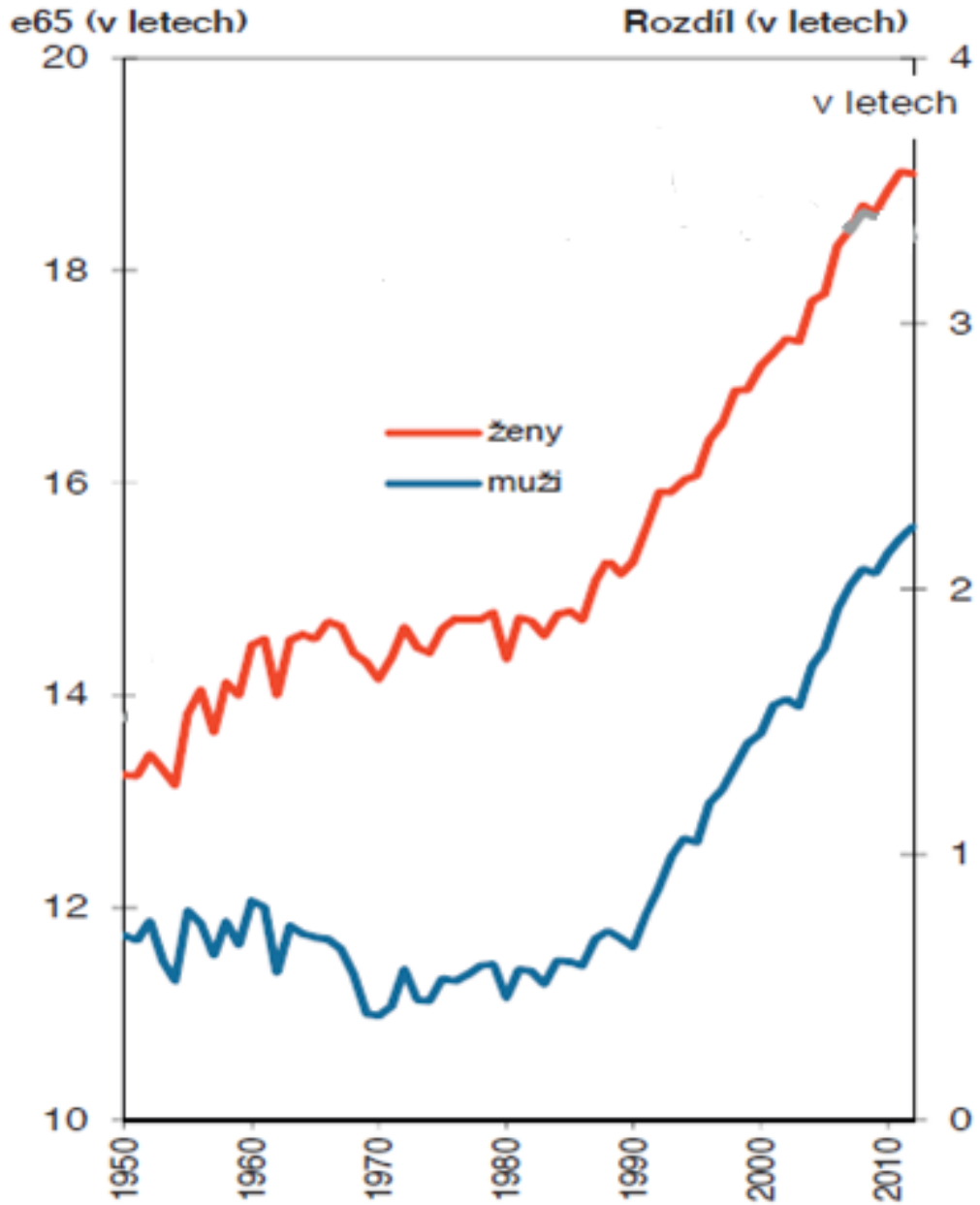
MOŽNOSTI OVLIVNĚNÍ KARDIOVASKULÁRNÍHO RIZIKA U MLADÝCH PACIENTŮ S PREDIABETEM A DIABETEM

Milan Kvapil

Střední délka života

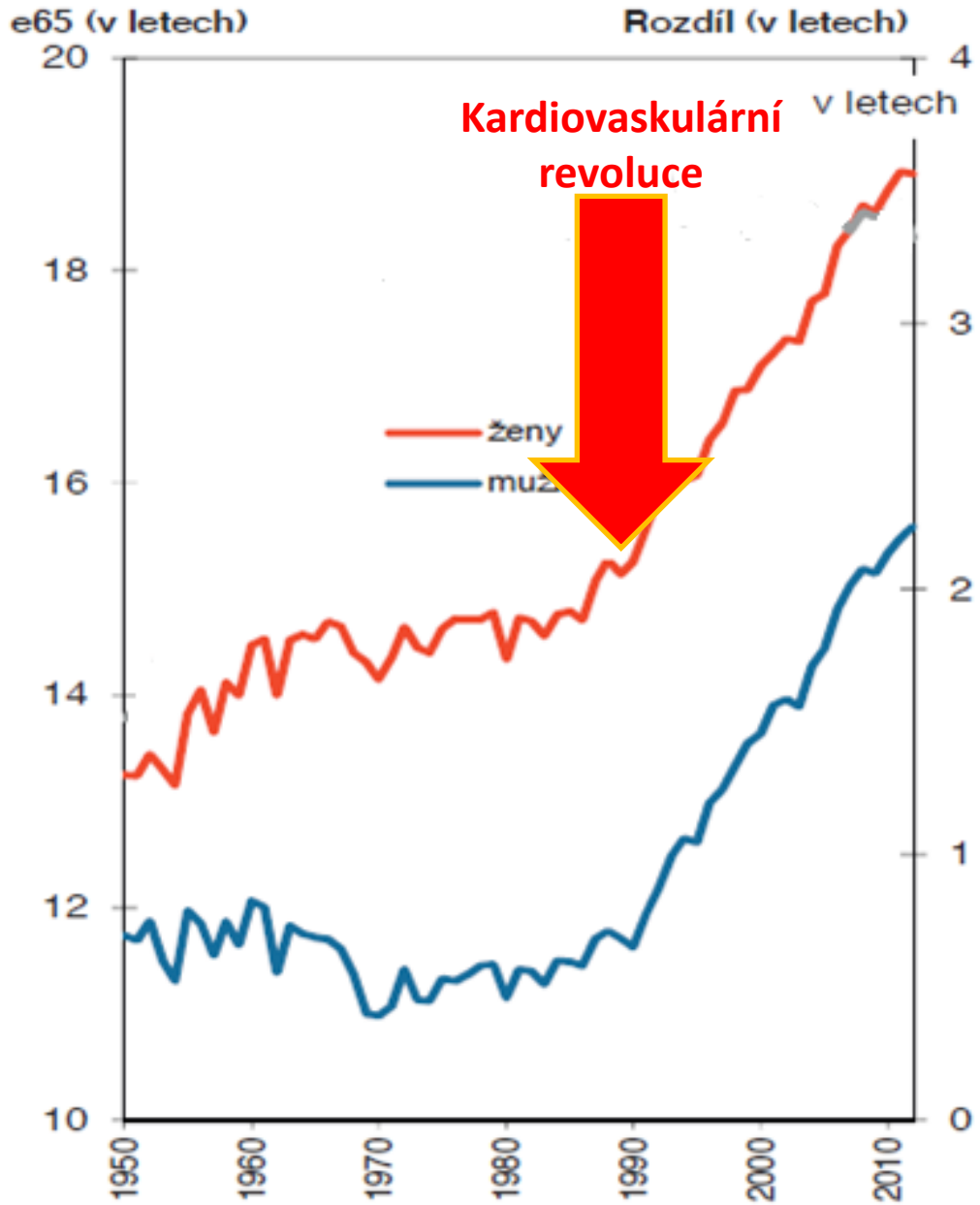
- **Střední délka života neboli naděje dožití je statistický údaj udávající průměrný, tedy předpokládaný, věk, jehož dosahují členové dané populace**



