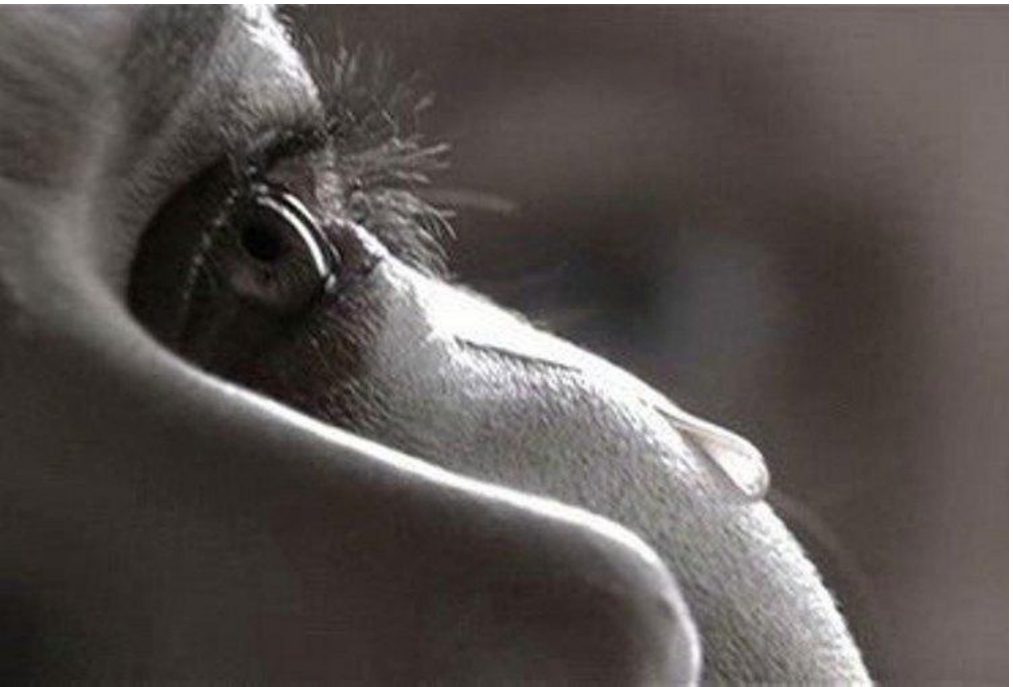
Депрессия у больных сахарным диабетом



ПОДГОТОВИЛА

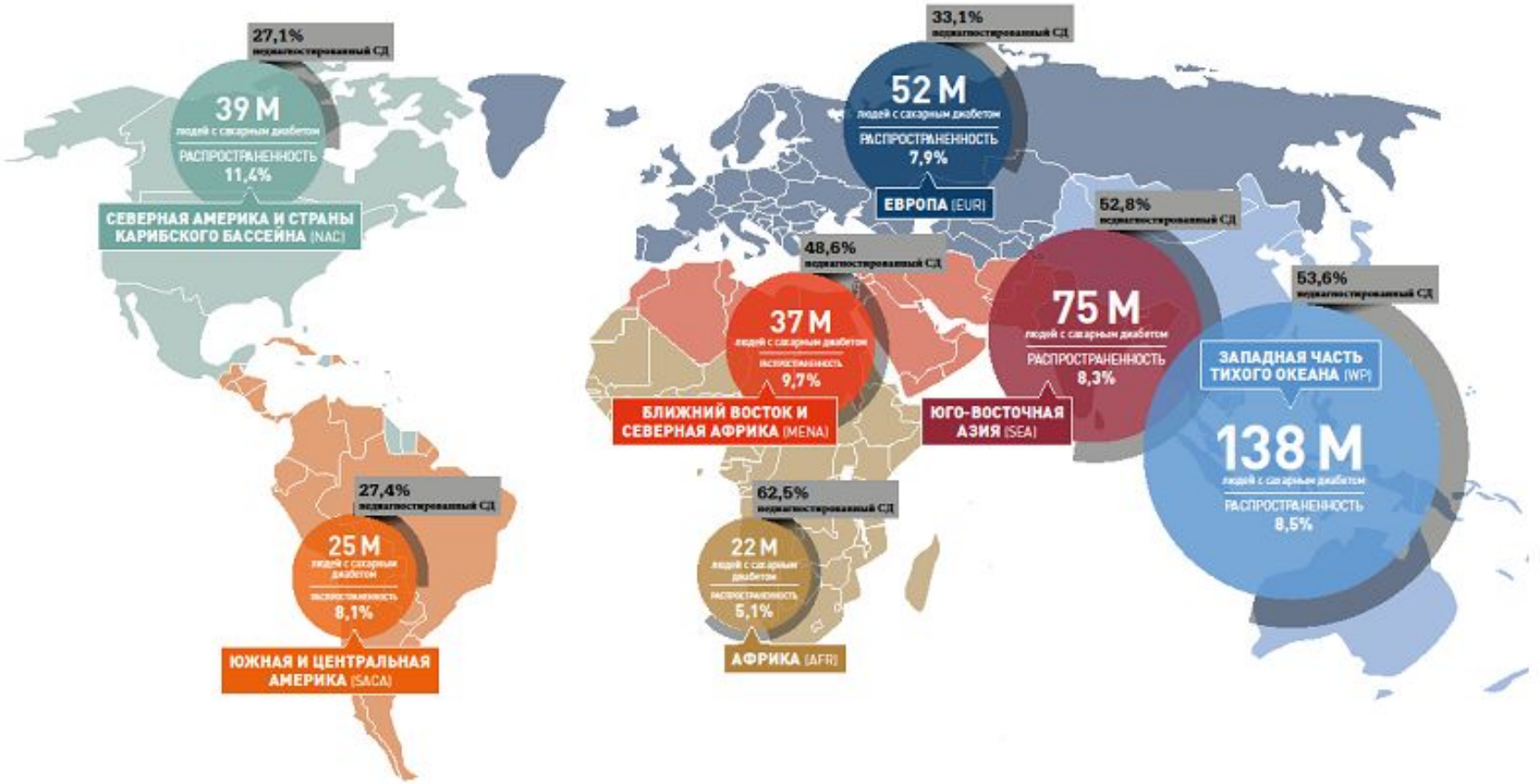
Нуралиева Нурана Фейзуллаевна,

6 курс, ЛФ, 57 группа

РУКОВОДИТЕЛЬ

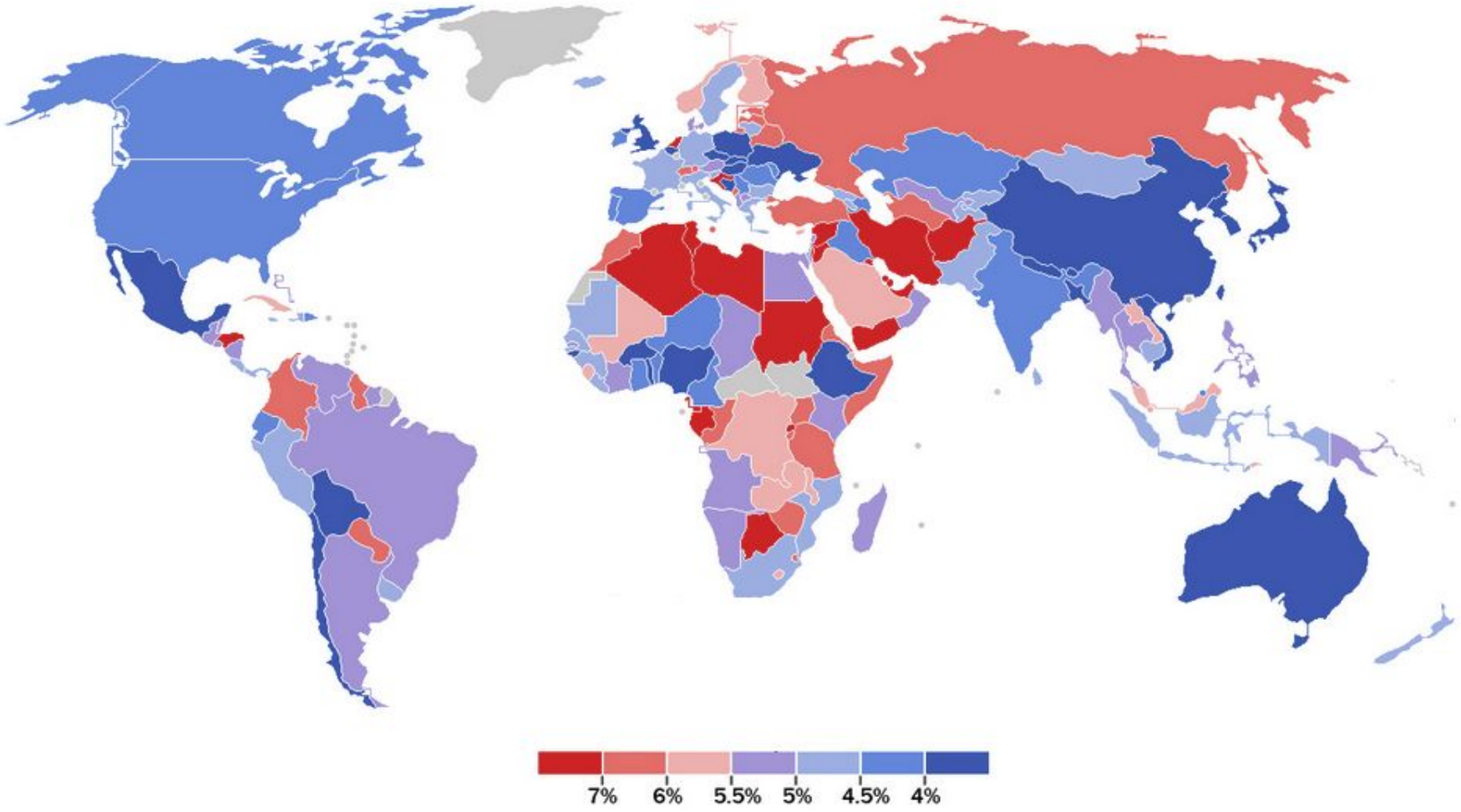
к.м.н. асс. кафедры эндокринологии Моргунова Татьяна Борисовна

Эпидемиология сахарного диабета



Атлас Диабета IDF

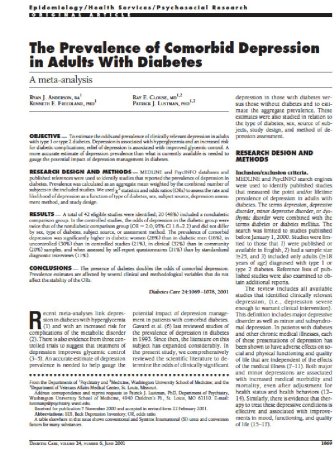
Эпидемиология депрессии



A stunning map of depression rates around the world. Washington Post. 2013

Томас Уиллис (1621-1675)

Сахарный диабет является следствием «грусти или длительной печали»

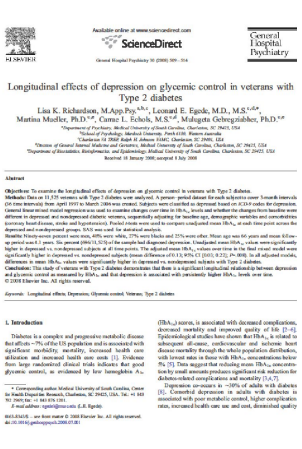


The Prevalence of Comorbid Depression in Adults With Diabetes

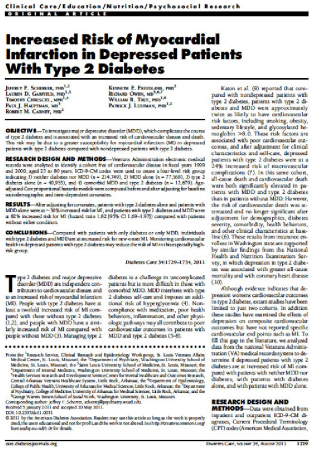
A meta-analysis

Depression and Poor Glycemic Control

A meta-analytic review of the literature



Longitudinal effects of depression on glycemic control in veterans with Type 2 diabetes



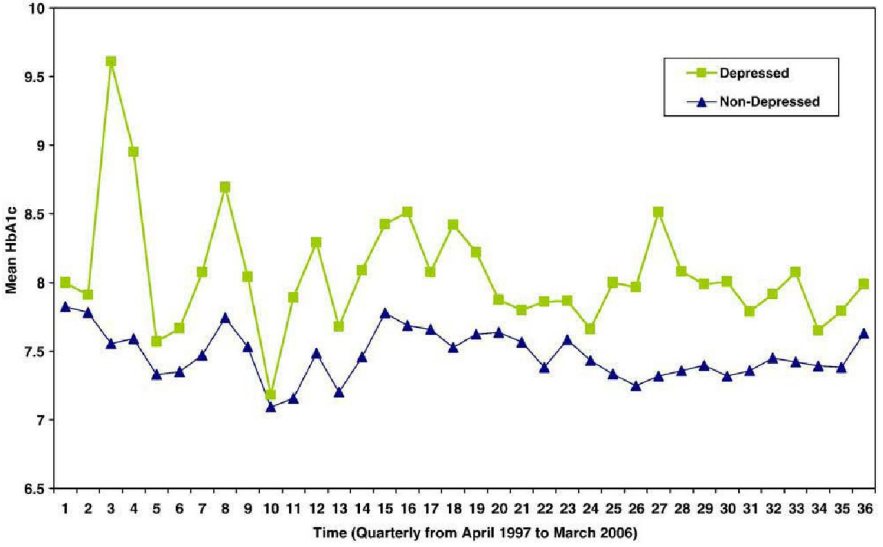
Increased Risk of Myocardial Infarction in Depressed Patients With Type 2 Diabetes

Распространённость депрессии среди больных сахарным диабетом составляет 20-25%

Депрессия достоверно связана с плохим гликемическим контролем у больных сахарным диабетом как первого, так и второго типов

Депрессия увеличивает риск развития инфаркта миокарда у больных сахарным диабетом 2 типа

Уровень гликированного гемоглобина у больных сахарным диабетом 2 типа, страдающих депрессией, достоверно выше, чем у больных без депрессии



Epidemiology/Health Services/Psychosocial Research
ORIGINAL ARTICLE

Depression and All-Cause and Coronary Heart Disease Mortality Among Adults With and Without Diabetes

LEONARD E. EGEDE, MD, MS[1,2,3]
PAUL J. NIETERT, PHD[1,2,3]
DEYI ZHENG, MD, PHD[4]

OBJECTIVE — The aim of this study was to evaluate the effect of depression on all-cause and coronary heart disease (CHD) mortality among adults with and without diabetes.

