favorable for health, enabling people to take control of the factors influencing their health and mediation for multi-sectoral action [15]. The Charter suggested that health promotion programs be built around the following five action areas: 1) building healthy public policy, 2) creating supportive environments, 3) developing personal skills, 4) strengthening community action, and 5) reorienting health care services toward promotion of health [13].

A recent analysis of global action on the social determinants of health [16] demonstrates that although there is commitment and action at national and local level across the world, assessing progress on these actions globally will be key to future development of successful policies and strategies, enabling the identification and sharing of best practice between countries. Moreover, conscious understanding of the differences between practices, and of what each has to offer, is important in selecting the most appropriate approach according to the context.

Hence, the aim of this selective review is to examine how the action areas of the charter have been implemented in terms of diabetes prevention and control in Iran using the available resources and published literature. In lieu of carrying out an exhaustive systematic review of the articles published, more recent, properly conducted and representative studies in the area of diabetes prevention and control in Iran based on the Ottawa Charter framework of five actions were selected. These references and interpretations that follow can help us find insight into target areas and give us information necessary to create more effective public health policies and programs to reduce the rapidly rising incidence of T2DM in Iran. Especially that Iran still focuses on the process of developing national health plans including Iranian National Service Framework for Diabetes [1, 17], it is vital to have a comprehensive perception about Ottawa Charter framework in

prevention and control of T2DM for designing health promotion plans.

Incorporation of the Ottawa Charter action areas into diabetes prevention and control strategies

Building healthy public policy

The first action area of the health promotion in the Ottawa Charter is building healthy public policy. Public policies play a key role in improving population health and also in the prevention and control of chronic, non-communicable diseases (NCD), including diabetes. As a matter of fact, the United Nations High-Level Meeting on NCD called attention to the need for population-wide, multi-sectoral interventions involving education, legislation, regulatory and fiscal measures [18].

Responsibility for the social determinants of T2DM and health (upstream on the root causes of diabetes) falls to many non-traditional health partners and so it will require collaborative efforts across many sectors and levels, including government agencies, businesses and community-based organizations to prevent from diabetes and its consequences [19]. Public health and diabetes care organizations will need to work with those who are best positioned to create policies and practices that support healthy communities and environments through health in all policies approach [20].

However, due to some barriers that hinder integrated work between researchers and policy-makers, it is difficult to formulate healthy public policy for implementing [21]. A way to overcome these barriers would be to promote personal contact and dialogue between researchers and policy-makers through networks and intermediary groups. Policy-makers must be given local, evidence-based information about the T2DM threats and the optimal mix of up-stream and down-stream interventions designed to mitigate the threats. Offering policy-makers option and flexibility, such as a series of policy options with different costs and benefits, is more likely to lead to action than providing them with a single solution. It is vital that the options reflect the political, social, cultural and economic realities within which a given policy will be implemented [21].

In line with what said and the UN's emphasis that stated earlier, Iran, as one of the EMRO countries, established a committee called Iranian Non-Communicable Disease Committee (INCDC) at the Ministry of Health and medical education and developed NCDs' national action plan through multi-sectoral approach and collaboration researchers and policy makers. The national action plan was launched by the supreme council of health & food safety (a health in all policies initiative in Iran) [22]. In the next step, the diabetes

subcommittee of INCDC was formed to develop Iranian National Diabetes Framework (a component of the National Non-Communicable Diseases Initiative) according to epidemiological modeling, local situation analysis and policy option appraisal to further improve diabetes care. This document is aimed to determine the relationships and tasks within and outside of the health sector, so as to utilize collaboration of all related organizations in order to facilitate the control of T2DM in Iran. The main goals of this national framework are classified into the following categories: combating the rising prevalence of diabetes and its contributing factors, expanding health insurance coverage, promoting the quality of care offered to patients with diabetes, encouraging patients for regular periodic clinical examinations, maximizing the number of patients registered in National Diabetes Register System, and full insurance coverage of devices and instruments required by patients. Moreover, the framework contains some standards regarding strict regulations of clinical service delivery to be adhered to all across the country in different national, provincial and regional levels [23].

However, numerous national plans and policies have been implemented over the years in Iran with little effect on reducing NCDs burden [24–28]. Faraji et al. study aimed at the analysis of policies and programs related to prevention and control of T2DM in Iran. They revealed that the key stakeholders outside of the health sector did not participate in the program formulation and there was a lack of coordination between the private and the public sector in practice [1]. And that the government and policy-makers should allocate more fund and attention to preventive issues and diabetes social determinants; with a more evidence-based public policy making approach in our society [1, 29]. This is consistent with results from Kilic et al. [30] and Mendis & Chestnov [31] studies that showed there is a low collaboration among various stakeholders in the policy formulation in developing countries.

