Self-regulating blood sugar control in women with uncontrolled diabetes mellitus

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\textbf{A R T I C L E   I N F O}

\textbf{Article history:}
Received 2 December 2016
Received in revised form 24 September 2017
Accepted 16 December 2017
Available online xxxx

\textbf{Keywords:}
governmentality,
narrative analysis,
self-regulation,
uncontrolled diabetes mellitus women

\textbf{A B S T R A C T}

The purpose of this study was to examine self-regulation of blood sugar control using the governmentality concept. Key informants were eight diabetic women with uncontrolled blood sugar levels in a community hospital. Semi-structured in-depth interviews and participatory observation techniques were used. Narrative analysis using Foucault’s governmentality concept was applied for data analysis.

The findings showed that the power of medical knowledge dominated the diabetic women’s thoughts and directed their health practices. This had become the diabetic women’s power for self-regulation. There were four patterns of self-regulation. 1) Surrendering and accepting: they accepted medical knowledge to manage their lives intensively, they surrendered their thoughts, and their bodies became docile; 2) Negotiation: disciplinary power was exercised more to control their bodies when the diabetes treatments were uncertain. They would be fearful, nervous and vague. Their health seeking process became a negotiation for managing their bodies without medical technology, for example, selecting alternative treatment. 3) Resistance: they sometimes resisted the diabetes regulations because of their lifestyles and their cultural limitations in the role of housewives. They had to go through a process of trial and error until attaining a desirable blood sugar level that harmonized with their life-styles. 4) A conduct of conduct: the diabetic women were learning and sharing amongst themselves ways to control their blood sugar level and live their usual lives. The methods were experimental and applied without disclosure to the medical experts. Lay knowledge was created and transferred to others.

Recommendations are that health care services should implement collaborative treatment which balances the power of medical knowledge and the power of the patient’s self. Understanding self-regulation would enhance the patient’s ability to control the blood sugar level and attain effective treatment.

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\textbf{Introduction}

Diabetes mellitus (DM) is one of the burdensome chronic diseases and its prevalence has increased rapidly. The World Health Organization (WHO) estimates that there were 171 million patients with diabetes in 2000 and the numbers will increase to 366 million worldwide by 2030.
Moreover, DM represents 5 percent of the causes of death, while 80 percent of middle aged (45–64 years old) people in low-medium income countries suffer from the disease (WHO, 2010). In Thailand, the number of people admitted as in-patients increased from 795.04 per 100,000 population to 1,032.50 per 100,000 population during 2007–2014 (Bureau of Non Communicable Disease, 2015). At present, the sequelae of the disease are still a global burden in public health, especially in SouthEast Asia. DM has become a social responsibility for long term care (Jaikrit & Sukriti, 2014).

DM is a group of metabolic diseases characterized by hyperglycemia resulting from the alteration of insulin secretion and action. The complications of chronic hyperglycemia affect the eyes, kidneys, nerves, heart, and blood vessels (American Diabetes Association, 2008). The goal of diabetes management is to maintain safe blood sugar levels and to prevent diabetic complications. Diabetes patients must take responsibility for their day-to-day care. This includes monitoring blood glucose levels, dietary management, maintaining physical activity, keeping weight and stress under control, monitoring oral medications, and/or insulin therapy. Appropriate treatment and lifestyle modification can potentially prevent or delay the onset of complications (Institute of Community Based Health Care Research and Development, 2009). Poorly controlled DM is certainly a strong contributor to death from ischemic heart disease, cerebrovascular disease, and chronic kidney disease (Jaikrit & Sukriti, 2014). Therefore, self-regulation to achieve the desirable blood sugar level is crucial. The literature also supports the fact of sex differences in terms of morbidity and mortality. More women are diagnosed with DM and uncontrolled blood sugar level than men (Jaikrit & Sukriti, 2014; WHO, 2016). Moreover, high rates of sequelae from DM, such as cerebral vascular disease, ischemic heart disease and depressive symptoms among women have been reported (Ministry of Public Health, 2014).

Governmentality is a concept first developed by the French philosopher, Michel Foucault, in 1977. Foucault often defines governmentality as the “art of government” that is not limited to state politics alone. It includes a wide range of control techniques, from one’s control of the self to the “biopolitical” control of populations (Foucault, 2000). It also refers to technologies of power as being closely related to political rationality in shaping, guiding, and directing the conduct of others. Governmentality also means the practices of the state, which govern through the various institutions of public health, such as the Ministry of Public Health, hospitals, and health care clinics. This practice is considered as reasonable and acceptable and is governed through medical experts who have power over people’s lives through regulations and rules, which intensively monitor patients’ practices in everyday life.

The problems of uncontrolled DM are still a major consideration. Most DM studies have focused on the bio-medical field, such as medical care, nursing, and public health. Some social science studies have found the causes of uncontrolled DM to be limitations of patients’ knowledge, their lifestyles, and cultural context. Anthropological approaches in some studies have applied cultural explanatory models to explain the illness experiences of diabetes patients (Muttiko et al., 2010; Weaver, Worthman, DeCaro, & Madhu, 2015). Health seeking behavior to control blood sugar has also included use of alternative treatments combined with medical treatment (Chacko, 2003; Paisantuntiwong, 1997; Pornsiripongse, 2007). Health illiteracy and the cost of care are important barriers to seeking care. Females have struggled more to receive appropriate care for their diabetes due to social and cultural factors (Sachdeva et al., 2015). Studies using cultural belief models found that cultural factors influenced the patients’ diabetes self-management. Afro-Caribbean women struggled to modify their traditional Caribbean diet and believed in the efficacy of traditional Caribbean medicine (Smith, 2011). One study applied Foucauldian concepts in terms of biopower, governmentality, and subjectification, but explained the social effects of gestational diabetes in “high-risk ethnic groups” (Iwase, 2014). There has been a dearth of literature about the problems of uncontrolled DM through life experiences of diabetic women in terms of governmentality, and investigation into how the power of medical knowledge has influenced their self-regulation and consequently their health practices. The main purpose of this study was therefore to examine self-regulation in the blood sugar control of uncontrolled diabetes mellitus women under the governmentality concept.

**Methods**

This qualitative study was approved by the Human Research Ethics Committee of Mahidol University. Key informants were eight diabetic women who had been undergoing DM treatment for more than 3 years, with uncontrolled blood sugar levels (blood sugar >180 mg/dl within three appointments before joining the study). Data collection was done by in-depth interview and participant observation. The topics for interview focused on how the participants managed and self-regulated their lives after becoming the recipients of mainstream medical knowledge. The accuracy and trustworthiness of the data were based on the Denzin and Lincoln concept (Denzin & Lincoln, 1994), including methodological triangulation checking, data triangulation checking, and reflexivity. The data were analyzed using narrative analysis under the governmentality concept to explain their self-regulation for control of blood sugar.

**Results**

Two key informants were single and six were married. The average age was 46 years. The mean duration of diabetes was four years. Two of them were government workers, six were agriculturists and employees.

**Governmentality for the Women With Diabetes**

Foucault’s concept was applied in terms of power-knowledge. This power was not only in terms of the hierarchical, top-down power of the state, but also in the form of social control in disciplinary institutions (Ministry of Public Health, hospitals, medical clinic). Medical knowledge power extended through health policy by

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