Naděje dožití pro pětašedesátníka

http://www.cyklokonference.cz/cms_soubory/rubriky/208.pdf

Naděje dožití pro pětašedesátníka

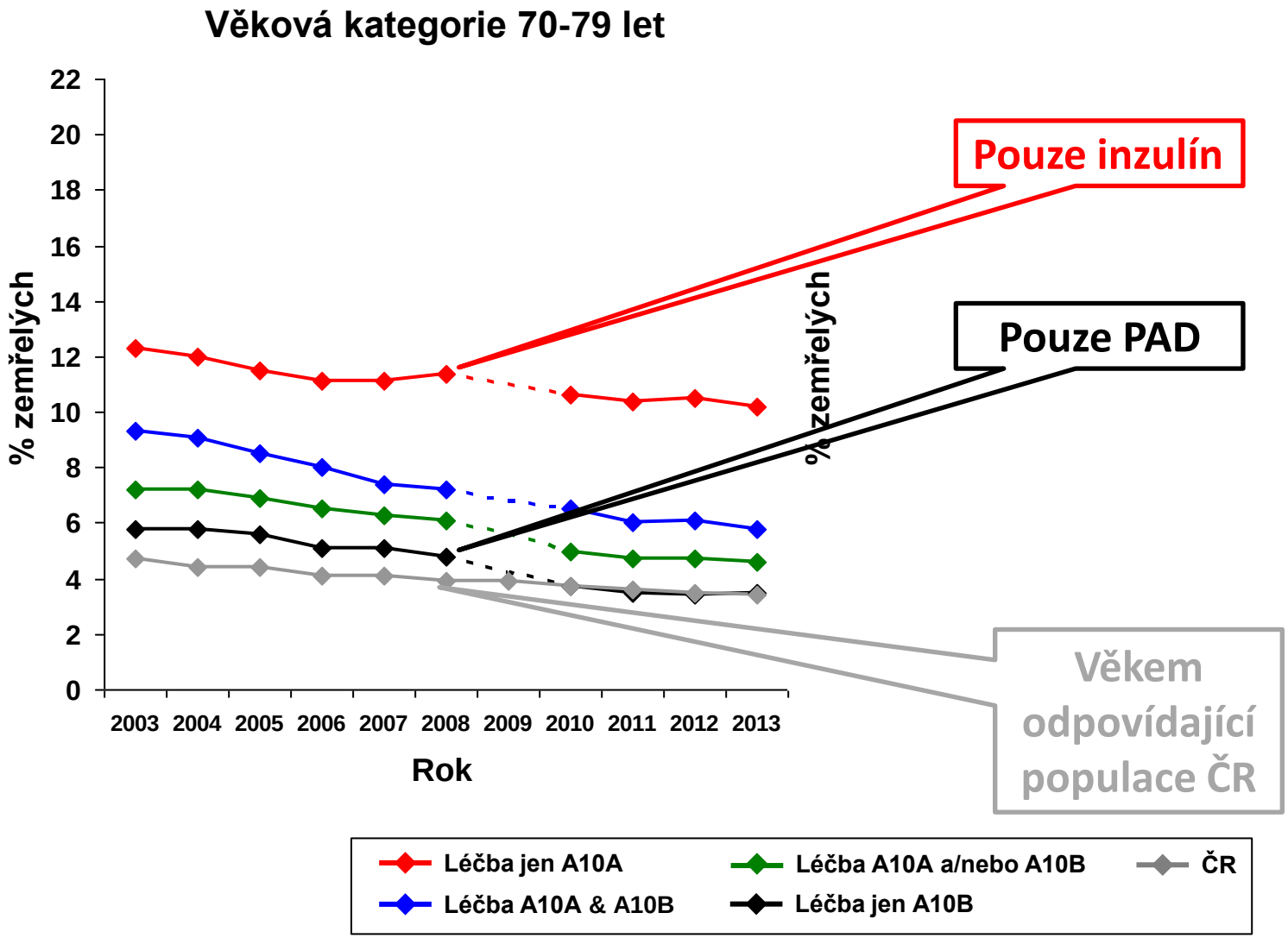


Střední délka života neboli **naděje dožití** je údaj udávající průměrný, (předpokládaný) věk, jehož dosahují členové dané populace

http://www.cyklokonference.cz/cms_soubory/rubriky/208.pdf

Vývoj celkové mortality pacientů se zaznamenanou antidiabetickou terapií v letech 2003–2013 – <u>věkové kategorie 70-79 let</u>

Pacient je do jedné ze čtyř definovaných skupin přiřazen vždy na základě zaznamenané terapie jak v daném roce tak i v roce předcházejícím. Tedy pro přiřazení pacienta do určité skupiny je nutné, aby měl pacient záznam o dané terapii alespoň v jednom z těchto dvou let.



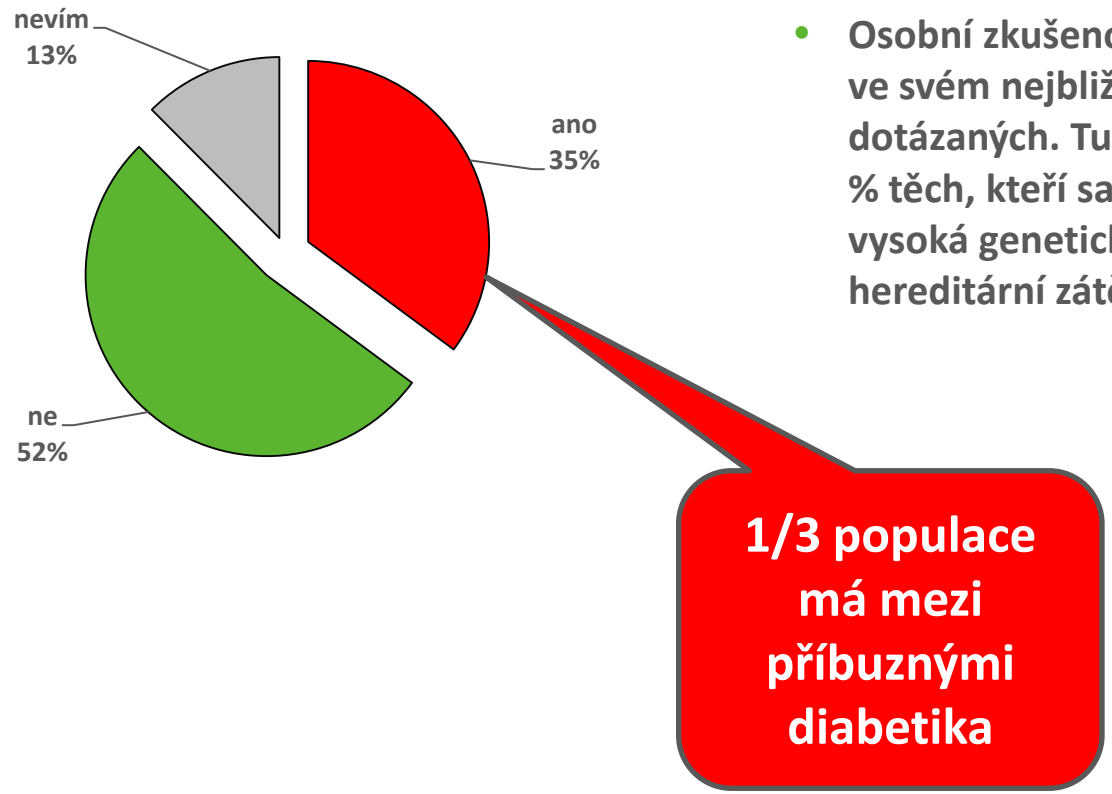
Zdroj: data VZP

Genetická predeterminace
a
patofyziologie

Výskyt onemocnění diabetem mellitus

Q4) Trpí někdo z Vašich blízkých pokrevních příbuzných, jako jsou rodiče, prarodiče, sourozenci diabetem neboli cukrovkou?