RESEARCH DESIGN AND METHODS — We studied 10,025 participants in the population-based National Health and Nutrition Examination Survey 1 Epidemiologic Follow-up Study who were alive and interviewed in 1982 and had complete data for the Center for Epidemiologic Studies Depression Scale. Four groups were created based on diabetes and depression status in 1982: 1) no diabetes, no depression (reference group); 2) no diabetes, depression present; 3) diabetes present, no depression; and 4) diabetes present, depression present. Cox proportional hazards regression models were used to calculate multivariate-adjusted hazard ratios (HRs) of death for each group compared with the reference group.

RESULTS — Over 8 years (83,624 person-years of follow-up), 1,025 deaths were documented, including 522 deaths from CHD. Mortality rate per 1,000 person-years of follow-up was highest in the group with both diabetes and depression. Compared with the reference group, HRs for all-cause mortality were no diabetes, depression present, 1.20 (95% CI 1.03–1.40); diabetes present, no depression 1.88 (1.55–2.27); and diabetes present, depression present, 2.50 (2.04–3.08). HRs for CHD mortality were no diabetes, depression present, 1.29 (0.96–1.74); diabetes present, no depression 2.26 (1.60–3.21); and diabetes present, depression present, 2.43 (1.66–3.56).

CONCLUSIONS — The coexistence of diabetes and depression is associated with a significantly increased risk of death from all causes, beyond that due to having either diabetes or depression alone.

Diabetes Care 28:1339–1345, 2005

Depression is highly prevalent in the U.S., affecting ~18.8 million adults or about 9.5% of the U.S. population aged ≥18 in a given year (1). Depression is a leading cause of disability, workplace absenteeism, diminished or lost productivity, and increased use of health care resources (2,3). There is fairly consistent evidence that depression is associated with increased mortality (4–9). A recent meta-analysis, which included 25 studies and 106,628 subjects, found that the hazard ratio (HR) for all-cause mortality in depressed subjects was 1.81 (95% CI 1.58–2.07) compared with that for nondepressed subjects (10).

Diabetes is also highly prevalent in the U.S. (11), and multiple studies have documented an increased prevalence of depression in individuals with diabetes (12). It is estimated that 10–30% of people with diabetes have coexisting depression and that people with diabetes have twofold increased odds of having depression compared with individuals without diabetes (12,13). The coexistence of depression and diabetes is known to be associated with poor glycemic control (14,15), an increased risk of complications (16–18), a decreased quality of life (19), an increased disability burden (20,21), and increased health care use and costs (19,22,23). However, no study has examined whether the coexistence of depression and diabetes is associated with increased risk of mortality. In particular, there are no data that compares the effect of depression on the risk of death in people with and without diabetes.

To address these issues, we examined mortality in a large nationally representative cohort of adults aged 25–75 years in 1971–1975 (24), who were reinterviewed in 1982 and followed until 1992 (25,26). We compared all-cause and coronary heart disease (CHD) mortality among four subsets of participants based on their disease status at the 1982 interview.

RESEARCH DESIGN AND METHODS

The National Health and Nutrition Examination Survey (NHANES) I was a multistage, stratified, national probability sample of the civilian noninstitutionalized population of the U.S. aged 1–74 years (24). The survey was conducted between 1971 and 1975 and included a standardized examination and questionnaires that addressed various health topics. Persons living in poverty

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Received for publication 29 October 2004 and accepted in revised form 9 February 2005.

Abbreviations: CES-D, Center for Epidemiologic Studies Depression Scale; CHD, coronary heart disease; NHANES, National Health and Nutrition Examination Survey; NHEFS, National Health and Nutrition Examination Epidemiologic Follow-up Study.

A table elsewhere in this issue shows conventional and Système International (SI) units and conversion factors for many substances.

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Depressive Symptoms and Mortality among Persons with and without Diabetes

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Although people with diabetes mellitus have a high risk of depression and depression may increase mortality among people with other conditions, the impact of depression on mortality risk among people with diabetes needs further examination. Using survival analysis, the authors analyzed longitudinal data from the NHANES I Epidemiologic Follow-up Study (1982–1992). The findings showed that the presence of severe depressive symptoms significantly elevated mortality risk among US adults with diabetes; the same pattern was not observed among people without diabetes. After results were controlled for sociodemographic, lifestyle, and health-status variables, diabetic persons with Centers for Epidemiologic Studies Depression (CES-D) Scale scores of 16 or more had 54% greater mortality than those with scores under 16 ($p = 0.004$). After exclusion of participants who died during the first year of follow-up, mortality remained higher among those with CES-D scores greater than or equal to 22 as compared with those with CES-D scores less than 16, but not among those with CES-D scores between 16 and 21. No significant relation between depression and mortality was found in the nondiabetic population. This analysis indicates that diabetes modifies the effect of depression on mortality. It also demonstrates the importance of observing subgroups, rather than aggregated populations, when examining the effect of depression on mortality.

depression; diabetes mellitus; mortality

Abbreviations: CES-D, Centers for Epidemiologic Studies Depression [Scale]; NHANES I, First National Health and Nutrition Examination Survey; NHEFS, NHANES I Epidemiologic Follow-up Study.

The prevalence of diabetes mellitus in the United States has increased rapidly in recent years, with a 49 percent increase in diagnosed diabetes being observed between 1990 and 2000 (1). During 2002, it was estimated that 18.2 million Americans had the disease—13.0 million diagnosed and 5.2 million undiagnosed (2). Diabetes is a leading cause of death in the United States. During 2000, the disease accounted directly for 69,301 deaths and contributed to 213,062 deaths among persons aged 25 years or older (1). Diabetes is also a major cause of loss of quality-adjusted life years, largely because of vascular complications (3).

Diabetes is associated with depression and depressive symptoms, but the strength and causal direction of these associations are unclear (4–10). In two recent studies that used data from the First National Health and Nutrition Examination Survey (NHANES I) but different instruments to measure depressive symptoms, investigators came to different conclusions about the role of depression as a cause of diabetes mellitus (11, 12). Saydah et al. (12), using the Centers for Epidemiologic Studies Depression (CES-D) Scale, found no evidence to support an etiologic relation between depression and diabetes. Conversely, Carnethon et al. (11), using the General Well-Being Depression subscale, found that social factors such as educational attainment are taken into account, depressive symptoms predict an increased incidence of diabetes among

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Depression and Diabetes: A Potentially Lethal Combination

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[1]Department of Psychiatry and Behavioral Sciences, University of Washington School of Medicine, Seattle, WA, USA; [2]Green Ribbon Health, LLC, Tampa, FL, USA; [3]Department of Psychiatry and Irving Institute for Clinical and Translational Research, Columbia University, New York, NY, USA; [4]Rand Corporation, Pittsburgh, PA, USA; [5]Division of Services and Intervention Research, National Institutes of Mental Health, Epidemiology and Economics, Bethesda, MD, USA.

OBJECTIVE: To assess whether Medicare fee-for-service beneficiaries with depression and diabetes had a higher mortality rate over a 2-year period compared with beneficiaries with diabetes alone.

DESIGN: Evidence of depression was based on a physician diagnosis or self-reported prescription of an antidepressant in the year prior to screening, or a score of ≥8 on the Patient Health Questionnaire two-item questionnaire. Mortality was assessed bi-monthly by checking Medicare claims and eligibility files or from information from telephone contact with the participant's family. Cox proportional hazard regression models were used to calculate adjusted hazard ratios of death in depressed versus nondepressed beneficiaries with diabetes.

PARTICIPANTS: A total of 10,704 beneficiaries with diabetes enrolled in a disease management program were surveyed with a health assessment questionnaire and followed over a two-year period.