On the other hand, high prevalence of T2DM in our country was one of the main reasons to take into serious consideration T2DM in Iran, but this trend is still on the rise [32]. These all show that policies and programs related to prevention and control of T2DM in our country still need to be restructured and updated under broad-based participation and strategic partnership between health and other sectors to influence public policy to create the social, economic, environmental and cultural conditions necessary for diabetes prevention and health [33]. In this case, Health Impact Assessment (HIA) can serve as an approach that offers the health sector a structured, transparent method and process to work with other sectors to forecast the impact of policy proposals on the health of populations (and on the determinants of diabetes), and to forecast the distribution of these impacts in advance of adoption and implementation of the policy [34].

Creating supportive environment

The WHO has also highlighted the importance of supportive environments for preventing chronic diseases like T2DM in its Global Action Plan for Prevention and Control of NCDs. This global action plan had six objectives which one of them was to create, sustain and expand health-promoting environments to reduce modifiable risk factors (namely tobacco use, diet, physical activity and alcohol abuse) [35].

Undoubtedly, people are more likely to be healthy if they live and work in environments that let them make healthy choices. This means increasing people's access to resources for health, increasing opportunities for healthy lifestyles, reducing threats to health and improving individuals' self-reliance. These elements are all the things that are crucial for promoting active living and preventing T2DM. In addition, supportive social and community environments that create an overall sense of security and increase social interactions are known to decrease depression and anxiety, firmly linked to co-morbidities with T2DM. Surroundings with easy access to local grocery stores with fresh fruit and vegetables support healthy nutritional behavior. Efforts aimed at creating supportive environments that prevent T2DM often focus on features that encourage healthy behaviors [36, 37]. For example, rates of health-oriented lifestyle behaviors among adults (e.g. healthy diet, regular physical activity, stress management, quitting smoking) have been correlated to the level of media coverage of these kind of health issues [38, 39].

The bottom line is that effective diabetes control and prevention depends on action by the diverse range of sectors that shape the local environments to create a healthier community. For example, the development of an environment supportive of physical activity will require policy support from sectors such as urban planning (built environment), sport (recreational activity and inclusivity) and transport (active and public transport). Or improving the healthfulness of the food supply will require, among others, the involvement of those responsible for food standards (reformulation), communications (social marketing), commerce (food retail), agriculture (investment in primary production) and so on. Other sectors such as trade and finance can also play a role by, for example, implementing changes to food taxation systems or fiscal policies on sporting goods and activities [40].

However, in this regard as well, Iran initiated the Healthy Cities Program (HCP) in 1991 and the Healthy Villages Program (HVP) in 1996 through collaboration between WHO, the Department of Environmental Health, the Minister of Health and Medical Education and the mayor of Tehran. The intent was to incorporate health and environmental measures and objectives in the development programs for urban and rural areas, and to provide political and administrative support for achieving the objectives and goals of the HCP and HVP [41]. The HCP results showed an increase in surface

of green spaces, improved access to sports facilities, and a significant increase in the number of active non-governmental organizations. It is of note that diabetes prevention and control was one of the initiatives of the HCP [41, 42]. HCP was one of few examples of community participation as main partner conducted in Iran. One of the lessons learned from this experience in Iran is that the health sector needs to strengthen its capacity for intersectoral action between the key target sectors including local community organizations and individuals necessary to tackle chronic diseases like T2DM and promote health. Moreover, monitoring, evaluation and documentation of programs and activities should be strengthened [43].

Developing personal skills

Of five priority areas for action in the Ottawa Charter, this is the only one at the individual level as action at more upstream intervention levels which is critical for enabling individuals especially individuals with chronic disease to succeed in improving health status and coping with their chronic illness [44]. Enabling or empowering is more than intervention, technique, or strategy; it is a vision to help people to change their behavior and make decisions beneficial to their health [45]. The potential of enabling is huge; it may change the behavior of not only individuals, but also entire populations and communities.

Patient empowerment and self-management is a critical element of care for all people with T2DM and is necessary to improve patient outcomes. There is strong evidence across studies that diabetes self-management program has a beneficial effect on physical and emotional outcomes and health-related quality of life [46]. Diabetes self-management involves a number of considerations and choices that the patient with T2DM must make on a day-to-day basis. It requires that patients are able to reconcile their resources, values and preferences with a therapeutic regimen of a healthy diet, exercise, self-glucose monitoring and medications adherence [47, 48]. To this end, national evidence-based guidelines for diabetes self-care provide an essential basis for individuals to develop personal skills. Guidelines formulated must reflect on the ongoing process of facilitating the knowledge, skill and ability necessary for diabetes self-care, be aligned with cultural traditions and concerns, and address more problematic areas [49, 50]. This requires research into the needs of target populations and special attention to those who are at risk of T2DM or who are with T2DM [51].

In this regards, Iranian National Diabetes Framework as mentioned earlier has obliged all universities of medical sciences and health services in Iran, to mobilize all capabilities and facilities to build and provide ongoing and comprehensive patient education programs correspond to different target populations in different levels of the society. The framework has

also recommended to health policy makers that a special course for training diabetes educators (from the community health workers or as is called in Iran Behvarz [52] to endocrinologists) must be designed to enable them to tailor appropriate education interventions for both the public and people with T2DM [23, 53].