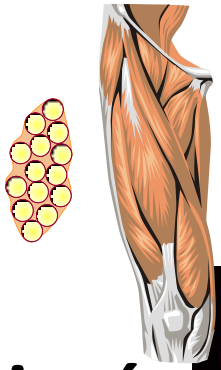
Výskyt diabetu u blízkých pokrevních příbuzných (populace, n=1036, údaje v %)



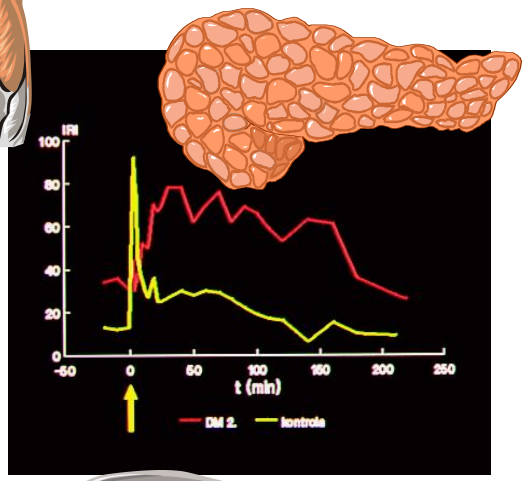
- **Osobní zkušenost s výskytem diabetu mellitus ve svém nejbližším okolí má více než třetina dotázaných. Tuto zkušenost ovšem uvedlo 64 % těch, kteří sami trpí cukrovkou. Je zde tedy vysoká genetická podmíněnost ve smyslu hereditární zátěže.**

Patofyziologie diabetu 2. typu

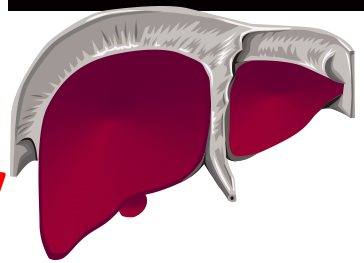
- **inzulínová rezistence**



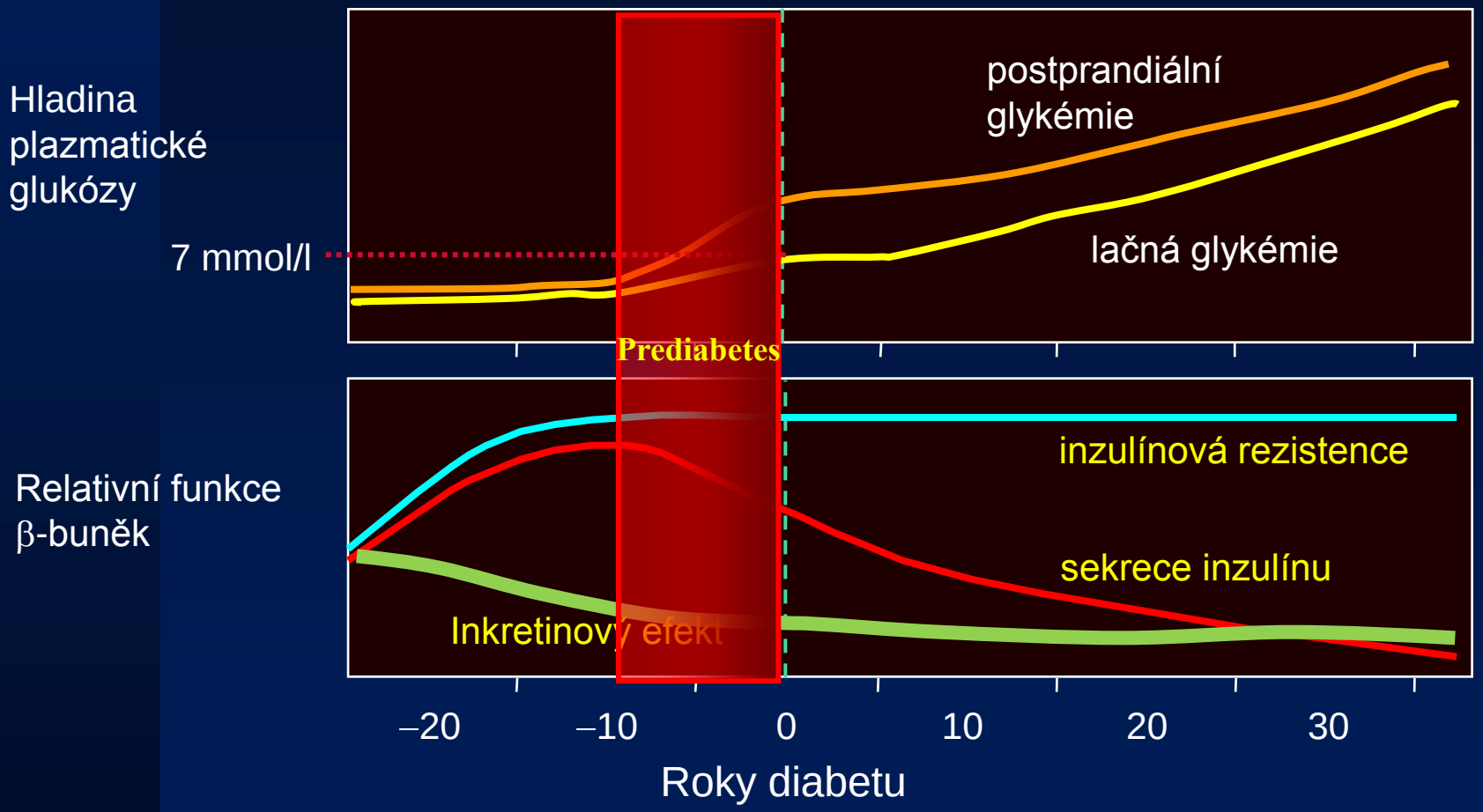
- **kvantitativní a kvalitativní porucha inzulínové sekrece**



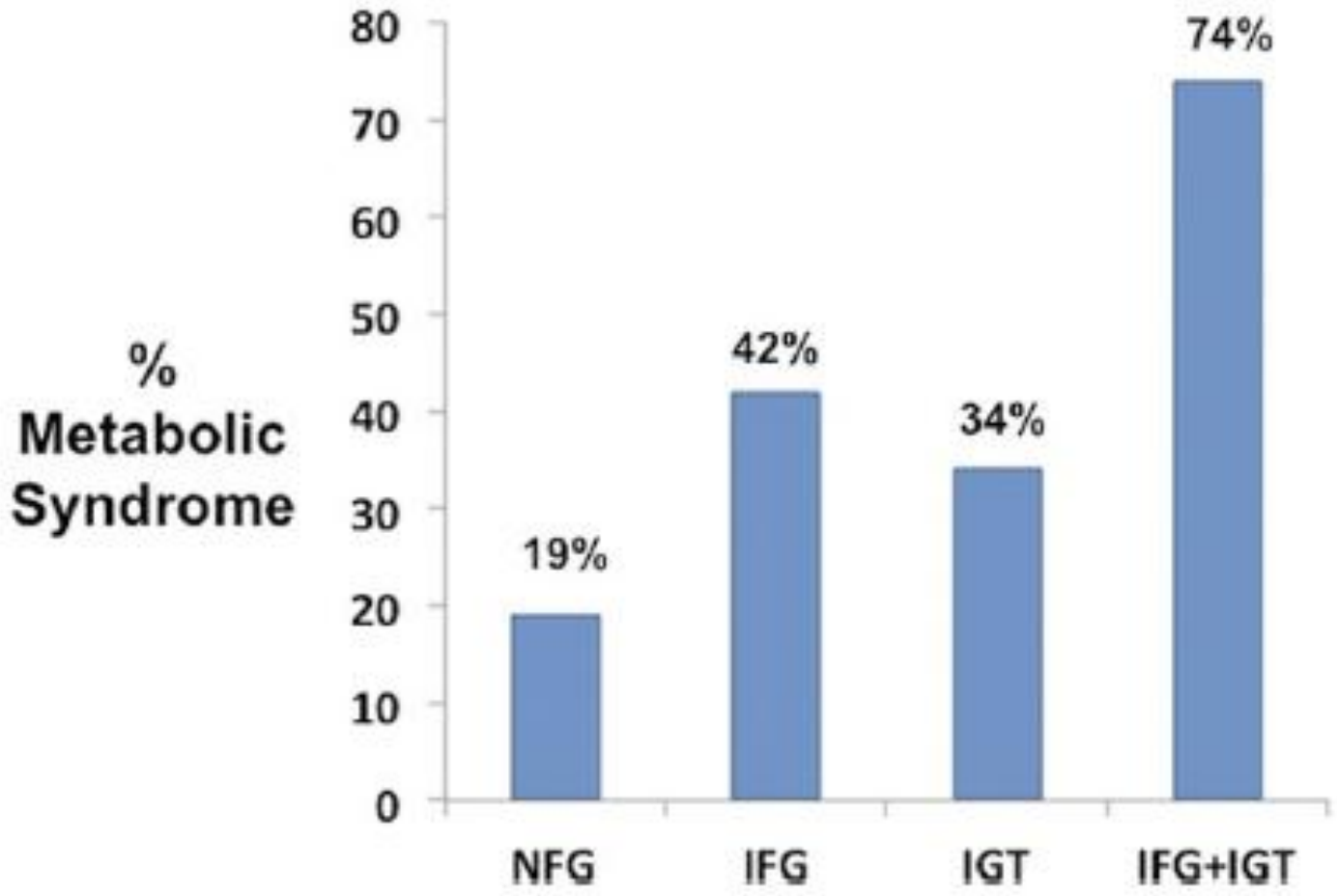
- **insuficientní suprese jaterní produkce glukózy**