MAIN RESULTS: Comorbid depression in Medicare beneficiaries with diabetes participating in a disease management program was associated with an increased risk for all-cause mortality over a two-year period of approximately 36% to 38%, depending on the definition of depression that was used. No significant increase in rates of cause-specific mortality from macrovascular disease were found in depressed versus nondepressed beneficiaries.

CONCLUSION: Among a large Medicare cohort of fee-for-service beneficiaries with diabetes, comorbid depression was associated with an increase in all-cause mortality over a two-year period. Future research will be required to determine whether the increases in mortality associated with depression is due to potential behavioral mediators (i.e., smoking, poor adherence to diet) or physiologic abnormalities (i.e., hypothalamic-pituitary axis dysregulation) associated with depression.

KEY WORDS: depression; diabetes; mortality.

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J Gen Intern Med 23(10):1571–6
DOI: 10.1007/s11606-008-0731-6

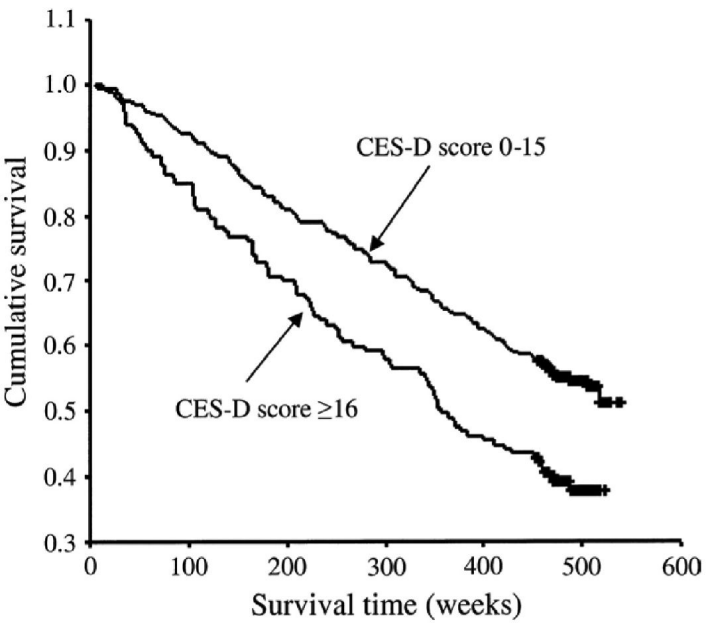
INTRODUCTION

Depression may adversely impact outcomes of chronic illnesses, such as diabetes, in several ways.[1] Depression has been shown in patients with diabetes to be associated with poor adherence to self-care regimens, such as glucose monitoring, diet, exercise regimens and taking medications as prescribed.[2] Depression has been linked to having a higher number of Framingham risk factors (i.e., smoking, obesity, sedentary lifestyle) for cardiac disease in patients with diabetes.[3] Depression is also associated with physiologic dysregulation of the hypothalamic-pituitary axis (HPA)[4] and sympathetic nervous system[5,6] as well as an increase in inflammatory markers,[7,8] which may also adversely affect the course of diabetes. Given the adverse effect on self-care and physiologic dysregulation, it is not surprising that longitudinal studies have also shown that depression is linked with an increased risk of microvascular and macrovascular complications.[9] Recent data has also suggested that comorbid depression is not only linked to a higher risk for diabetic complications, but also a higher risk for mortality.[9–13]

Since 2005, five studies (from four data sets) have examined the association of depression in patients with diabetes with mortality.[9–13] At least half of the patients with diabetes in these samples were in pre-Medicare age groups (<65 years of age). The age of the study group is important because diabetes has been shown to decrease longevity in those who develop the disease before but not after age 75.[14] Four out of these recent five studies have shown that depression is associated with an increased risk of mortality in patients with diabetes.[9–12] The total number of patients with diabetes examined in these five prior studies was approximately 6,500. In this paper, we examine the impact of comorbid depression on all cause mortality and macrovascular mortality in an older cohort of over 10,000 fee-for-service Medicare beneficiaries with diabetes enrolled in Green Ribbon Health's care management program.

METHODS

Green Ribbon Health (GRH) serves Medicare FFS beneficiaries in nine counties in the state of Florida. GRH's care management program began operation on November 1, 2005. The core of the



ORIGINAL ARTICLE

Association of Coexisting Diabetes and Depression With Mortality After Myocardial Infarction

MARIEKA BOT, MSC[1]
FRANCOIS FOUWEN, PHD[1]
MARK ZUIDERSMA, PHD[2]
JOOST P. VAN MELLE, MD, PHD[3]
PETER DE JONGE, PHD[1,2]

OBJECTIVE—Diabetes and depression are both linked to an increased mortality risk after myocardial infarction (MI). Population-based studies suggest that having both diabetes and depression results in an increased mortality risk, beyond that of having diabetes or depression alone. The purpose of this study was to examine the joint association of diabetes and depression with mortality in MI patients.

RESEARCH DESIGN AND METHODS—Data were derived from two multicenter cohort studies in the Netherlands, comprising 2,704 patients who were hospitalized for MI. Depression, defined as a Beck Depression Inventory score ≥10, and diabetes were assessed during hospitalization. Mortality data were retrieved for 2,525 patients (93%).

RESULTS—During an average follow-up of 6.2 years, 430 patients died. The mortality rate was 34% (226 of 1,675) in patients without diabetes and depression, 23% (49 of 210) in patients with diabetes only, 22% (118 of 544) in patients with depression only, and 47% (46 of 98) in patients with both diabetes and depression. After adjustment for age, sex, smoking, hypertension, left ventricular ejection fraction, prior MI, and Killip class, hazard ratios for all-cause mortality were 1.38 (95% CI 1.00–1.90) for patients with diabetes only, 1.39 (1.06–1.85) for patients with depression only, and as much as 2.90 (2.07–4.07) for patients with both diabetes and depression.

CONCLUSIONS—We observed an increased mortality risk in post-MI patients with both diabetes and depression, beyond the association with mortality of diabetes and depression alone.

Diabetes Care 33:503–509, 2010

Myocardial infarction (MI) is an important cause of morbidity and mortality worldwide (1). Major depression after MI is present in ~20% of all MI patients (2). A meta-analysis showed that depression is associated with an almost 2.5-fold increased risk for mortality in post-MI patients, independent from other established risk factors for mortality (3). Likewise, diabetes is common in MI patients and is independently associated with increased risk for cardiovascular morbidity (4) and mortality (5,6).

Depression and diabetes are known to interact in the general population, and their combination results in poor health outcomes. The prevalence of depression is high in patients with diabetes, affecting ~18% of type 2 diabetic patients (7). Depression can impair diabetes management and diabetes outcomes through behavioral or biological pathways (8). For example, depression appeared to be associated with less optimal diabetes self-care behaviors and subsequent poor glycemic control (9). In addition, depression was related to hypothalamic-pituitary-adrenocortical hyperactivity, which subsequently can affect glucose metabolism (10). It has also been proposed that diabetes and depression may share a common underlying pathogenesis (6). Among diabetic patients, several studies show that depression is an independent risk factor for an increased risk of mortality (11–14). Moreover, studies in the general population suggest a synergistic, additive interaction between diabetes and depression on mortality (8,15–17) (e.g., that having both diabetes and depression results in an increased mortality risk, beyond that of having diabetes or depression alone).

The association of the coexistence of diabetes and depression with mortality has not been investigated in patients who had a recent MI, which are patients with a high mortality risk. Hence, the aim of this study is to investigate whether the coexistence of diabetes and depression is associated with increased risk of all-cause and cardiac mortality in patients who had an MI, beyond the risks associated with diabetes and depression alone.

