

ABSTRACT

Introduction: Gestational Diabetes Mellitus (GDM) is defined as 'any degree of glucose intolerance with onset or first recognition during pregnancy' and accounts for adverse maternal and perinatal outcomes. By early detection and prompt glycaemic control adverse outcomes can be minimized, thus universal screening for GDM is recommended. Universal screening for GDM is carried out twice during antenatal period at field antenatal clinics with non-fasting (Oral Glucose Challenge Test) OGCT since 2014.

Objective: To assess factors associated with effectiveness of antenatal screening programme for gestational diabetes mellitus (GDM) among mothers delivered at secondary care hospitals in Matara district

Methods: A descriptive, cross sectional study was conducted among 423 post-partum mothers delivered at three secondary care hospitals in Matara district, recruited using a proportionate sampling technique. Data on socio-demographic, family and pregnancy related characteristics, awareness on GDM, screening process and service provision were collected from participants using a pre-tested, interviewer administered questionnaire and from Medical Officer of Health (MOH) offices using a data record sheet. Data was analysed using SPSS software. Chi square test and Fisher's exact test were used to test the association between variables.

Results: Response rate of the study was 92.3%. GDM screening at field clinics showed high coverage for both first and second screening tests (91.4% and 94.5% respectively) and timeliness was relatively low (72.4% and 59.5% respectively). In both screening tests, proper documentation of test results (76.8% and 65.4% respectively) and referral following positive screening (47.7% and 21.2% respectively) were substantially low. Only 6.8% and 9.0% were diagnosed to have GDM among mothers with positive first and second screening results respectively.

Awareness of availability of screening at field level was high (92.8%), however, awareness on timing of tests, intended response to a positive screening test and adverse outcomes of GDM were low. Availability of logistics for screening was insufficient at the time of both tests (22.7% and 11.5% respectively). Higher coverage was positively associated with higher maternal education level ($p=0.021$ and 0.025), primiparity ($p=0.033$), having no living children ($p=0.03$), planned pregnancy ($p=0.00$), lesser distance to nearest laboratory ($p=0.02$) having family support ($p=0.025$) and better awareness of test ($p=0.00$). Timeliness was positively associated with performing screening at field clinics ($p=0.00$ and 0.007), not being employed during pregnancy ($p=0.005$), planned pregnancy ($p=0.023$), awareness on test ($p=0.001$) and adverse

outcomes ($p=0.025$) and availability of logistics at ($p=0.007$). Proper documentation of results positively associated with performing screening at field clinics ($p= 0.00$ and 0.00) and availability of logistics ($p=0.009$).

Conclusions and recommendations: Despite higher coverage, antenatal GDM screening programme needs improvement in other aspects of screening process such as timeliness, proper documentation and appropriate referral. Poor maternal awareness on consequences of GDM and response to positive screening was also observed. The findings favour screening at field clinics and suggests that the service provision should be streamlined with uninterrupted logistic supply. Enhanced training of field health care workers and health education and promotion of antenatal mothers are recommended to further improve the effectiveness of the GDM screening programme.

Key words: Gestational Diabetes Mellitus (GDM) screening, associated factors, antenatal mothers.