Vývoj diabetu 2. typu v čase



Převzato z Mezinárodního diabetického centra (International Diabetes Center (IDC)). Minneapolis, Minnesota.



J Am Coll Cardiol 2012;59:635–43)

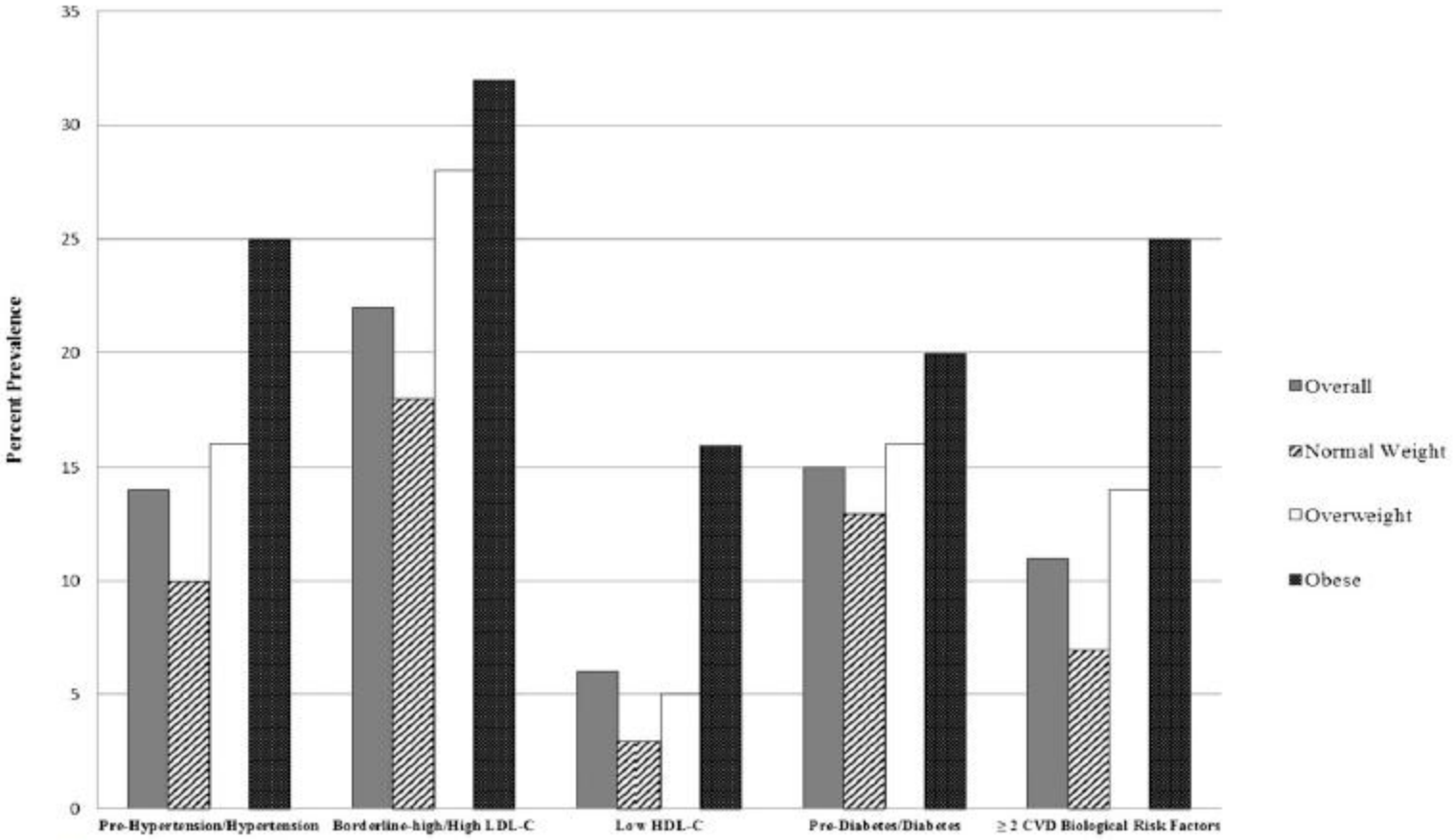
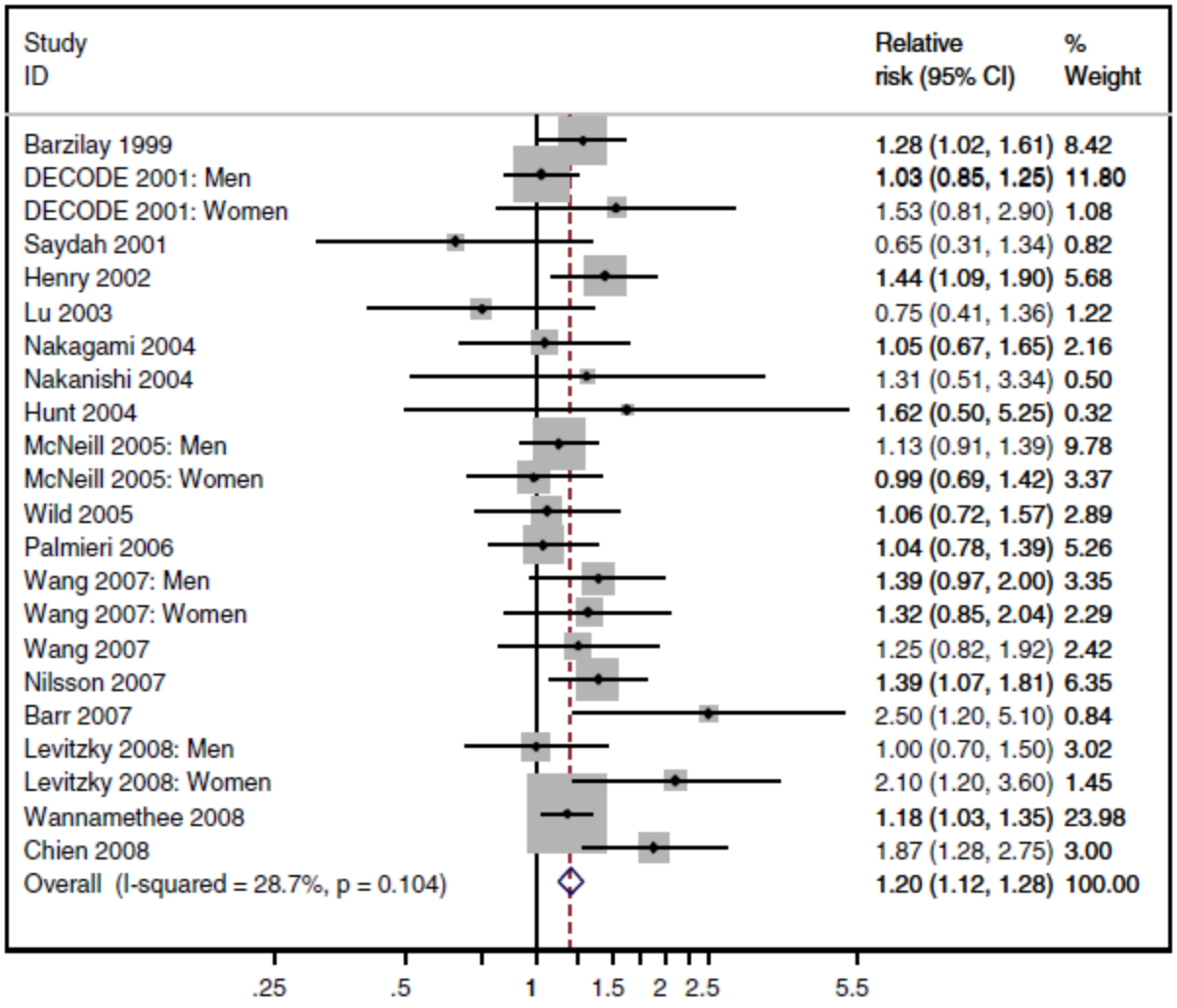


