Diabetes Screening Among High-risk Participants in the Quebec Health Survey

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ABSTRACT

OBJECTIVES

To determine to what extent participants in the Quebec Health Survey who had 2 or more risk factors for diabetes were screened by their physician and what type of advice they received when diagnosed with prediabetes.

METHOD

Of the participants in the Quebec Health Survey, 4555 were identified from the databank as having 2 or more risk factors for diabetes. These individuals were contacted; 541 (12%) completed a telephone interview and 258 (48%) of their treating physicians provided information from their chart and medical practice profile.

RESULTS

Seventy-nine percent (427/541) of subjects with 2 or more risk factors self-reported having a blood test to measure blood glucose (BG) levels, while 99% (256/258) of their responding physicians reported screening with a blood test. Among subjects who reported that their physician told them

RÉSUMÉ

OBJECTIFS

Déterminer dans quelle mesure les personnes qui avaient participé au sondage et qui présentaient au moins 2 facteurs de risque de diabète ont été évaluées par leur médecin et quel type de conseils elles ont reçu lorsqu'un diagnostic de prédiabète a été posé.

MÉTHODE

D'après la banque de données, 4555 des participants présentaient au moins 2 facteurs de risque de diabète. On a communiqué avec ces personnes ; 541 (12 %) ont été interviewées par téléphone et 258 (48 %) des médecins traitants ont fourni des renseignements à partir de leur dossier médical et de leur profil clinique.

RÉSULTATS

Soixante-dix-neuf pour cent (427/541) des sujets présentant au moins 2 facteurs de risque ont dit avoir eu une analyse de sang pour mesurer leur glycémie, tandis que 99 % des médecins ont dit avoir fait des épreuves sanguines de dépistage (256/258). Parmi les sujets qui ont signalé que leur médecin leur avait dit que leur glycémie était élevée mais qu'ils n'étaient pas atteints de diabète, 98 % (57/58) ont dit ne pas avoir reçu de conseils concernant leur mode de vie, tandis que 48 % des médecins (16/33) ont dit avoir donné des conseils.

CONCLUSION

Presque tous les médecins qui ont fourni des renseignements au sondage ont mesuré la glycémie chez leurs patients et environ la moitié d'entre eux ont recommandé un traitement non pharmacologique ou des modifications du mode de vie en présence de prédiabète. Il faudrait examiner la communication médecin-patient en présence de prédiabète.

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they had high BG levels but no diabetes, 98% (57/58) reported receiving no advice regarding lifestyle recommendations, whereas 48% of their responding physicians (16/33) reported providing advice.

CONCLUSION

Almost all responding physicians tested their patients' BG levels, and approximately one-half of physicians recommended nonpharmacologic/lifestyle treatment for prediabetes. Communication between physician and patient in prediabetes should be examined further.

INTRODUCTION

Diabetes mellitus is a serious health threat, and its medical, social and economic burden will increase dramatically in the 21st century. Combining diagnosed and undiagnosed diabetes, the prevalence of diabetes is estimated to be over 8%, with higher rates occurring in older and high-risk ethnic populations (1). The presence of microvascular complications is common at the time of diagnosis of type 2 diabetes mellitus and ranges from approximately 3 to 30% (2-4). Also, prediabetes (impaired fasting glucose [IFG] and impaired glucose tolerance [IGT]) is associated with a substantially higher risk for cardiovascular disease (5-9). Lowering blood glucose (BG) levels has been shown to prevent or delay the progression of the disease (10-16). Identifying individuals in the early stages of the disease would permit them to take action to lower and control BG levels. Screening is an important initial step in dealing with this problem.

There is no consensus on diabetes screening guidelines among professional associations. The United States (US) Preventive Services Task Force states that there is insufficient evidence to recommend for or against routine screening for type 2 diabetes, IGT or IFG for asymptomatic adults. However, they do advise screening adults with hypertension or hyperlipidemia (17,18). The American Diabetes Association emphasizes screening among individuals with a body mass index (BMI) $\geq$25 kg/m^2 (11,19). The Canadian Diabetes Association (CDA) recommends that adults $\geq$40 years of age be screened for diabetes at 3-year intervals and that screening be considered at a younger age or done more frequently in those individuals with additional risk factors (12,20).

Diabetes screening guidelines are divergent and may result in ambiguities for physicians in their clinical practice patterns (17-22). To investigate the situation in Quebec, participants in the Quebec Health and Social Survey with risk factors for diabetes (older age, high BMI, hypertension, hyperlipidemia, heart disease/cardiovascular disease, high-risk ethnic population and gestational diabetes) were contacted to determine the following: 1) whether or not those with 2 or more risk factors for diabetes reported being screened for the disease and what differentiated those who were screened from those who were not; 2) physicians' perceptions regarding diabetes screening and what characteristics were associated with positive perceptions toward screening; and 3) physician self-reported practice patterns regarding the level of fasting plasma glucose (FPG) at which they usually make a diagnosis of diabetes and initiate nonpharmacologic treatment.

Based on the literature of physician practices (23-29), we hypothesized that patients with a greater number of risk factors, smokers, women, urban inhabitants and those with a higher level of education would more likely be screened for diabetes. Physicians with more positive perceptions toward diabetes screening would be more likely to have a hospital-based practice, specialty training, more years of experience and a higher caseload of patients with diabetes.

METHODS

Complete details regarding the sampling procedures and data collection of participants in the 1998 Quebec Health and Social Survey are described in Santé Québec's report (30). Interviews were conducted in 11 986 households, and 30 386 individuals were surveyed. This sample was representative of 97% of the Quebec population, excluding institutionalized individuals and those on Aboriginal reserves. An interview was conducted with 1 household member, who answered questions about the health status of all household members. In addition, household members over 15 years of age were asked to complete a self-administered questionnaire that contained additional information about their health and lifestyle behaviours; 20 773 individuals completed this self-administered questionnaire. Information from the interviews and the self-administered questionnaires was used to identify those with 2 or more risk factors for diabetes. Risk factors identified from this databank included older age, high BMI, hypertension, hyperlipidemia, heart disease/cardiovascular disease and high-risk ethnic population (i.e. African, Asian, Hispanic, Aboriginal). Limitations of the databank were as follows: 1) there was no question regarding family history of diabetes; 2) gestational diabetes was reported only during the interview period; and 3) Aboriginal communities were excluded from the sampling framework.

Individuals identified from the databank as having 2 or more risk factors for diabetes were contacted by mail by