

Management, glycemic control and complications in adults with diabetes: two years findings of Changing Diabetes Barometer in Bangladesh

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Background

Despite numerous advancement in diabetes management, glycemic control remains challenging.

Aim

To investigate the status of diabetes management, glycemic control and complications in people with diabetes in Bangladesh through web-based registry of Diabetic Association of Bangladesh (BADAS).

Method

- Design: 24-week, prospective, multicenter, non-interventional, observational study
- Study population: A total of 51841 participants with uncontrolled Type 2 diabetes
- Study sites: 31 outpatient clinics of BADAS and its Affiliated Associations in all the eight (8) divisions of Bangladesh
- Duration of the study: May 2015 to May 2017
- Study variables: demographic (age, gender, area of residence, duration of diabetes), anthropometric (height, weight, BMI), BP, glucose (fasting, post prandial, HbA1C), fasting lipids, complications, prescription pattern

Ethical permission

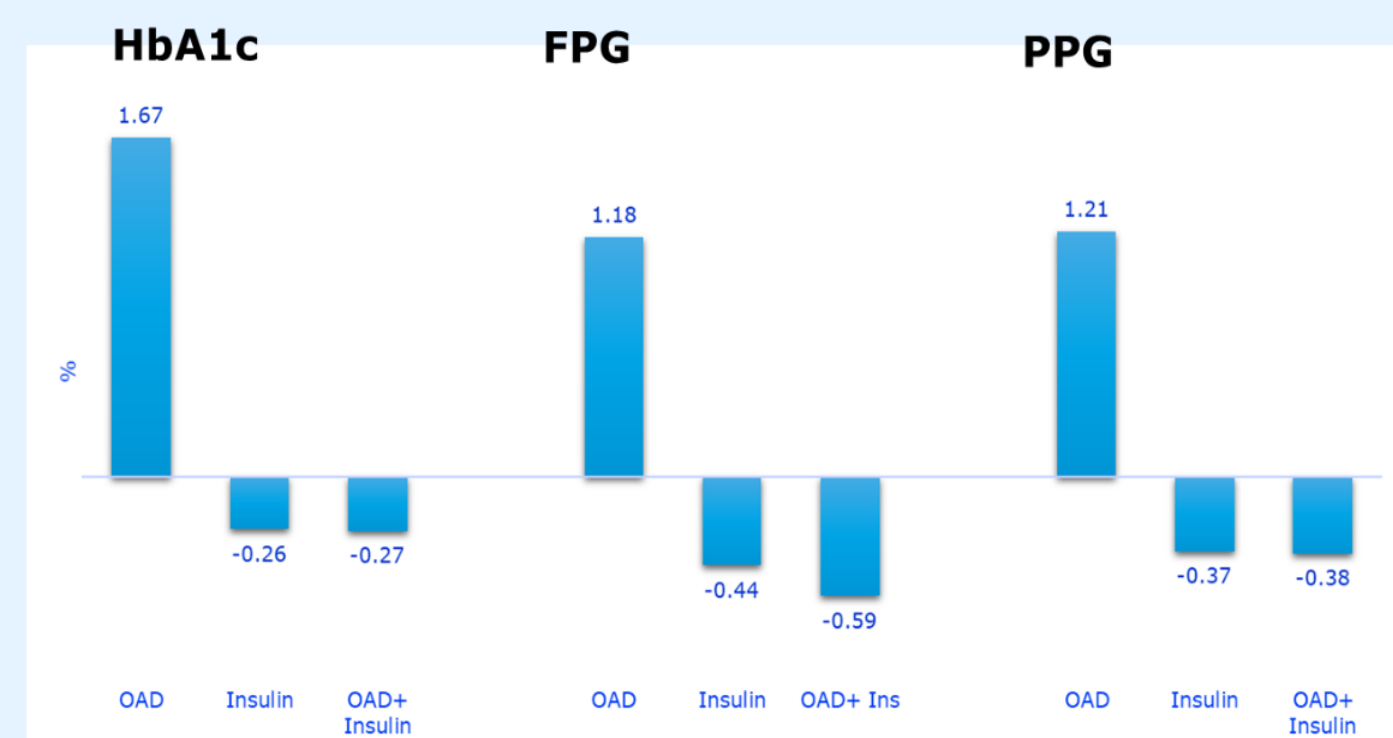
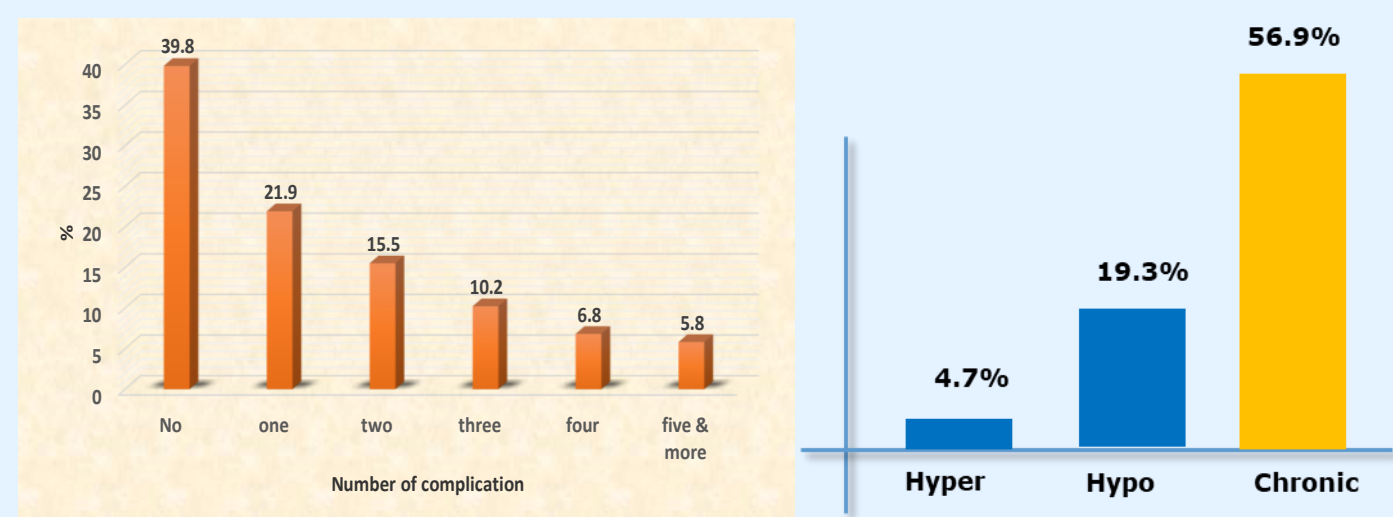
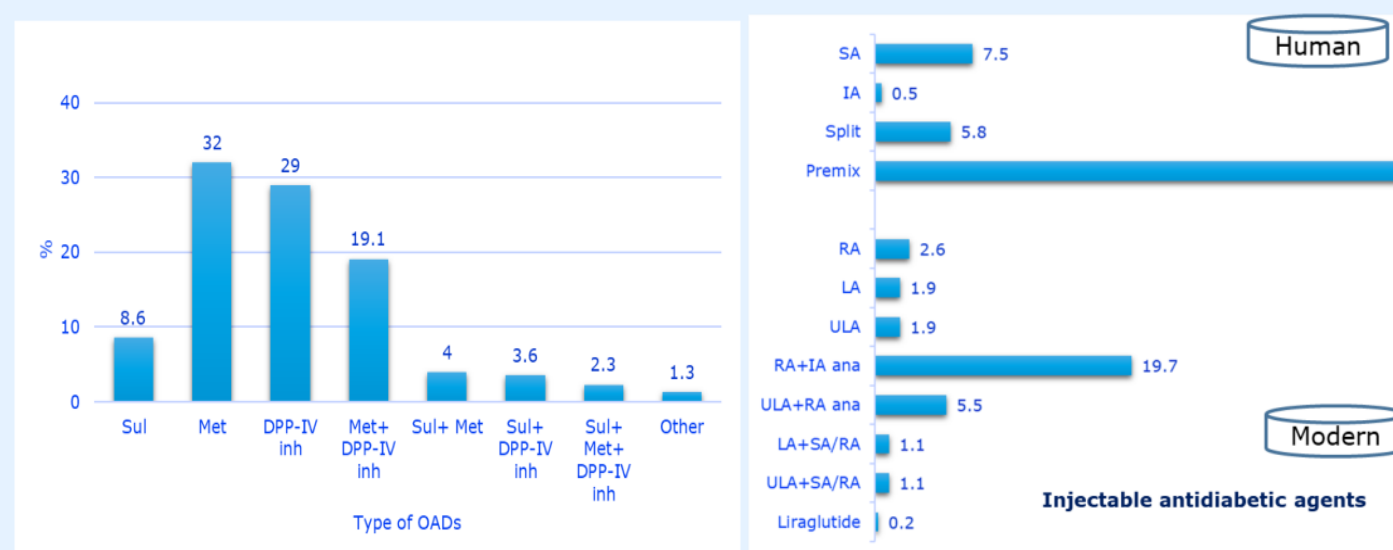
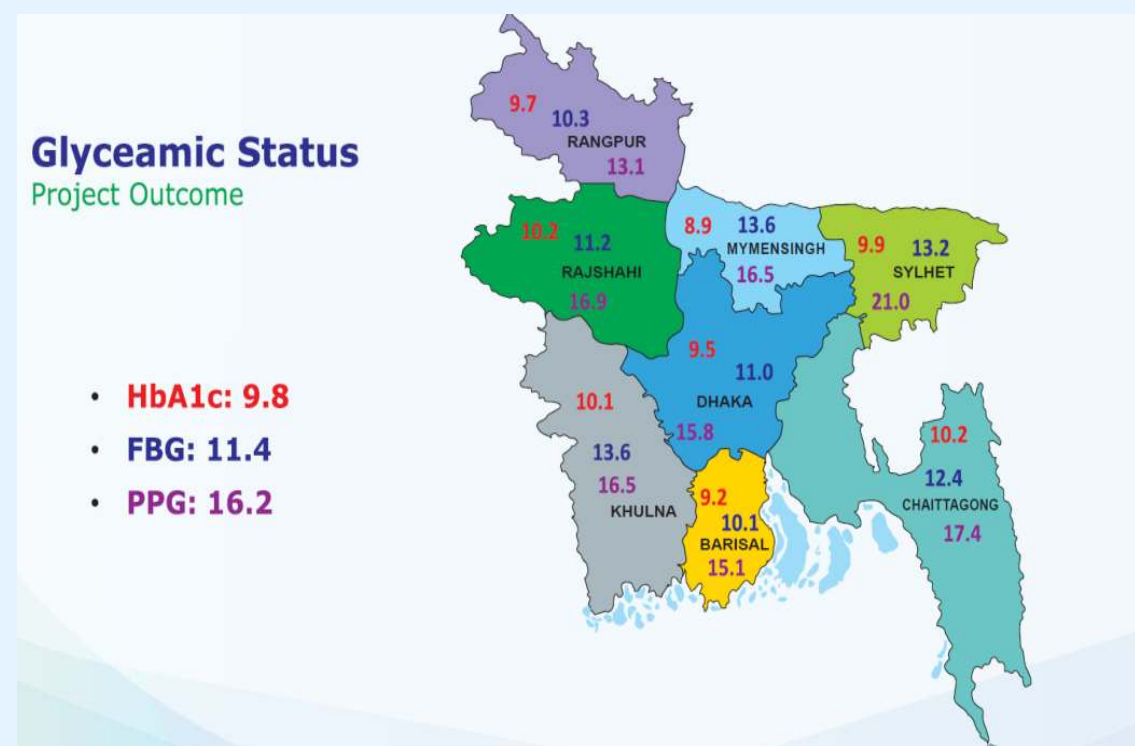
- Ethics Review Committee of Diabetic Association of Bangladesh.

