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Original research

A study exploring the association of attitude and treatment satisfaction with glycaemic level among gestational diabetes mellitus patients

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ABSTRACT

Aims: The aim of this study was to evaluate attitude and treatment satisfaction of women suffering from GDM and their association with glycaemic level.

Methods: A cross sectional study was conducted in antenatal clinic of Hospital Pulau Pinang, Malaysia from June to December 2013 on the sample of 175 patients. Data was collected through modified version of Diabetes Integration Scale (ATT-19) and Diabetes Treatment Satisfaction Questionnaires (DSTQs). Glycaemic level was evaluated in terms of Fasting Plasma Glucose (FPG). Three most recent values of FPG (mmol/l) were taken from patients medical profiles and their mean was calculated. Descriptive and inferential statistics were used for data analysis.

Results: A total of 166 patients were included in final analysis. Only 35 (21.1%) patients had positive attitude and 122 (73.5%) of patients had adequate treatment satisfaction. There was no significant association of total mean ATT-19 score with age, ethnicity, educational level, occupational status, family history and type of therapy. For treatment satisfaction statistically significant association was present only between total mean treatment satisfaction score and educational level. Patients with negative attitude and inadequate treatment satisfaction had higher mean glycaemic level.

Conclusions: It is concluded that more than two folds of patients were satisfied with their ongoing treatment but majority of the patients were feeling difficulty in active coping measures for the management of GDM.

1. Introduction

Gestational Diabetes Mellitus (GDM) is defined as occurrence of glucose intolerance and is first recognized during pregnancy [1]. It is one of the most common pregnancy problems and complicates about 3–5% of pregnancies worldwide [2]. Highest prevalence of GDM was reported in Nepal 28% and lowest in Germany <1% [2]. In Malaysia 11% pregnancies are complicated by GDM [3]. Identified risk factors for development of GDM are advanced maternal age, family history of diabetes and obesity [4]. More importantly Asian ethnicity is

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considered as an important predisposing factor [4,5]. Majority of women have misunderstanding that health risk associated with GDM ends at delivery of foetus [6]. GDM results in number of maternal-foetal short and long term complications. Short term complications are miscarriages, lengthened labour pain, caesarean section, macrosomia, neonatal shoulder dystocia, hypoglycaemia, still birth and neonatal death [5]. Long term complications are development of diabetes mellitus and obesity in mother and offspring [7].

It is well understood that physicians, nurses and other healthcare professionals cannot deal with the disease alone but with individuals who are ill or concerned about their health. A patient centred clinical method recognizes this and specifically teaches practitioners about ways of integrating the patients' perspective with the consultation [8]. When this integrated approach is achieved, process and outcomes of care can improve [9]. Research of diabetes care have postulated that enhancing diabetic patients participation in medical decision making is likely to improve their adherence to self care activities and omissions of participation can affect adherence to self care [10]. Research has shown the convincing evidence that patients who actively involved in self care activities had better glycaemic control [11].

GDM patients with the consultation of healthcare professionals are mainly responsible for their own diabetes care and effective glycaemic control [12]. Appropriate management of GDM is an important factor to avoid poor health outcomes [13]. GDM specific self management activities are mainly dietary restrictions, exercise regimens and blood glucose monitoring [14]. The key to good maternal and foetal outcomes is effective glycaemic control which is based on woman's self management behaviours [14]. In literature very little attention was given to evaluate the impact of attitude on GDM management. However, comparison can be done with studies conducted on type 1 and type 2 DM patients. These studies generally reported that patient's attitude is a strong predictor of subsequent self management behaviours [15,16]. Moreover, patients with lesser appreciation of diabetes feel that diabetes would not have any serious effects and are less likely to adhere to treatment plans resulting in poor glycaemic control [15,17].

Patient satisfaction is another key consideration in medical care. Improved satisfaction with care is associated with patients' utilization of healthcare programmes in more effective manner [18]. Also, patients' participation in decision making may affect adherence indirectly by its effect on patient's satisfaction [11]. To date, GDM literature related to evaluation of treatment satisfaction is not robust. However, comparison can be made with studies conducted on type 1 and type 2 DM patients. These studies generally reported that in diabetes care treatment satisfaction has been recognized as an important component in quality of care and has a great impact on patient compliance [19,20] and higher treatment satisfaction results in good glycaemic control and better health outcomes [21–23].

The scarcity of GDM related literature, its increasing prevalence, target Asian population and serious health problems related to poorly managed GDM highly recommend the research team to conduct this study. This study aimed to evaluate attitude and treatment satisfaction of women suffering from GDM. The secondary objective of this study was to access the association between type of attitude and level of treatment satisfaction with the glycaemic level.

2. Materials and method

2.1. Ethical consideration

This study was approved by the local hospital clinical research committee (CRC), National Institute of Health (NIH), Malaysia and Medical Research and Ethics Committee (MREC), Malaysia (Ethical approval number 13-612-16135). Patients were informed that participation is entirely voluntary and do not involve any risk of harm to their health. Written consent was taken from patients prior to enrolment.

2.2. Study setting and participants

A cross sectional study was conducted in the antenatal clinic of Hospital Pulau Pinang which is largest tertiary care hospital in Penang state and second largest in Malaysia. A single centre was selected to conduct this study because it was assumed that medical care provided to all patients was uniform. The estimated sample size was 138; calculated by using automated software programme, Raosoft sample size calculator (http://www.raosoft.com/samplesize.html). In order to increase study reliability and minimize erroneous results sample size was extended to 175 patients. A sample of 175 established GDM patients who met the inclusion criteria were identified between June and December 2013. Inclusion criteria for this study was; patients diagnosed with diabetes during pregnancy, age above 18 years, can read and understand Malaysian Language (Bahasa Malayu) and diagnosed with GDM at least 4 weeks prior to enrolment. Patient information sheet was given to all the patients who fulfilled inclusion criteria. Informed consent was taken from patients then verified and signed duly by a staff nurse and a witness.

2.3. Instruments and sampling procedure

A systemized tool was developed including socio-demographic variables such as age, ethnicity, educational level, occupational status, family history of diabetes and type of therapy.

Data was collected by using self administered questionnaires. Diabetes Integration Scale (ATT-19) was used for the evaluation of attitude. It is validated disease specific tool taken form hand book of psychology and diabetes by Prof Clare Bradely [24]. Welch et al. suggested that ATT-19 showed good concurrent and construct validity, internal reliability and discriminate validity [25]. It contains 19 items which covers the following aspects: stress associated with diabetes, receptivity of treatment, trust in treatment, personal efficacy, perception of health and social acceptance. For this study, it was modified slightly after a detailed discussion with the experts team comprised of healthcare professionals including doctors, nurses, pharmacists and dieticians to make it more specific towards GDM. These modifications include changing the word diabetes mellitus type 1 or type 2 with gestational diabetes mellitus for example "If I didn't have diabetes I think that I would be