RESEARCH DESIGN AND METHODS

Data were derived from the Depression and Myocardial Infarction Study Dopamine MI (18) and the Myocardial Infarction and Depression-Intervention Trial (MIND-IT) (19). In these multicenter studies, 528 and 2,176 MI patients, respectively, were screened for depression. Patients were recruited from 14 hospitals (including 4 university hospitals) located in different parts of the Netherlands. Patients were included from September 1997 through September 2000 in Dopamine MI and from October 1999 through November 2002 in MIND-IT if they met established criteria for MI (20). Exclusion criteria were cognitive dysfunction, not being able to speak or read Dutch, hospitalization for other reasons than MI (except angina pectoris), and a life expectancy of <1 year as a result of noncardiovascular disease. In MIND-IT, patients were also excluded if they were already receiving psychiatric treatment for a current depressive episode (n = 104). Because the two studies were highly comparable in patient recruitment, inclusion and exclusion criteria, and depression assessment, data of both studies were combined for the present analyses. Both studies were approved by the local ethical committee of the participating hospitals, and all patients gave informed consent.

From the [1]Center of Research on Psychology in Somatic Diseases, Department of Medical Psychology, Tilburg University, Tilburg, the Netherlands; the [2]Department of Psychiatry, University Medical Center Groningen, University of Groningen, Groningen, the Netherlands; and the [3]Department of Cardiology, Thoraxcenter, University Medical Center Groningen, Groningen, the Netherlands

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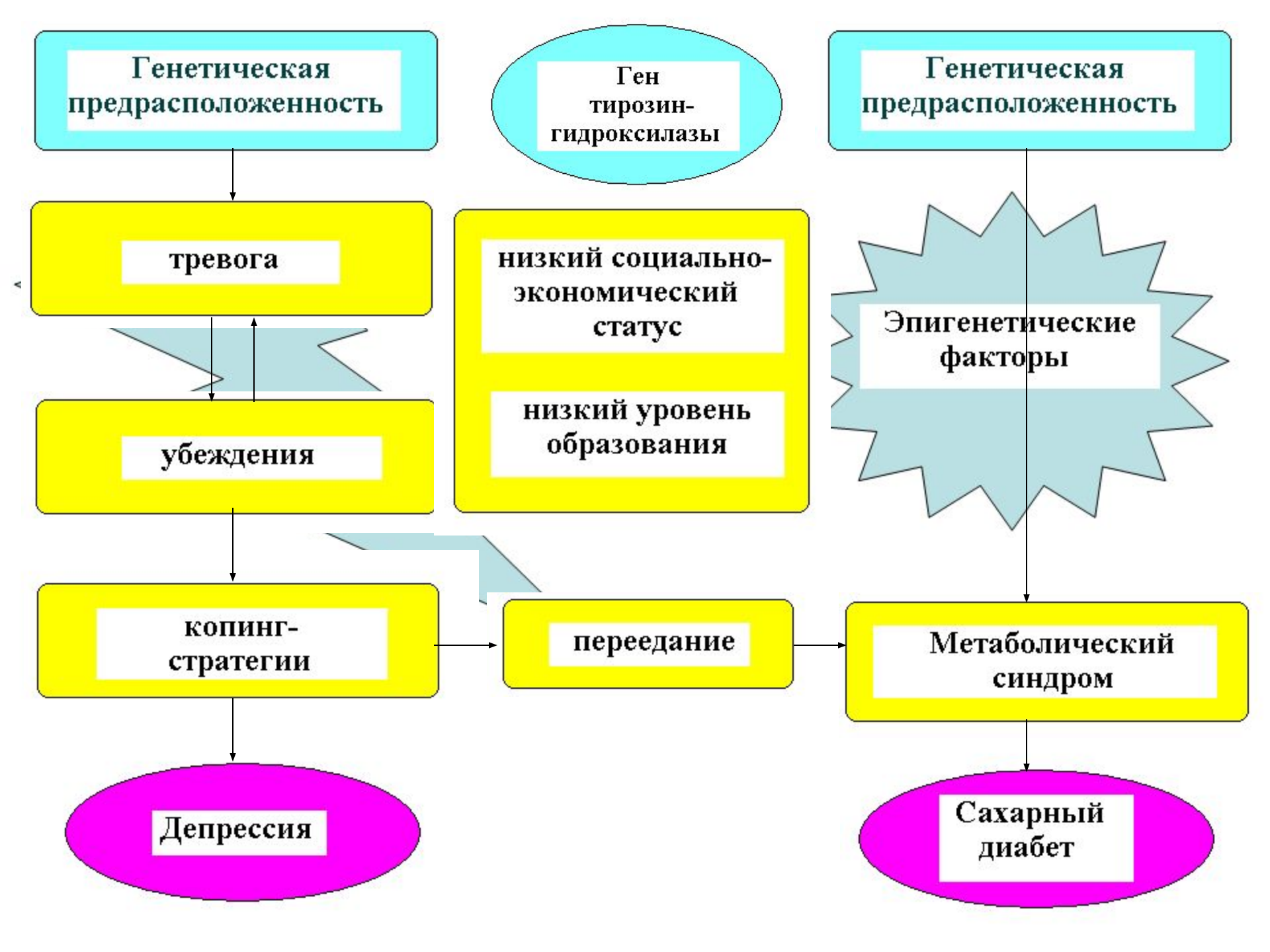
DOI: 10.2337/dc11-1796

