

Abstract

A metabolic disorder in pregnancy is called Gestational diabetes mellitus (GDM). This research has been done to find the prevalence of GDM in Punjab, Pakistan. Also to explore the relationship between GDM and its associated explanatory variables. To achieve this purpose, a cross sectional study was based on sample size 500 conducted in Punjab. Data were collected through self-administrated questionnaire from different hospitals and maternity centers. Hospitals were selected for data collection, by using multistage sampling from all over the Punjab. The questionnaire included different aspects, related to GDM including demographic, family history of diabetes, hypertension, diet, exercise etc. Descriptive analysis was used to find the relationship between GDM and all explanatory variables. The best fitted model for the prevalence of GDM was obtained by using the Binary logistic regression. In this study, the prevalence rate of GDM in Punjab was found 16.6%. The results of this analysis showed that the women at the age 30-34 has 24.03% chance of GDM and this percentage was increased as age increased. Further, respondent's weight was larger risk factor of having GDM and the rate of prevalence was 18.11% at weight 70-79, and rate increased with the increase in weight, also parents and close relative's ratio of diabetes were found 35.71% and 16.75% respectively. Hypertension was another factor that affected the risk of GDM by 86.08% in this research.

Further, the best fitted model was selected by using forward elimination method on independent variables. The best fitted model was selected with the smallest value of AIC (304.28) and greatest value of adjusted R-squared value was (33.64%). The four significant explanatory variables were Age, weight, hypertension and parents diabetes were included in the model. Moreover, the interaction effects of significant factors were estimated by estimating probabilities and expressed graphically. Also, the significance and accuracy of the model were checked by using Hosmer-Lemeshow test (HL) and classification table respectively. And the accuracy level of the best fitted model was 87.6.