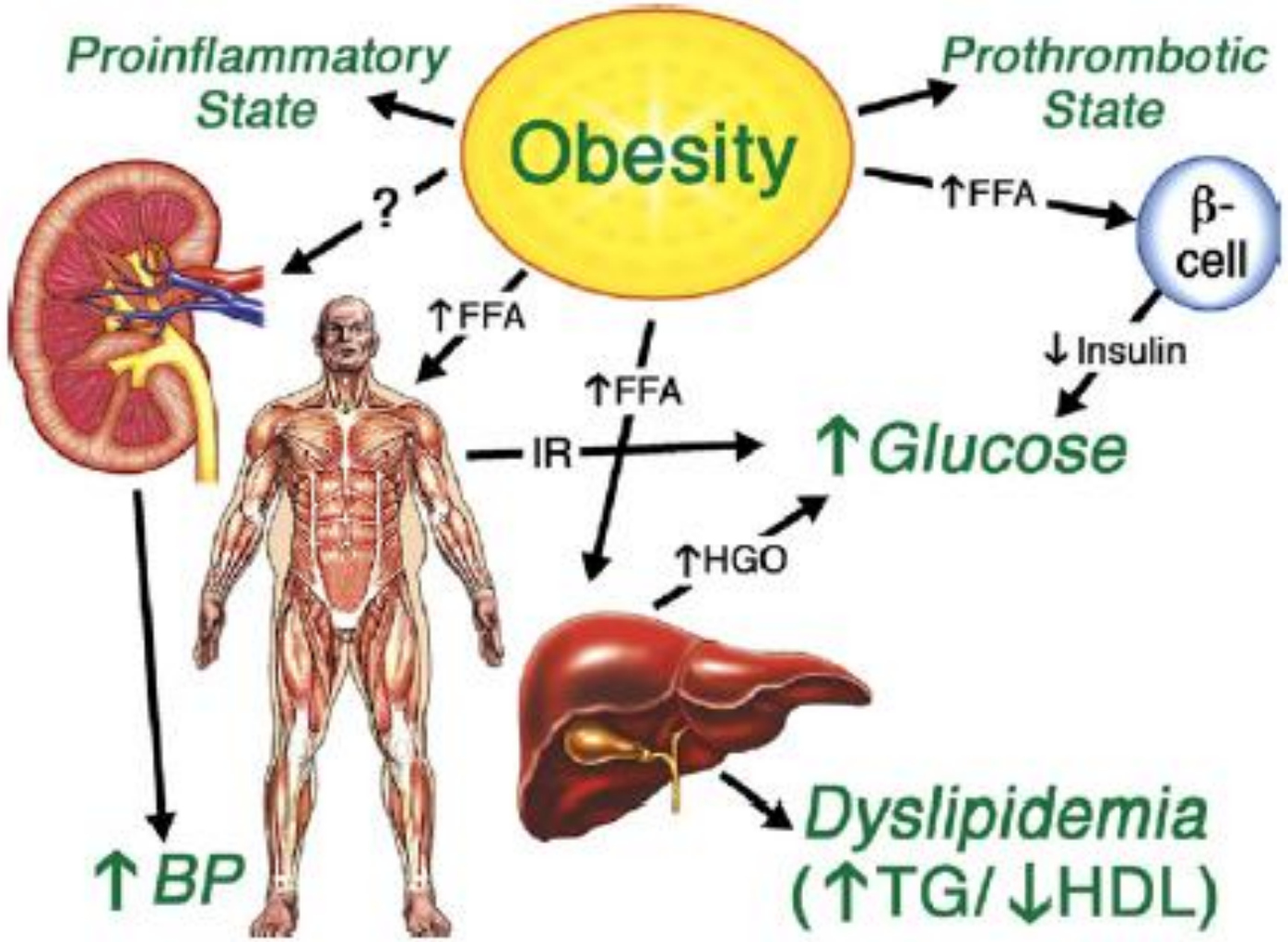
FIGURE 1

Prevalence of CVD risk factors among US adolescents, NHANES 1999–2008 ($N = 3383$). Based on the 2000 Centers for Disease Control gender-specific growth charts for the United States. Available at: www.cdc.gov/growthcharts. Overweight and obesity are defined as having a BMI within the 85th to <95th percentile or ≥95th percentile, respectively. Normal weight was defined as having an age- and gender-specific BMI >5th to <85th percentile.

KV rizika u prediabetu



J Am Coll Cardiol 2010;55:1310–7)



J Am Coll Cardiol 2012;59:635–43)

Možnosti ovlivnění KV rizika

Kantorek, P.: Sebrané vtipy

The association between the built environment and obesity

Ann Yew [1], Danijela Gasevic [2], Scott A. Lear [1,3]

[1]Simon Fraser University, Biomedical Physiology and Kinesiology, Vancouver, Canada
[2]The University of Edinburgh, Usher Institute, Edinburgh, UK
[3]Simon Fraser University, Faculty of Health Sciences, Burnaby, Canada

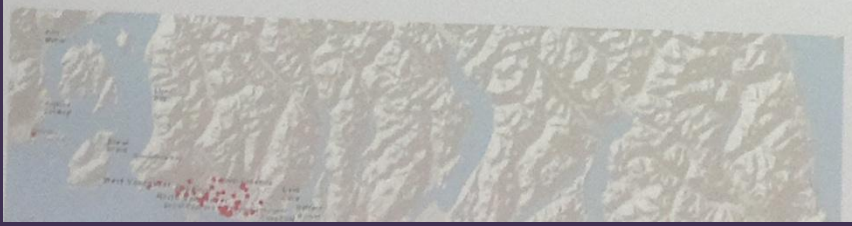
Background

The neighbourhood in which one lives has been implicated as a potential factor in the rapidly rising rates of obesity.[1] Walkability, or the extent to which the built environment encourages walking for recreational or utilitarian purposes, has been found to contribute to lower body mass index (BMI).[2] However, less is known whether this relationship persists after dietary and physical activity behaviours are taken into account.

The purpose of this study was to examine the association between neighbourhood walkability and obesity after controlling for socio-demographics and behavioural characteristics of study participants.

Methods

Participants were part of the Multi-cultural Community Health Assessment Trial (M-CHAT), consisting of 803 adult males and females between 30-65 years of age and of Aboriginal (n=179), Chinese (n=220), European (n=199), and South Asian (n=205) origin, living in the Metro Vancouver Region (Figure 1). Participants were assessed for socio-demographics, height, weight and health-related behaviours. BMI was calculated from weight in kilograms divided by height in metres squared. Participants' residential addresses were manually entered into the online tool WalkScore® to produce a measure of walkability.



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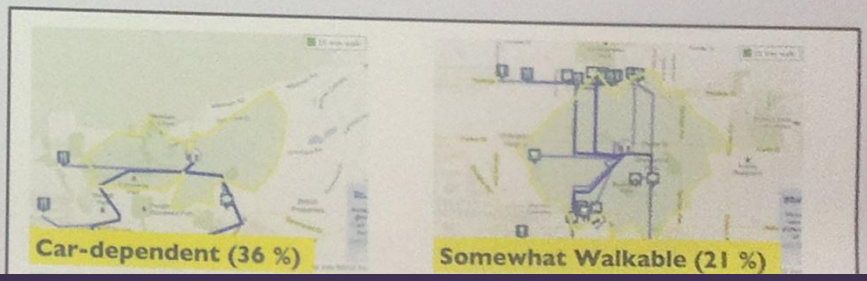
The association between walkability and BMI was assessed by multiple linear regression model adjusted for age, sex, ethnicity, education, smoking status, diet and weekly minutes of physical activity.