Депрессия увеличивает риск смерти после инфаркта миокарда и от всех причин у больных сахарным диабетом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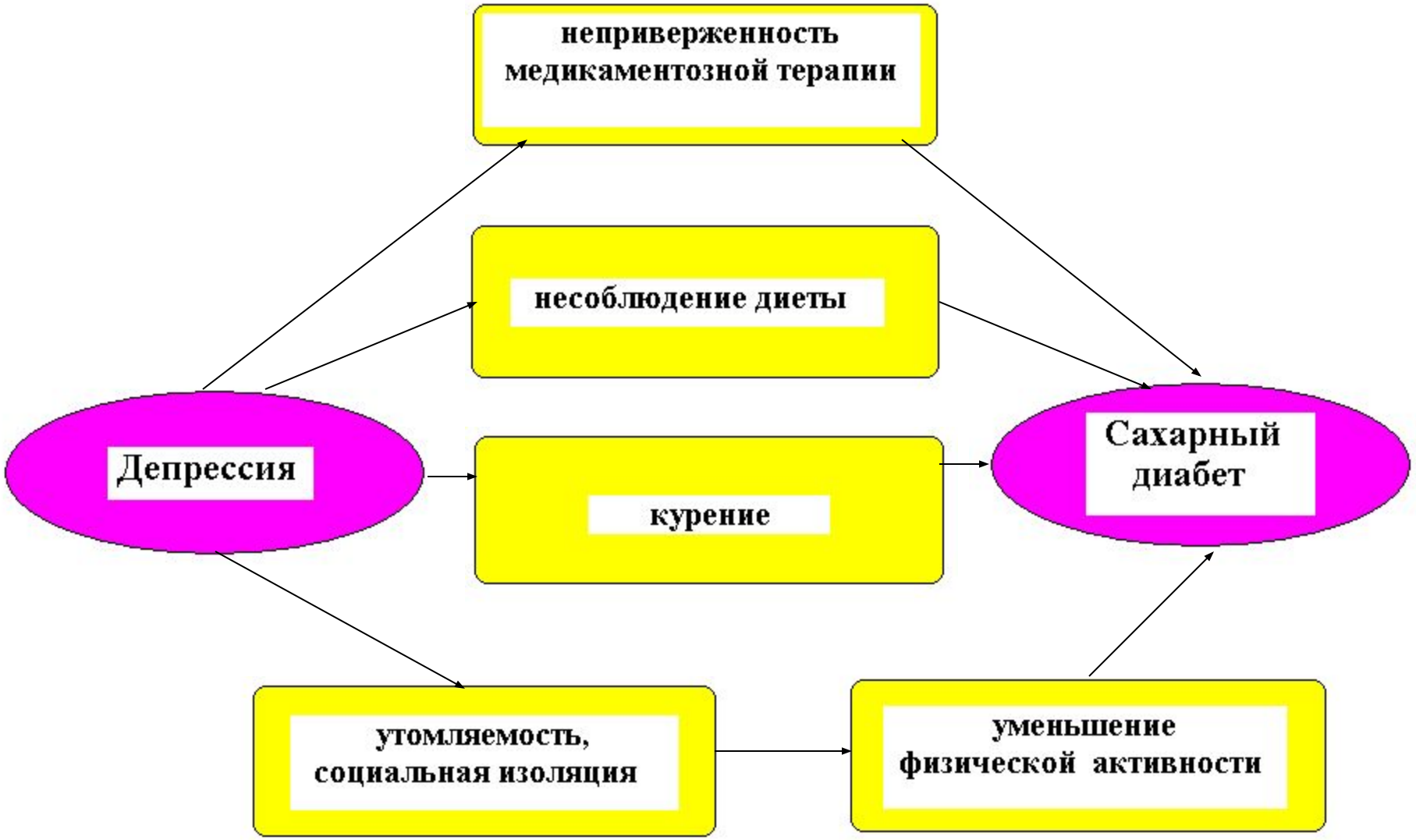
переедание
Метаболический синдром
Депрессия
Сахарный диабет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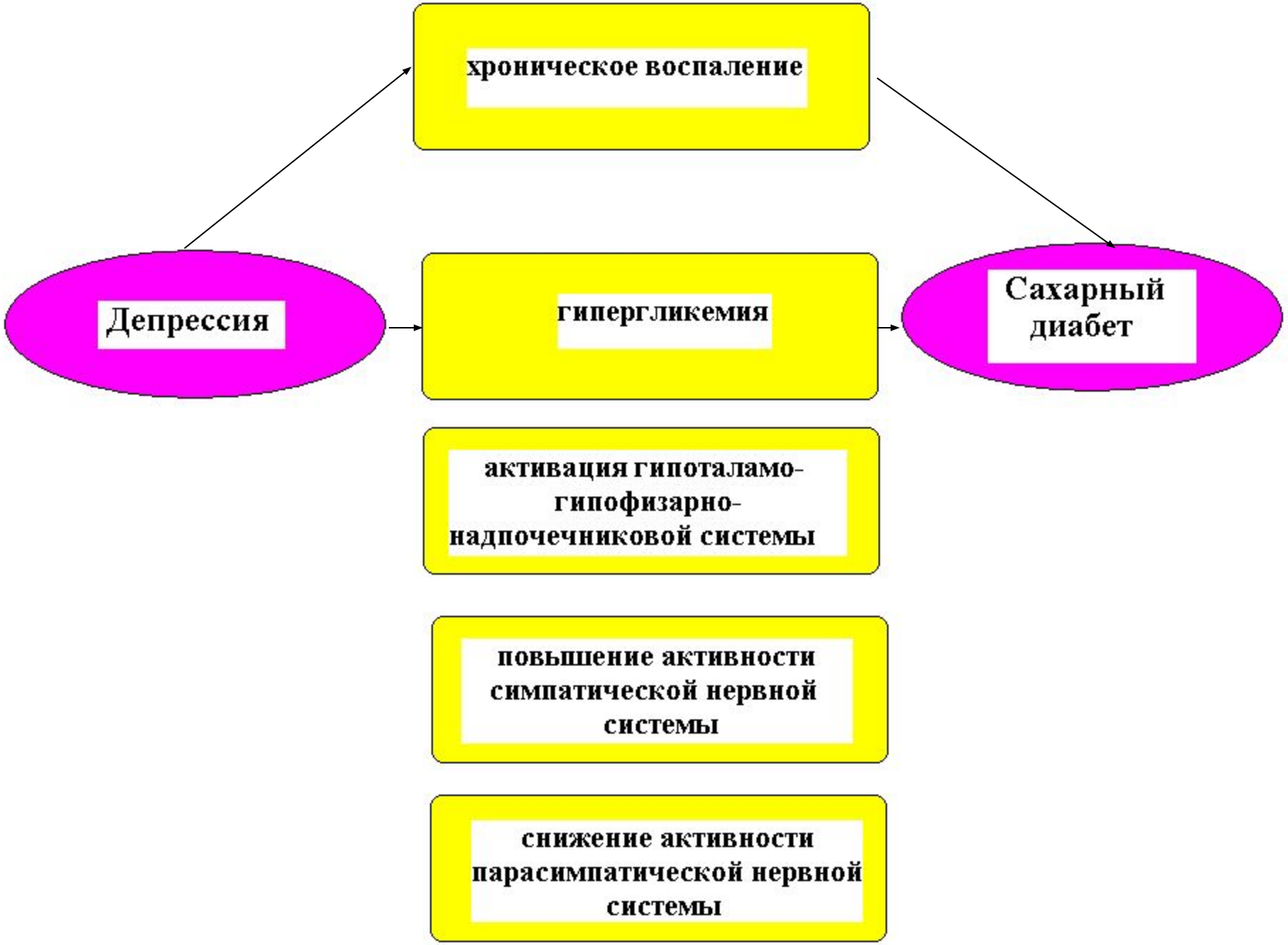
утомляемость, социальная изоляция
уменьшение физической активности


хроническое воспаление
Депрессия
гипергликемия
Сахарный диабет
активация гипоталамо-гипофизарно-надпочечниковой системы
повышение активности симпатической нервной системы
снижение активности парасимпатической нервной системы