Strengthening community action

This action is not just seen as an add-on, but it is seen as necessary to the success of health care transformation. Communities that take effective action through public participation for prevention and control of T2DM see more relevant outcomes.

But, to this end, local knowledge and skills need to be equally considered important in the planning and decision-making process to ensure that outcomes are aligned with communities' needs and assets [11, 52]. Diabetes community action programs focus on increasing the communities' access to diabetes health services and their control over the social determinants of T2DM [54]. Community action for T2DM in Iran has mainly expanded not only to health promotion activities but into other areas such as screening and early detection of T2DM, self-management support to the patients, rehabilitation services and community-led multi-sectoral diabetes prevention programs [55]. However, Yazdanpanah et al. in their study entitled “the effect of participatory community-based diabetes cares on the control of diabetes and its risk factors in Iran” reported cultural barriers often prevented community members from participating in health screenings and preventive health care checks. This result shows that it is imperative to develop culturally and contextually sensitive community-based intervention strategies for prevention and management of T2DM [56].

The experience of Community Health Worker (CHW) training program in Iran shows that identification of the CHW program and their training in the national health planning and financing facilitates the implementation and sustainability of the program. The CHW training program in Iran suggests that the existence of specialized training centers managed by district health network can provide an appropriate training environment and consistent with local needs. It increases CHWs' knowledge, skills and motivation to serve local communities [52].

Reorienting health services

The last but not the least is reorienting health services towards health promotion from an individual- and treatment-centered point of view to one that is community-centered and focuses on the promotion of a healthy community.

However, across the world, there appears to have been a stubborn resistance to systematic change in healthcare

services and limited examples of effective and sustainable health services reorientation [57].

There are many opportunities from a health promotion perspective for coordinated risk reduction and prevention, care and long term management of T2DM. For example, dietary and physical activity information and skill building should be provided to most patients with T2DM in virtually all primary healthcare settings. But instead, considerable progress has just been made in improving access to, and reducing the prices of essential drugs that are required for diabetes management. Part of this problem comes back to the area where health promotion should flourish but has not, as yet, been received enough attention—primary healthcare. That is, primary healthcare is a place for health promotion to focus its energy on reorienting health services. In fact, the more that health promotion disassociates itself from primary healthcare, the more it is given the impression that it is in the domain of medicine and not health. The point here is that primary healthcare is being addressed other than primary care. These terms are often confused. Primary healthcare calls for universal access to health services and the removal of geographic, social, economic or cultural barriers to access; it demands community participation in planning, operation and evaluation of health services; it requires integration across health and other sectors; it recognizes the power of multidisciplinary teams working as equal partners for the health of the community; it focuses on a range of services, determined by the community, that include health promotion, primary prevention, rehabilitation and curative. Therefore, primary healthcare resists the conceptual and operational separation of treatment and prevention which fits the engineering model of healthcare. However this action area of the Ottawa Charter has outlined health promoters' responsibility to take up this challenge [57, 58].

In this regards, to improve the health system, Iran's government has been executing the Health Reform Plan (HRP) since 2014. The aim of this plan was to develop health equity, improve the quality and accessibility to health services, and increase people's satisfaction [59]. The findings of a qualitative study conducted by Abbasi et al. revealed that the Health Reform Plan has led to improvement of general health. This result is because of the fact that issues such as screening, risk assessment, early diagnosis and treatment of chronic and non-contagious diseases (cardiovascular diseases, diabetes, and hypertension), promotion of healthy lifestyle, prioritizing health prevention and promotion, and strengthening primary healthcare have been regarded in this plan [60].

Without a doubt, if our health system wants to slow the alarming rise of T2DM in Iran, they should focus on advocating fundamental principle of prevention and health promotion strategies rather than just treatment. The oldest adage in the book 'prevention is better than cure' sounds more convincing here than ever [61].

Conclusion

The aim of this paper was to look at how the Ottawa Charter principles can lighten the way towards better future in T2DM prevention and management. In case of Iran, medical approach to health and disease especially non-communicable disease including T2DM is still the most dominant approach to understand health and disease and their determinants. Iran's health system has undergone several reforms in the past three decades with many challenges and successes. But in most of them, primary healthcare and health promotion approach have been neglected [62]. As an example, the results of Yaghoubi et al. study show that the mean score of health promotion standard in Iranian hospitals was overall low especially in government hospitals than private ones [63]. It is clear that one of the important changes that all should help make happen in Iran is the shift from medical approach to health and disease to health promotion approach, particularly among national policy makers and decision makers as well as public health professionals as emphasized by the Ottawa charter [64]. Also it seems that our health system needs to a comprehensive, long-term master plan with centrality of Charter-based principles so as to take step towards improving health in general and overcoming T2DM in particular.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval This article does not contain any studies with human participants or animals performed by any of the authors.

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