INTRODUCTION

The prevalence of Diabetes Mellitus (DM) has increased worldwide in recent decades. One significant component of these expenses is attributable to the cost of providing insulin treatment, which is relatively expensive, especially in the context of a developing nation. A previous study conducted at Universitas Airlangga Teaching Hospital in Surabaya found that of 240 patients used that insulin, 28% of them were treated with a combination of basal-bolus insulin which incorporates a combination of a fast or short-acting insulin with long-acting insulin [1].

Previous research has explored the influence of gender upon psychological factors and outcomes of pharmacological therapy of patients with Type 2 Diabetes Mellitus (T2DM) [3,4,5]. Some researchers concluding that gender factors should be considered in the treatment of T2DM [3,6,7].

OBJECTIVE

This study was conducted to determine if differences in glycemic outcomes in the treatment of type 2 diabetes might be observable amongst men and women with Type 2 Diabetes Mellitus in an Indonesian hospital.

METHODS

This was a population-based, prospective observational cohort study conducted in the outpatient internal medicine clinic in the teaching hospital of Universitas Airlangga, Surabaya, Indonesia. Subjects were eligible for inclusion if they had a diagnosis of T2DM (with or without complications), and were treated with a combination of rapid-acting and long-acting insulin, with or without oral hypoglycemic drugs. Subjects were enrolled for the study from August – September 2017 and followed for three months using a purposive sampling method to include patients who completed three visits (at monthly intervals) and who had blood glucose data obtained at the first visit third visit.

The study examined differences in blood glucose outcomes using Post Prandial Glucose (PPG) and Fasting Plasma Glucose (FPG), measured at the first and third visit. Outcomes of treatment were categorized in relation to treatment targets according to the parameters of the American Diabetes Association (ADA).

RESULTS & DISCUSSION

As regards the targets for treatment outcomes, the overall proportion of subjects (both genders) attaining target values for FPG at baseline was 21.9% at the month one visit and 31.2% at the month three visit, with no significant difference between genders in proportions attaining values at each visit. With respect to PPG, in the total population (men and women), target values were achieved for 23.4% of each month one visit and for 39% at the month three visit, but the proportion of female subjects attaining the PPG goal was significantly greater at the month three visit than that observed at the month one visit (25% vs 50%, p = 0.04), whereas the proportions amongst men for the same parameter were not significantly different (21.9% vs 28.6%, p > 0.05).

During this study, women with T2DM treated with basal bolus insulin for a period of three months were more likely to attain PPG targets than men, suggesting that female gender may be a factor that is predictive for better glycemic control under these clinical circumstances. Further research involving a larger cohort is needed to clarify the significance of these results, and to build understanding of inter-gender differences in glycemic control attained with basal bolus insulin treatment.

CONCLUSION

In this small study, women with T2DM treated with basal bolus insulin for a period of three months were more likely to attain PPG targets than men, suggesting that female gender may be a factor that is predictive for better glycemic control under these clinical circumstances. Further research involving a larger cohort is needed to clarify the significance of these results, and to build understanding of inter-gender differences in glycemic control attained with basal bolus insulin treatment.

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