One-third of the 462 million global patients with type 2 diabetes mellitus (T2DM) also have cardiovascular disease (CVD). Proper cardiovascular risk stratification (CVD) is critically important in patients with T2DM. Despite the known benefits of stratification to guide prevention and treatment, providers may not routinely incorporate this practice into their diagnostic and treatment decisions and, even if they do, they may not properly stratify their patient’s risk. Herein, we conducted a cross-sectional study to determine whether primary care and specialist physicians included risk assessment in their evaluation of T2DM patients and, if they did so, if they calculate risk accurately.

Methods

To determine the variation in risk determination among these providers we asked each participant to care for three simulated T2DM patients presenting with these common clinical scenarios: 3 or more CV risk factors, 2 CV risk factors, and chronic kidney disease (CKD). The primary outcome measures were the variation in clinical decisions among practicing PCPs and cardiologists in the assessment, use of existing risk stratification tools, and subsequent management of CV risk in patients with T2DM. More specifically, we aimed to determine 1) the frequency and accuracy of the two groups of specialists to correctly stratify the CV risk of T2DM patients and 2) what interventions were provided to target modifiable CV risk factors to attain the appropriate evidence-based goals.

Results

Overall, participants only performed half of all necessary items to care for these patients with quality-of-care scores averaging 49.4±2.6% and ranging between 13% and 84%. By T2DM complication, we found participants performed best in T2DM patients with CKD (61.9±13.7%) followed by cases with 2 CV risk factors (49.1±12.2%) and 3+ CV risk factors (47.7±11.8%). The +3.6% score difference in performance between the CKD patients and the 3+ CV risk factor patients was both clinically and statistically significant (p=0.007).

• Those who correctly identified a CV risk score were significantly more likely to order non-pharmacologic treatments, specifically advising on their patient’s nutrition (38.8% vs. 29.9%; p=0.013) and specifying the correct A1C target (37.7% vs. 15.6%; p<0.001). There was no difference, however, among those who correctly specified risk and those who did not when ordering pharmacologic treatments for their patients.

Conclusions

Using standardized simulated patients, this study confirmed a wide range of variability in how physicians evaluate, calculate, and manage CV risk factors in patients with T2DM. Despite 81.3% of participants indicating they used at least one cardiovascular risk estimator, we found only 38.9% of participants in this study correctly calculated and used the CV risk score for their patients. We conclude that this may be due to the numerous CV risk calculators available and by extension a lack of trust in the information from so many risk calculation methods. Moreover, current risk tools do not provide patient specific, dynamic measure of patients’ responses to pharmacologic interventions or to healthier behaviors indicating there is an opportunity for a better method. This apparent gap indicates an opportunity to improve the quality of care in patients with T2DM.