Results

- Among the study participants, 45.8% were male and 54.2% were female.
- Mean age, mean duration of diabetes and mean body mass index (BMI) of participants were 50.7 years, 6.8 years and 24.6 kg/m², respectively.
- Mean glycated hemoglobin (HbA_{1c}), fasting (FPG) and post prandial plasma glucose (PPG) were 9.8%, 11.4 mmol/L and 16.2 mmol/L, respectively.
- Mean LDL-C, HDL-C and triglycerides (Tg) were 121.4 mg/dl, 40.9 mg/dl and 200.5 mg/dl, respectively.
- Among participants, 62% and 28.4% were on insulin alone and in combination with oral anti-diabetic drugs (OADs), respectively.
- Human premixed (52.2%) and metformin (32%) were the most commonly prescribed insulin and OADs, respectively.
- Majority of the participants (70.5%) were on single OAD and 29.5% were on ≥2 OADs.
- Among insulin recipients, 34% were on analogue insulin and penfills/ flexpens were used by 50% participants.
- Around 60% participants had one or more complications. Acute complications included hypoglycemia in 19.3% and hyperglycemia (DKA/HONK) in 4.7%.
- Chronic complications including coronary artery disease, cerebrovascular disease, chronic kidney disease, retinopathy, foot problem, gastric problem and skin disease were present in 7.9, 1.7, 6.5, 20.9, 17.9, 37.4 and 11.8%, respectively.
- Hypertension was present in 18.4% of study participants.
- Differences in data were observed between gender, disease duration, location, centers and divisions.
- Employing logistic regression, it was found that female sex, lower BMI (<25 kg/m²), higher disease duration (6-10 years), living in capital Dhaka city and using insulin were independent indicators for good glycemic control.

Reference

- International Diabetes Federation. Diabetes Atlas. 8th edn. Brussels: International Diabetes Federation, 2017.
- Home PD, Shen C, Hasan MI, Latif ZA, et al. Response to comment on Home et al. Predictive and explanatory factors of change in HbA_{1c} in a 24-week observational study of 66,726 people with type 2 diabetes starting insulin analogs. Diabetes Care 2014;37:1237-1245.



Discussion

- These data indicate that although the majority of the patients were on insulin or OADs, inadequate glycemic control was common and both acute and chronic complications were observed at the time of recruitment.
- These findings will provide potential avenues to improve quality of care and could be the first step in the development of a national registry for diabetes in Bangladesh.

Conflict of Interest

- No potential conflict of interest

