

Original article

Impact of socioeconomic status on diabetes and cardiovascular risk factors: Results of a large French survey[☆]

C. Jaffiol^a, F. Thomas^{b,*}, K. Bean^b, B. Jégo^b, N. Danchin^{b,c}

^a Université Paris Descartes, Paris, France

^b Centre d'Investigations Préventives et Cliniques (IPC), 6, rue La Pérouse, 75116 Paris, France

^c Hôpital Européen Georges-Pompidou, Paris, France

Received 7 June 2012; received in revised form 10 September 2012; accepted 11 September 2012

Abstract

Aim. – This study examined the association between deprivation and diabetes in a large French population, and evaluated the impact of deprivation on diabetes after taking in account a number of confounding factors.

Methods. – A total of 32,435 men and 16,378 women, aged 35 to 80 years, who had a health checkup at the “Centre d’Investigations Préventives et Cliniques” (IPC Centre: a preventive medical center in Paris, France), between January 2003 and December 2006, were evaluated. Socioeconomic deprivation was assessed using the EPICES score. The most deprived subjects were those in the fifth quintile of score distribution.

Results. – Several cardiovascular risk markers increased significantly in deprived subjects. In both genders, deprivation was associated with deleterious health status and lifestyle habits. In women, BMI, central obesity and the metabolic syndrome were associated with deprivation. The prevalence of diabetes increased with deprivation level. Compared with the first quintile of EPICES score distribution, the prevalence of diabetes was three to eight times higher in the fifth quintile. After taking into account age, and biological, clinical and lifestyle parameters, the risk of diabetes onset (odds ratio) among deprived vs. non-deprived subjects was 2.54 (95% CI: 1.99–3.24) in men and 2.2 (95% CI: 1.44–3.35) in women.

Conclusion. – In the general French population, deprivation was associated with deleterious health status and lifestyle. Risk of diabetes increased linearly with deprivation level and, after taking into account various confounding factors, the risk of diabetes remained significantly higher among deprived subjects. Other factors such as nutrition should now be examined to explain the excess risk of diabetes among the most deprived people.
© 2012 Elsevier Masson SAS. All rights reserved.

Keywords: Diabetes; Deprivation; Epidemiology; Risk factors; Cardiovascular disease; Depression; Score EPICES

Résumé

Impact du statut socio-économique sur le diabète et les facteurs de risque cardiovasculaire : étude d’une large population française.

Objectif. – Étudier l’association entre la précarité et le diabète dans une large population française après prise en compte des facteurs associés.

Population et méthode. – Inclusion de 32 435 hommes et 16 378 femmes, âgés de 35 à 80 ans, qui ont eu un examen de santé au centre IPC entre janvier 2003 et décembre 2006. La précarité a été évaluée par le score EPICES (Évaluation de la Précarité et des Inégalités de santé dans les Centres d’Examens de Santé de France). Les sujets en situation de précarité appartiennent au cinquième quintile de la distribution du score.

Résultats. – La prévalence des facteurs de risque augmente avec la précarité. Dans les deux sexes, la précarité est associée à une altération de l’état de santé et des habitudes de vie. Comparativement au premier quintile du score EPICES, dans le cinquième quintile, la prévalence du diabète est trois à huit fois plus élevée. Après prise en compte de l’âge, des facteurs cliniques et biologiques et du style de vie associé à la précarité, le risque d’être diabétique (*odds ratio*), comparé à celui des sujets non précaires était de 2,54 (1,99–2,34) et 2,2 (1,44–3,35) respectivement chez les hommes et les femmes.

[☆] The original idea for this paper came about from a collaborative venture between Professor Claude Jaffiol, member of the French Academy of Medicine, and the late Professor Louis Guize, former president of the IPC Centre and member of the French Academy of Medicine.

* Corresponding author. Tel.: +33 1 53 67 35 19; fax: +33 1 47 20 44 58.

E-mail address: thomas@ipc.asso.fr (F. Thomas).

Conclusion. – Dans l'ensemble de la population, la précarité est associée à une altération de l'état de santé et des habitudes de vie. Le risque d'être diabétique augmente avec la précarité indépendamment des autres facteurs associés. Des facteurs comme la nutrition pourraient expliquer l'excès de diabète chez les sujets en situation de précarité.

© 2012 Elsevier Masson SAS. Tous droits réservés.

