

Improving documentation of cardiovascular disease risk in patients with diabetes attending non communicable disease clinics at West Bay Health Center in Qatar

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Abstract

The documentation of cardiovascular disease (CVD) in medical records of patients with type 2 diabetes attending non communicable disease (NCD) clinics at West Bay Health Center in Qatar is less than ideal. Poor documentation of CVD will lead to poor preventive and management plans, with negative consequences for patients. Our aim is to improve this documentation of cardiovascular disease risk from 13% to 70% through the use of the WHO CVD risk prediction charts, which ran from September 2014 to January 2015.

An intervention in the form of an education session was run on 13th November 2014 for nurses that run the NCD clinic, covering the new NCD format (including the location of risk documentation, the method used for calculation the CVD, and mandatory documentation of CVD scores). A group discussion was also held with a physician for revising the CVD risk that was documented by nurses. Posters were placed in the NCD nurse station and clinics to remind them about CVD calculation and documentation. The average percentage of complete CVD risk documentation for patients with diabetes was 7%, increasing to 59% after the intervention. Overall, our intervention improved the documentation of CVD by 52%.

Problem

Cardiovascular disease (CVD) is the major cause of morbidity and mortality for individuals with diabetes and is the largest contributor to the direct and indirect costs of diabetes. The common conditions coexisting with type 2 diabetes (hypertension and dyslipidemia) are clear risk factors for CVD, and diabetes itself confers independent risk. Numerous studies have shown the efficacy of controlling individual cardiovascular risk factors in preventing or slowing CVD in people with diabetes. Huge bene?ts are seen when multiple risk factors are addressed globally.[1,2]

There is evidence that measures of 10-year coronary heart disease (CHD) risk among US adults with diabetes have improved signi?cantly over the past decade.[3] Documentation of CVD in medical records of patients with type 2 diabetes attending NCD clinics at West Bay Health Center in Qatar from September 2013 to September 2014 is less than ideal. Poor documentation of CVD will lead to poor preventive and management plans, resulting in negative consequences on patients.

Background

Patients with type 2 diabetes have an increased prevalence of lipid abnormalities, contributing to their high risk of CVD.[3] Multiple clinical trials have demonstrated the signi?cant effects of pharmacological (primarily statin) therapy on CVD outcomes in individual subjects with CHD and for primary CVD prevention.[4,5] Subgroup analyses of patients with diabetes in larger trials, along with trials in patients with diabetes, showed signi?cant primary and secondary prevention of CVD events, halving CHD deaths in

patients with diabetes.[6,7]

Meta analyses, including data from over 18,000 patients with diabetes from 14 randomized trials of statin therapy (mean follow-up 4.3 years), demonstrate a 9% proportional reduction in all-cause mortality, as well as a 13% reduction in vascular mortality for each mmol/l reduction in LDL cholesterol.[8] Our aim is to improve the documentation of cardiovascular disease risk from 13% to 70% in the medical records of patients with diabetes who are attending non communicable disease clinics at the West Bay Health Center. This will be done using the WHO CVD risk prediction charts from September 2014 to January 2015.

Baseline measurement

- The project began 15th September 2014

- Baseline audit to determine the percentage of CVD risk documentation, it was 13% at

13th November 2014

- Brain storming session was done to identify the causes of such problem including fish bone analysis (figure 1)

- Survey questionnaire was designated to assess the main causes of the problem and distributed to all nurses working in NCD clinics (table 1)

- The results of this survey demonstrated in Pareto chart (figure 2)

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- We discover the main causes of the problem lies on two main causes (nurses were not oriented to the new NCD format and some of them were not trained to calculate CVD risk)

See supplementary file: ds5021.docx - "Figure 1 - Table 1 - Figure 2"

Design

- Education session for nurses working in NCD clinics were done particularly on orientation about new NCD format and CVD risk documentation

- Orientation sessions for NCD clinic running physicians

- Putting reminder posters in NCD clinics and staff nurse stations

- Several audits done retrospectively for two weeks (three days each week) to show average percentage of documentation in pre-intervention stage

- Several audits done for three weeks (three days each week) and then weekly for five weeks to show average percentage in post-intervention stage ending at 15th January 2015

- All audit data were demonstrated using run chart (figure 3)

Strategy

Several audits were done three times a week, moving to weekly as we did a PDSA cycle and solved additional problems. This is shown below:

PDSA cycle 1: Nurses' education was completed, showing a great improvement

PDSA cycle 2: New staff joined the clinic (physicians and nurses), so orientation regarding CVD risk was done

PDSA cycle 3: Physicians were sometimes using different calculators for CVD risk assessment, such as the new pooled cohort for atherosclerotic CVD risk. However, local guidelines still adopt the WHO CVD risk prediction chart.

The health center will adopt the Cerner (electronic health record) so there was not much interest in completing the paper medical records. This project is to be continued by another group putting into consideration such problems and to measure compliance and subsequent management. This project is to be distributed to all primary healthcare centers in Qatar.

Results

The intervention began in November 2014 to January 2015, revealing that the average percentage of completed CVD risk documentation for patients with diabetes was 7% in pre-intervention stage, increasing to average of 59% after the intervention (figure 3).

See supplementary file: ds5020.docx - "Figure 3"

Lessons and limitations

A number of lessons were learned from this project, particularly that:

- Education is one of the most powerful ways to influence healthcare compliance to CVD risk documentation

- Ensuring teamwork between physicians and nurses to achieve their goals is extremely important to patient outcomes

- Sustainability is very important for success in any improvement project.

We also encountered some small limitations noticed during audits, such as:

- Sometimes the percentages of completed documentation was variable, so further situation analysis showed new staff joining the clinic

- We also had to consider that some physicians were using new CVD risk calculators, such as a pooled cohort

- Some physicians were not recording their CVD risk score because they were having to enter their information into a new electronic recording system.

Conclusion

Intervention in the form of nurse education and physician orientation improved the documentation of CVD by 52%, raising the average of documentation from 7% to 59%. Sustainability is very important for success in such an improvement project.

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Declaration of interests

Nothing to declare.

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