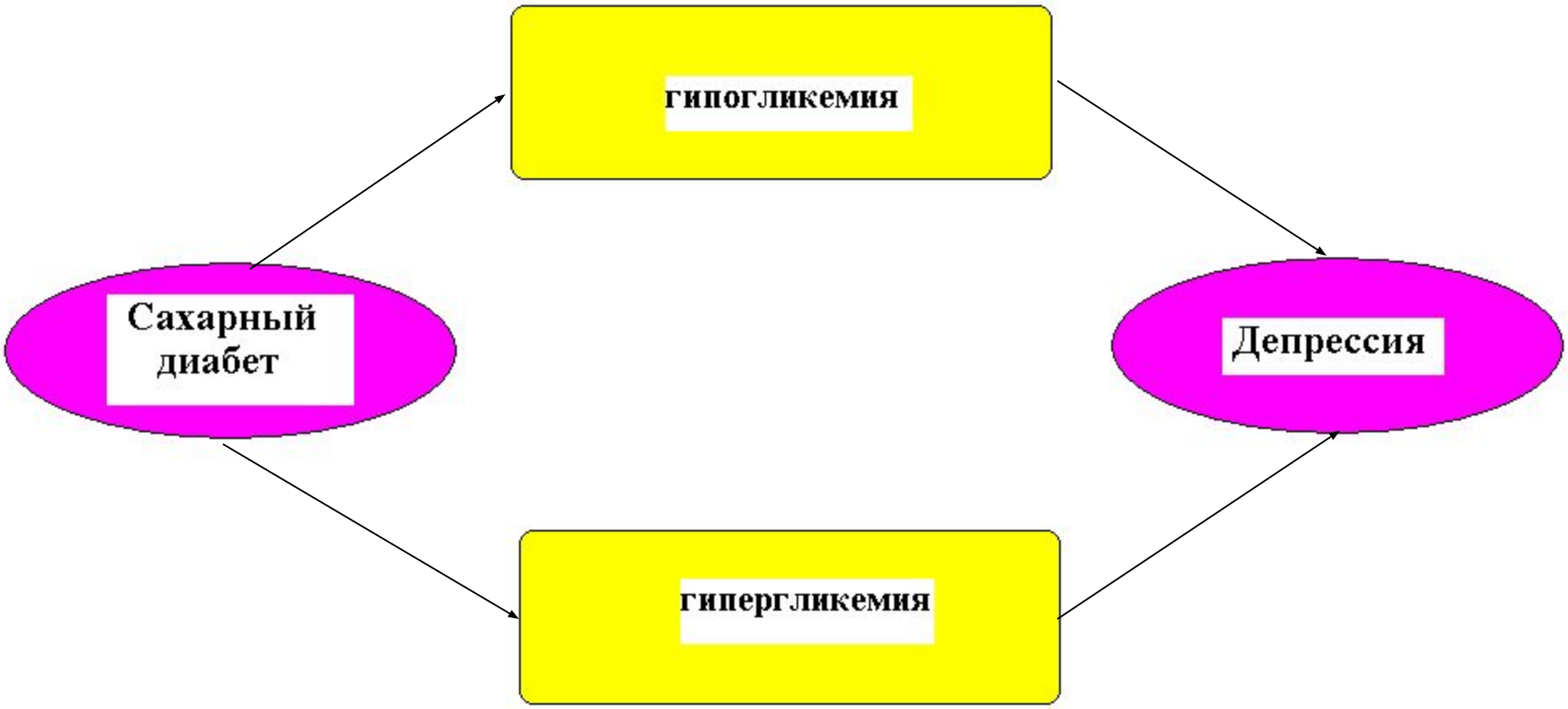
«Депрессия может рассматриваться как независимый модифицируемый фактор риска сахарного диабета 2 типа и развития осложнений и смертности при СД 1 и 2 типов, стоящий в одном ряду с такими факторами риска как возраст, ожирение или низкая физическая активность»

Monique M.W., Ray E.C., Patrick J.L. Treating depression to prevent diabetes and its complications: understanding depression as a medical risk factor. Clinical diabetes. 2006; 24(2):79-86.

Сопутствующие заболевания, повышенный риск развития которых связан с сахарным диабетом

- Нарушение слуха
- Синдром обструктивного апноэ во сне
- Жировая болезнь печени
- Снижение уровня тестостерона у мужчин
- Заболевания пародонта
- Определённые раки
- Переломы
- Когнитивные нарушения
- Депрессия

Standards of medical care in diabetes. American Diabetes Association. 2013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Сахарный диабет
Депрессия
гипергликемия


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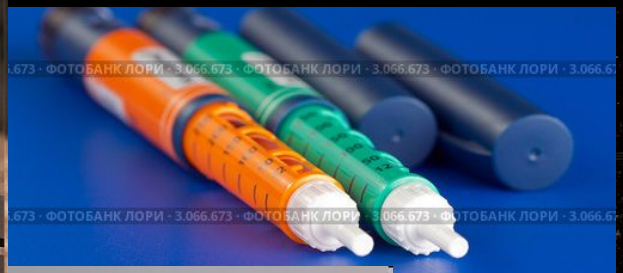



HELP


INSULIN


vsetke.ru

- *Беспокоило ли Вас чувство безнадёжности или беспомощности в течение последнего месяца?*

- *Можно ли сказать, что в течение последнего месяца Вас часто беспокоило отсутствие интереса или удовольствия от какой-либо деятельности?*

Lloyd C. The effects of diabetes on depression and depression on diabetes. Diabetes voice. 2008. 53 (1): 23-26

Анкета о состоянии здоровья (PHQ-9)

Как часто за последние 2 недели Вас беспокоили следующие проблемы? *(Выбранный ответ отметьте значком "✔")*	Ни разу	Несколько дней	Более половины всех дней	Почти каждый день
1. Вам было не очень интересно или не очень нравилось что-либо делать	0	1	2	3
2. Вы грустили, были подавлены или испытывали чувство безысходности	0	1	2	3
3. Вам было трудно заснуть, у Вас был прерывистый сон, или Вы слишком много спали	0	1	2	3
4. Вы были утомлены, или у Вас было мало сил	0	1	2	3
5. У Вас был плохой аппетит, или Вы переедали	0	1	2	3
6. Вы плохо о себе думали – Вы считали себя неудачником (неудачницей) или были в себе разочарованы, или считали, что подвели свою семью	0	1	2	3
7. Вам было трудно сосредоточиться, например, на чтении газеты или на просмотре телепередач	0	1	2	3
8. Вы двигались или говорили настолько медленно, что окружающие могли бы это заметить? Или наоборот, Вы были настолько суетливы или взбудоражены, что передвигались гораздо больше обычного	0	1	2	3
9. Вас посещали мысли о том, что Вам лучше было бы умереть, или о том, чтобы причинить себе какой-нибудь вред	0	1	2	3

Если Вы отметили хотя бы одну проблему, то насколько эти проблемы затруднили Вам выполнение работы, общение с людьми или жизнь в целом?

Совсем не трудно	Немного трудно	Очень трудно	Чрезвычайно трудно
☐	☐	☐	☐

Общий балл	Выраженность депрессии
1-4	Минимальная депрессия
5-9	Легкая депрессия
10-14	Умеренная депрессия
15-19	Тяжелая депрессия
20-27	Крайне тяжелая депрессия

Diabetes and depression: Global perspectives. Egede L.E., Ellis C. Diabetes Res Clin Pract. 2010.87(3):302-12

