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DIABETES SELF-MANAGEMENT AND SELF-CARE OF ADOLESCENTS WITH DIABETES MELLITUS IN BANGLADESH: A MIXED-METHOD STUDY

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ABSTRACT

Diabetes Mellitus (DM) is a major healthcare burden worldwide with 639 million people are estimated to be diagnosed in next two decades. Bangladesh, is likely to emerge as the 8th highest ranking country in terms of the number of people diagnosed with DM by 2045. Low self-efficacy and self-care behaviour among the adolescents could have been the underlying cause for poor glycaemic control. Hence, the main objectives of this thesis were to evaluate the self-care practices and diabetes management self-efficacy levels and to explore the facilitators of and barriers to self-care practices and self-management among adolescents with DM in Bangladesh. A cross-sectional study was first conducted among 240 adolescents with diabetes at two tertiary hospitals in Dhaka, Bangladesh. Informed consent was obtained from prior to the administration of both pre-validated survey tools [i.e. Summary of Diabetes Self-Care Activities Measure (SDSCA) and Diabetes Management Self-efficacy Scale (DMSES)], demographic and clinical characteristics were collected. The majority of were female (59.6%) and diagnosed with T1DM (84.2%), with an average age of 15.1±2.2 years old. Both SDSCA and DMSES subscale domain scores were not significantly different between those adolescents with T1DM and T2DM (p> 0.05). 'Medication taking' was the highest mean subscale score for both SDSCA and DMSES. The lowest subscale score of SDSCA and DMSES was for 'specific diet' and 'blood glucose monitoring', respectively. Negative correlation was noted between total DMSES score and HbA_{1c} (r = -0.175, p = 0.007). Similarly, there were negative correlations between the SDSCA subscale of 'general diet', 'specific diet', 'physical activity', 'foot care' and HbA_{1c} (all p< 0.001). Following, a semi-structured, one-to-one interview with 12 adolescents with DM was conducted to explore the facilitators of and barriers to self-care practices and diabetes self- management. The current study findings suggested the self-care practices and self-efficacy level were moderate among the adolescents with DM in Bangladesh with several facilitators and barriers have been highlighted. Future studies should look into ways of empowering the essential knowledge and skills in self- managing diabetes, providing them the confidence to sustain their daily self-care activities and achieve better glycaemic control.

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CHAPTER ONE

INTRODUCTION

1.1   Background of the Study

Diabetes mellitus (DM) is a metabolic disorder of numerous etiologies that is characterised by chronic hyperglycaemia due to impairment in insulin secretion, insulin action or both (Alberti et al., 1999). The global prevalence of DM in 2017 was approximately 8.8% and by year 2045, it is predicted to increase to 9.9% (Cho et al., 2017). The burden of DM is expanding tremendously, especially in developing nations (Roglic et al., 2016). In Bangladesh, the estimated prevalence of DM was 6.1% in 2010 among those 20-79 years old and in the year 2011, it has been increased to 9.58% (Alwan et al., 2009). Similar observation was noted among adolescents with DM. According to the International Diabetes Federation (IDF) Atlas, the number of patients (i.e. age of 20 years old and below) with Type 1 diabetes mellitus (T1DM) in South Asia including Bangladesh was 149,300 in 2017 (Cho et al., 2017). By year 2045, Bangladesh will be one of the top 10 countries with the highest number of people with diabetes (Cho et al., 2017).

T1DM happens because of the pulverisation of pancreatic beta cells. It is the most widely recognised paediatric endocrine disease that affects nearly 1,106,500 children below the age of 19 years old globally (Cho et al., 2017). Every year, around the world, the number of newly diagnosed T1DM in children is 132,600 (Cho et al., 2017). Numerous studies have reported a consistent global increase in the prevalence of T1DM including Bangladesh, and the increase in the prevalence could be multi-factorial (Azad, 2015). Likewise, T2DM has increasingly been reported in children and adolescents. In many countries, T2DM has become the major type of diabetes in children and adolescents (Begum and Rahman, 2017). At present, more than 200 children and adolescents have been diagnosed with diabetes daily worldwide (Begum and Rahman, 2017). Likewise other countries, Bangladesh is facing an explosion in numbers of diabetics, particularly T2DM (Islam et al., 2015).The exact prevalence of T2DM in Bangladesh, however, remains unknown (Begum and Rahman, 2017). The Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and