Mots clés : Diabète ; Précarité ; Épidémiologie ; Facteurs de risque ; Maladies cardiovasculaires ; Dépression ; Score EPICES

1. Introduction

Cardiovascular disease and diabetes are major contributors to health problems in industrialized countries, and type 2 diabetes is increasing rapidly in all parts of the world [1]. Many risk factors are implicated and most of them are also involved in the growing incidence of cardiovascular disease. The association of type 2 diabetes with a low socioeconomic status (SES) has been previously described. Several studies from developing countries have demonstrated a positive relationship between low SES and the incidence [2,3] and prevalence [4–9] of type 2 diabetes. However, the role of the different components of deprivation in the burden of diabetes remains unclear. For example, anxiety and depression scores were worse among low SES people in both genders. Several reports have pointed out the relationship between level of SES and psychological behavior. Patients with lower levels of education and reduced SES have higher rates of depression than subjects of higher SES. It has been suggested that diabetic patients are almost twice as likely to suffer from anxiety and depression as non-diabetic subjects [10–13].

The aim of the present study was to evaluate the impact of low SES on diabetes occurrence and cardiovascular risk biomarkers after adjusting for several confounding factors.

2. Design and methods

2.1. Participants and procedure

Subjects were examined at the “Centre d'Investigations Préventives et Cliniques” (IPC Centre) in Paris, France. This medical centre, which is subsidized by the French national healthcare system [*Sécurité Sociale* – *Caisse Nationale de l'Assurance Maladie des Travailleurs Salariés* (CNAMTS); National Health Insurance Fund for Employees], offers all working and retired individuals and their families a free medical examination every five years. It carries out approximately 25,000 examinations per year of people living in the Paris area.

Our study population was composed of all subjects who had a health checkup at the IPC Centre between January 2003 and December 2006. The population included 32,435 men and 16,378 women, aged 35 to 80 years, with no known history of cardiovascular disease.

Supine blood pressure (BP) was measured in the right arm, using a manual mercury sphygmomanometer, after a 10-minute rest period. The first and fifth Korotkoff phases were used to define systolic BP (SBP) and diastolic BP (DBP). The mean of three measurements was considered the BP value. Pulse pressure (PP = SBP – DBP) was also determined. Hypertension was diagnosed if the patient was taking antihypertensive drugs or if BP

was greater than 135 mmHg for SBP and greater than 80 mmHg for DBP. Obesity was defined as a body mass index (BMI) greater than 30 kg/m². Waist circumference was measured using a non-stretch measuring tape placed midway between the lowest ribs and tops of the iliac crests in the mid-axillary line in standing position; normal values were less than 88 cm for women and less than 102 cm for men.

Standard biological parameters, measured by an enzymatic method using an automatic analyzer (Hitachi 917, Tokyo, Japan) or a colorimetric method for albumin dosage and hematology (ABX Pentra 120 analyzer, Horiba Medical, Montpellier, France), were recorded under fasting conditions; high-density lipoprotein (HDL) cholesterol was measured by a direct enzymatic method using cyclodextrin. All clinical and biological parameters were evaluated on the same day as the examination. During the health checkup, dental care (based on the presence of dental plaque and number of cavities) was also evaluated by a dentist, while hearing and eye tests were assessed by a nurse using standard tools. Tobacco use, physical activity, personal medical history and current medications were assessed using a self-administered questionnaire. Another self-administered questionnaire provided data for the EPICES (*Évaluation de la Précarité et des Inégalités de santé dans les Centres d'Examens de Santé*; Evaluation of Deprivation and Inequalities of Health in Healthcare Centres) score, and included educational level, profession, perception of access to healthcare and perception of job security. The diagnosis of type 2 diabetes was assessed in patients who reported being diabetic, whether treated or not with antidiabetic drugs, or by the discovery of fasting glycaemia equal to or greater than 1.26 g/L in those with undiagnosed diabetes.

The IPC Centre received authorization from the *Comité National d'Informatique et des Libertés* (CNIL; National Committee for Data Protection) to conduct analyses with data collected during the standard health checkup. All subjects gave their informed consent to participate at the time of examination.

2.2. Socioeconomic deprivation assessment: EPICES scores

Socioeconomic deprivation was assessed using the EPICES score [14]. This score was elaborated from a self-administered questionnaire completed by 7208 subjects, aged 16 to 59 years, who had undergone a standard health checkup at one of the 18 participating health examination centres. The questionnaire was composed of 42 questions including nationality, occupational status, family status and financial difficulties. After factorial correspondence analysis, 11 questions were found to explain

Download English Version:

<https://daneshyari.com/en/article/3259972>

Download Persian Version:

<https://daneshyari.com/article/3259972>

[Daneshyari.com](https://daneshyari.com)