Results

Characteristics of study participants are presented in Table 1. The majority of participants (n=293, 36.4%) lived in "car dependent" neighbourhoods; 20.7% (n=166) in "somewhat walkable"; 23.4% (n=188) in "very walkable" neighbourhoods, while the remaining 19.5% (n=156) of participants lived in a "walker's paradise" (Figure 2). Significant differences were found for ethnicity ($\chi^2(9) = 106.0$, $p<0.001$) and smoking status ($\chi^2(3) = 14.235$, $p<0.05$) but there were no significant differences between age, sex, educational attainment, BMI, weekly minutes of total physical activity (natural log-transformed), or total daily caloric intake ($p>0.05$) between the walkability groups.



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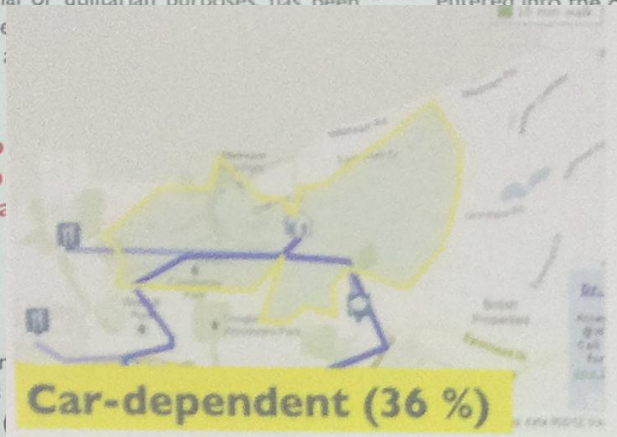
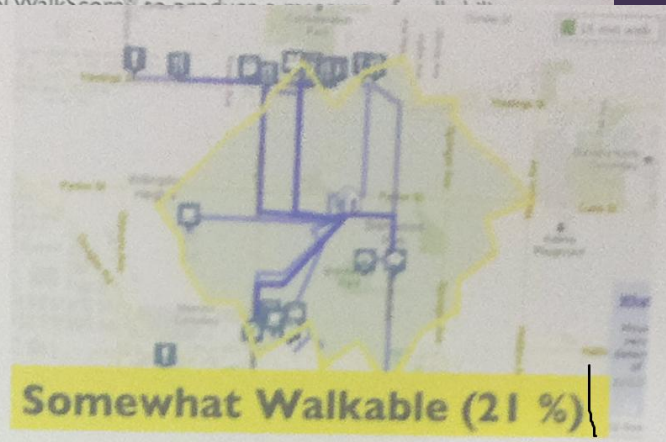
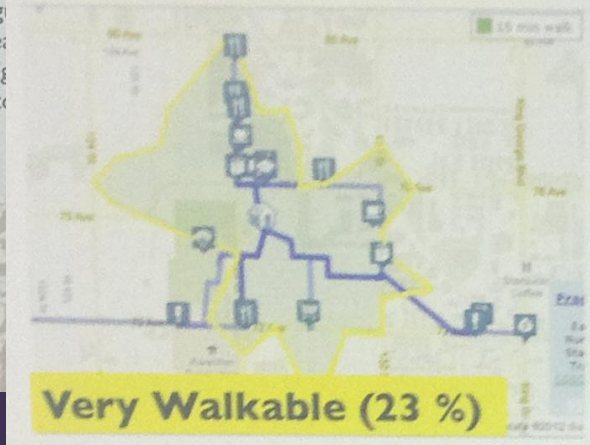
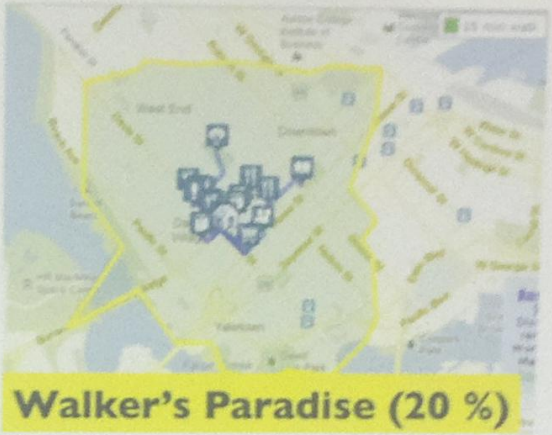
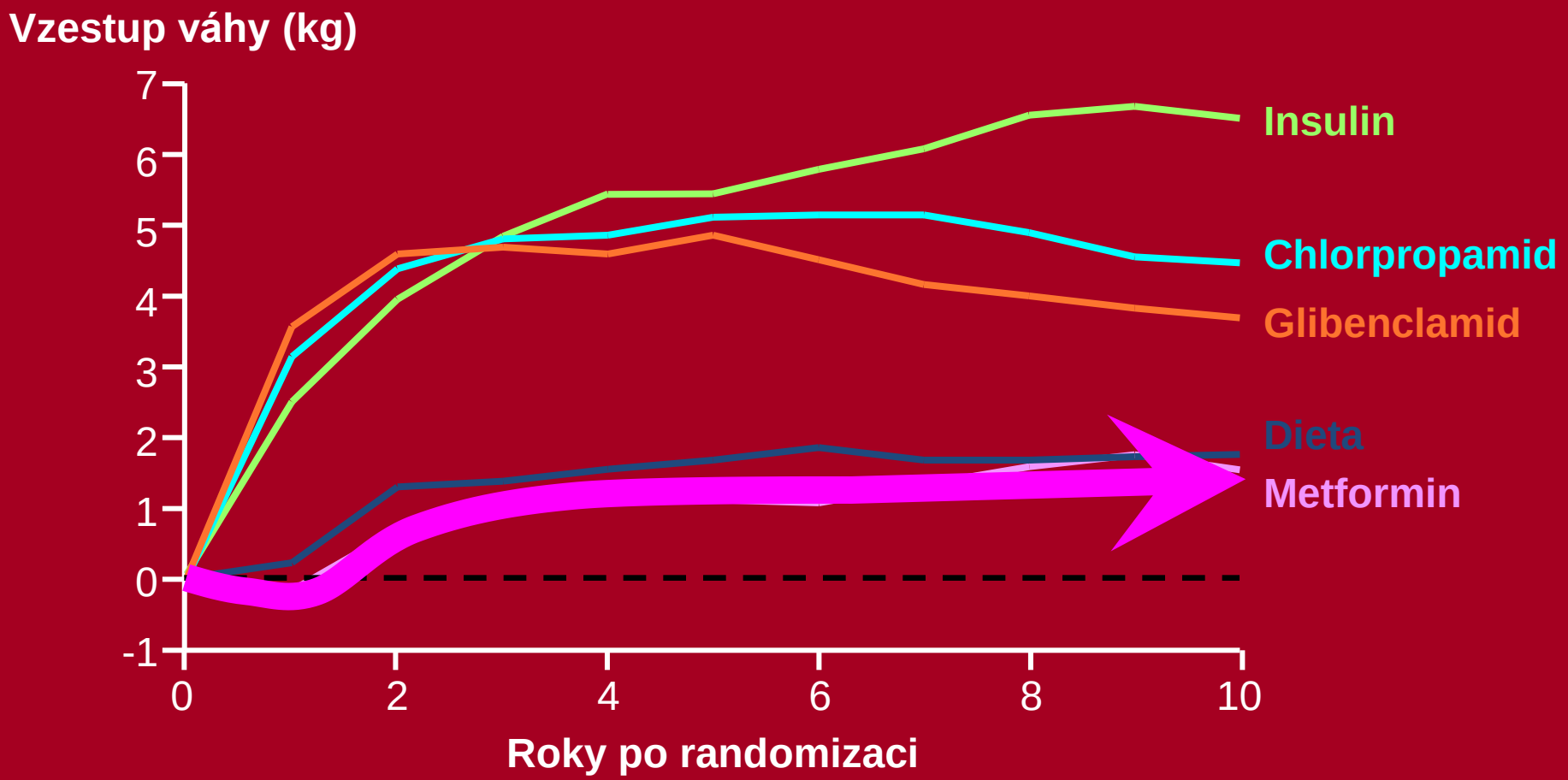