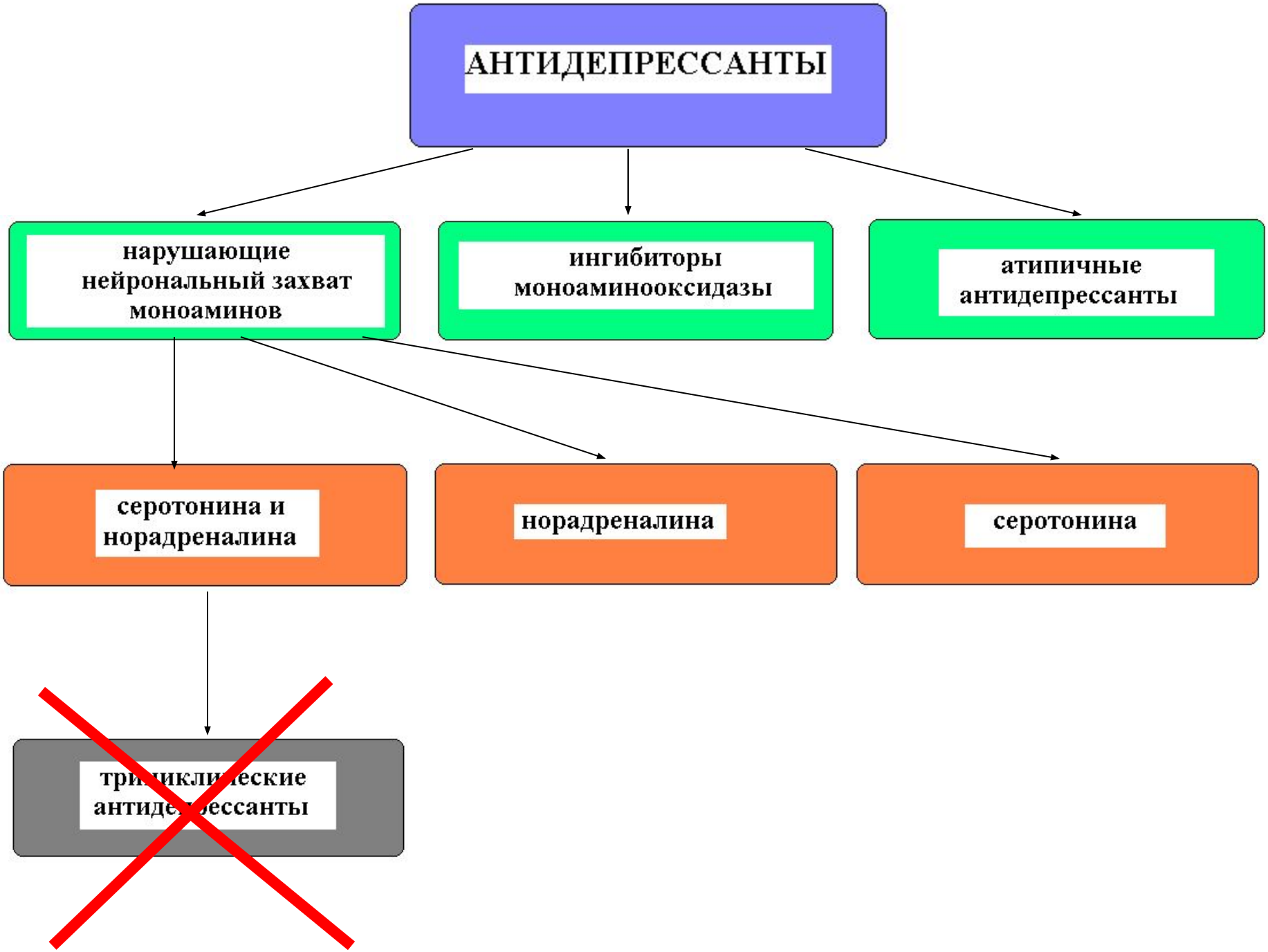
Диагностика депрессии

- депрессивное настроение;
- значительное уменьшение интереса или удовольствия от повседневной деятельности;
- значительная потеря/увеличение веса;
- инсомния/гиперсомния;
- психомоторное возбуждение/заторможенность;
- утомление;
- чувство никчёмности/чрезмерной вины;
- трудности в концентрации/принятии решений;
- повторяющиеся мысли о смерти/суициде.

Diabetes and depression: Global perspectives. Egede L.E., Ellis C. Diabetes Res Clin Pract. 2010;87(3):302-12

Соблюдение диеты

Соблюдение рекомендаций по физической активности


АНТИДЕПРЕССАНТЫ
нарушающие нейрональный захват моноаминов
ингибиторы моноаминооксидазы
атипичные антидепрессанты
серотонина и норадреналина
норадреналина
серотонина
трициклические антидепрессанты

Fluoxetine for Depression in Diabetes

A randomized double-blind placebo-controlled trial

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OBJECTIVE— Depression is prevalent in patients with diabetes. It is associated with poor glycemic control and is linked to an increased risk for diabetic complications. In this study, we assessed the efficacy of fluoxetine for depression in patients with diabetes.

RESEARCH DESIGN AND METHODS— Sixty patients with diabetes (type 1, $n = 26$; type 2, $n = 34$) and major depressive disorder entered an 8-week randomized placebo-controlled double-blind trial. Patients were given daily doses of fluoxetine (up to 40 mg/day). The Beck Depression Inventory (BDI) and Hamilton Rating Scale for Depression (HAMD) were used to measure the severity of depression and to determine the percentage of patients who achieved substantial improvement or complete remission. GHb levels were obtained to monitor glycemic control.

RESULTS— Reduction in depression symptoms was significantly greater in patients treated with fluoxetine compared with those receiving placebo (BDI, −14.0 vs. −8.8, $P = 0.03$; HAMD, −10.7 vs. −5.2, $P = 0.01$). The percentage of patients achieving a significant improvement in depression per the BDI was also higher in the fluoxetine group (66.7 vs. 37.0%, $P = 0.03$). Additionally, trends toward a greater rate of depression remission (48.1 vs. 25.9%, $P = 0.09$ per the HAMD) and greater reduction in GHb (−0.40 vs. −0.07%, $P = 0.13$) were observed in the fluoxetine group.

CONCLUSIONS— Fluoxetine effectively reduces the severity of depression in diabetic patients. Our study demonstrated that after only 8 weeks, this treatment also produced a trend toward better glycemic control.

Diabetes Care 23:618–623, 2000

Major depressive disorder is present in 15–20% of patients with type 1 or type 2 diabetes (1) and has implications that exceed its recognized adverse effects on daily functioning and quality of life (2–4). Depression has been associated with poor compliance with the diabetes regimen (5,6), poor glycemic control (7–15), and an increased risk for micro- and macrovascular complications (16–19). It is not known, however, whether these associations can be altered by the successful treatment of depression.

In general, little is known about the efficacy of antidepressant pharmacotherapy in diabetic patients. Nortriptyline hydrochloride, a secondary amine tricyclic antidepressant, is the only agent previously tested in a placebo-controlled trial with diabetic patients (20). Reduction in depression symptoms was significantly greater in patients treated with nortriptyline compared with those receiving placebo, but the drug had significant adverse effects on glycemic control. Path analysis, controlling for opposing effects, showed that improvement in depression had a clinically significant benefit on glycemic control: depression remission was associated with a 0.8–1.2% reduction in glycated hemoglobin over the 8-week study period (20,21).

Hyperglycemia has not been reported in patients treated with newer classes of antidepressant agents such as the selective serotonin reuptake inhibitors (SSRIs) (22,23). The efficacy of fluoxetine hydrochloride, the first SSRI available in the U.S., for treating depression in healthy patients has been established in a number of controlled clinical trials (24–26), but its usefulness in diabetic patients has been unknown. Tollefson et al. (27) found that fluoxetine was less effective in patients over age 60, which might, the study suggested, partially result from more comorbid medical illness in this age group. The efficacy of depression treatment may be limited by lifestyle restrictions, pain, impairment, and disability—realities that often accompany advancing diabetes (20,21). This study was designed to determine the antidepressant efficacy of fluoxetine in diabetic patients with major depressive disorder. A secondary aim was to study the effects of treatment and depression improvement on glycemic control.

RESEARCH DESIGN AND METHODS

Patients

A study to determine the usefulness of fluoxetine for depression in diabetic patients was reviewed and approved by the Human Studies Committee of Washington University School of Medicine. The study was publicized within the Washington University Medical Center community and through various advertisements in the St. Louis, Missouri, metropolitan area. Patients with type 1 or type 2 diabetes who were 21–65 years of age were eligible to participate, provided they were able to give informed consent and answer questions and fill out research forms on their own. Patients were required to meet diagnostic

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Abbreviations: ANCOVA, analysis of covariance; BDI, Beck Depression Inventory; DIS, National Institute of Mental Health Diagnostic Interview Schedule; HAMD, Hamilton Rating Scale for Depression; SSRI, selective serotonin reuptake inhibitor.

A table elsewhere in this issue shows conventional and Système International (SI) units and conversion factors for many substances.

Снижение уровня гликированного гемоглобина при лечении Флуоксетином больных сахарным диабетом в течение 8 недель статистически недостоверно

Когнитивная поведенческая терапия

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Электроконвульсивная терапия