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Prevention of Cardiovascular Disease and Diabetes on a Population Level

AKADEMISK AVHANDLING

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ABSTRACT

Background

Cardiovascular disease and diabetes are responsible for just over half of the global mortality, and these diseases are expected to increase. The upsurge is due to increased longevity and a westernisation of the global lifestyle. Preventive efforts have proven effective and are believed to be the only way to curb the rapid increase of these diseases. Still the implementations of preventive measures are reported as underused.

Aims

To study prevention by

1. Investigating the perception of key policymakers on cardiovascular disease
2. Examining if screening for diabetes online is feasible using FINDRISC
3. Assessing management of patients with coronary artery disease and diabetes
4. Determining the best screening test for dysglycaemia in patients with coronary artery disease

Policymakers' perception of cardiovascular disease

Policymakers in Europe agreed that national patterns of cardiovascular disease and its prevention are far from satisfactory. A similar rating of the perceived proximity to a specific target in two countries did not necessarily reflect a similar national situation when compared to available statistics on the actual situation. Policymakers had diverging opinions on what actions to take and what obstacles to overcome to improve population health.

Feasibility of using FINDRISC as an online questionnaire

It was feasible to incorporate a diabetes risk score such as FINDRISC in an online survey. A reasonable response rate was achieved and a group that could benefit from preventive intervention programs was identified.

Management of patients with coronary artery disease and diabetes

A large proportion of the patients are far from guideline recommended evidence based treatment targets for blood pressure, LDL-cholesterol and HbA1c. A potential reason is a consistent, relatively low combined use of four selected cardioprotective drug therapies and/or lack of dose titration. There was, however, some improvement over time.

Screening for dysglycaemia in patients with coronary artery disease

Screening by means of an oral glucose tolerance test (OGTT) identified the largest number of patients with undetected diabetes. The overlap in case-detection between fasting plasma glucose (FPG), 2-hour plasma glucose (2hPG) and HbA1c was small. Screening with HbA1c alone would have left 83% of those with diabetes undetected. The total proportion of patients identified with diabetes and other forms of dysglycaemia varied from 90% using the American Diabetes Association's criteria for FPG + HbA1c, which may be an overestimate, to 73% using WHO criteria for OGTT = FPG + 2hPG, which may be more realistic.

Conclusion

Creating a coherent knowledge base and action agenda regarding prevention among key policymakers should be given high priority in future population based prevention programmes. The online questionnaire FINDRISC is a feasible way to identify high-risk individuals as well as risk typing populations. Despite some improvement, patients with coronary artery disease and diabetes are not managed according to best available knowledge. Efforts to improve this are needed to improve their still dismal prognosis. An oral glucose tolerance test has the best capacity to screen-detect dysglycaemia in patients with coronary artery disease.