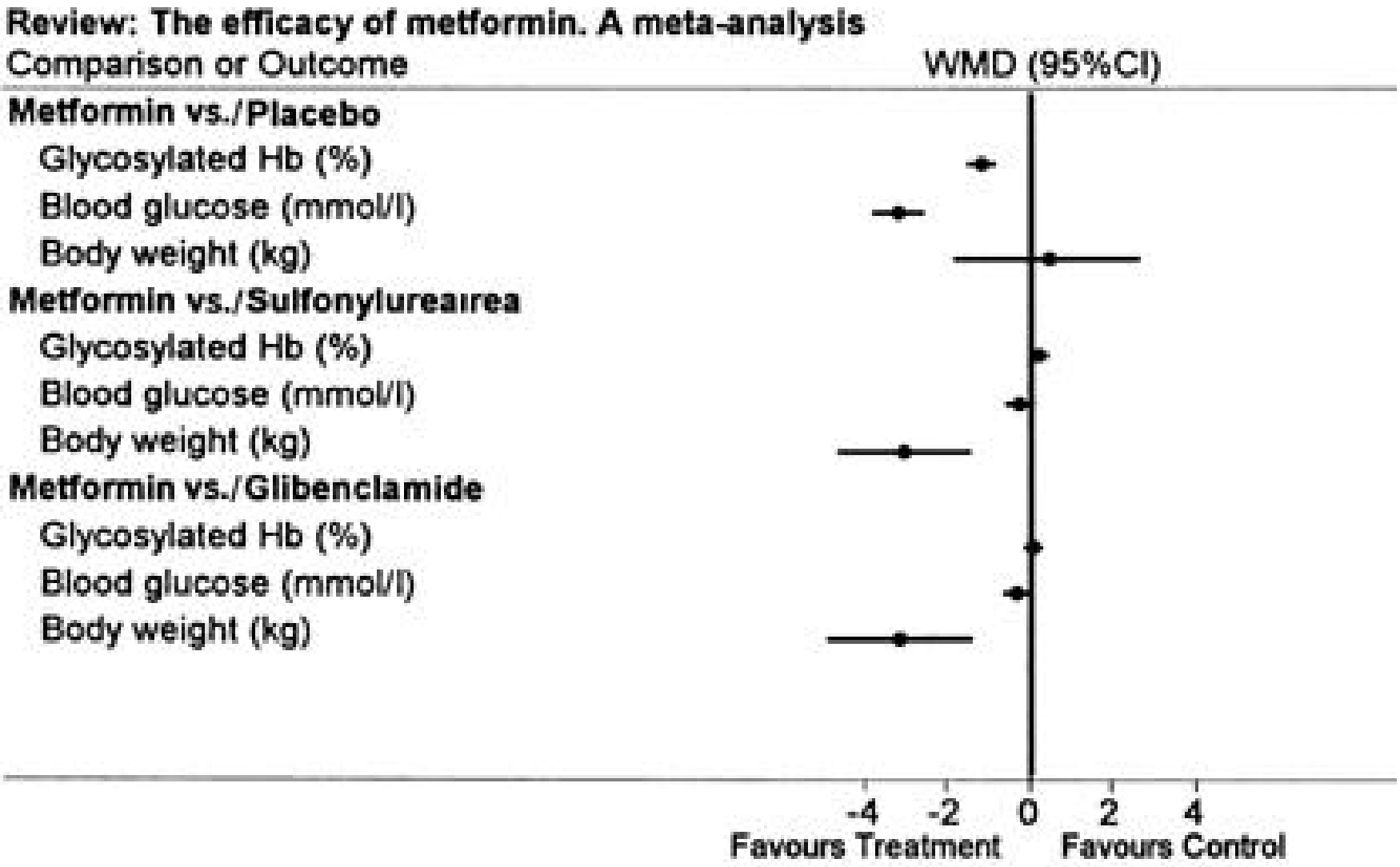




Vývoj hmotnosti v UKPDS



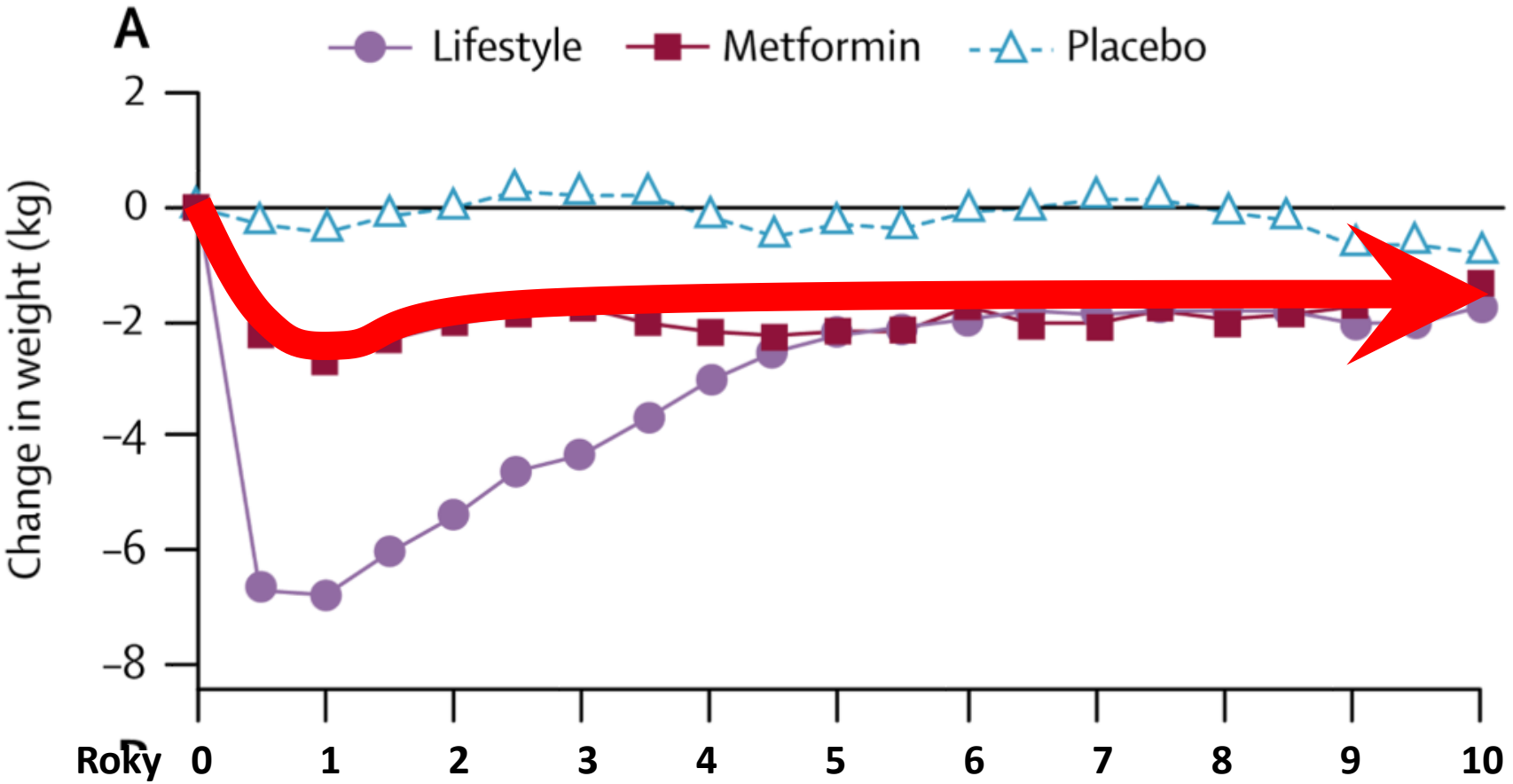
UKPDS 35. BMJ 2000; 321: 405-412.



Rozdíl MET – SU 2,9 kg

Diabetes Care22:33–37, 1999

DPP po 10 letech: vývoj tělesné hmotnosti

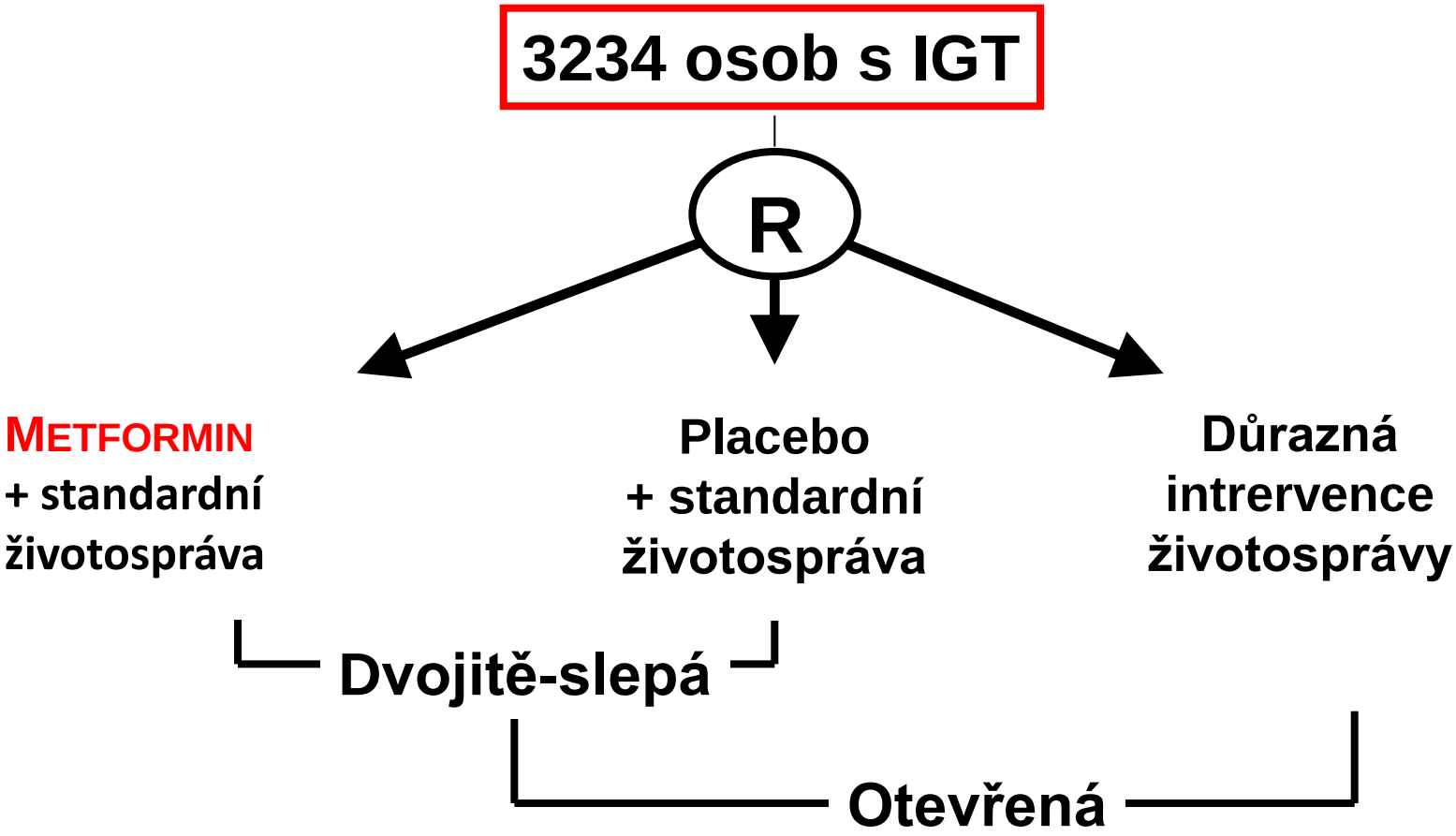


Lancet. 2009; 374(9702): 1677–1686.

DPP

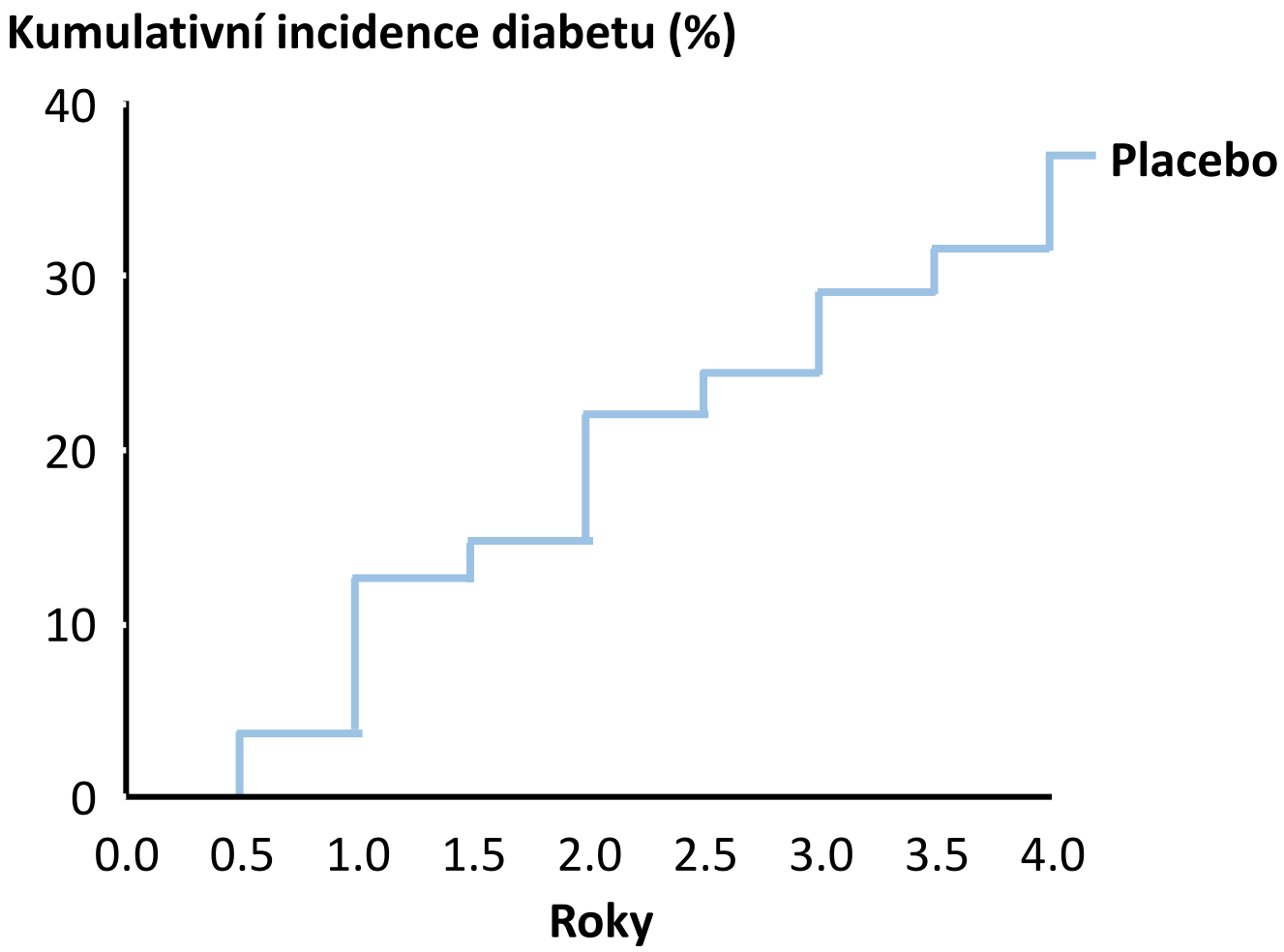
- 3234 osob
- Porušená glukózová tolerance….progrese do DM
- Cíl: posouzení efektivity způsobů intervence
- Intervence:
  - Placebo plus standardní životospráva
  - Metformin (850 mg) plus standardní životospráva
  - Intenzivní změna životosprávy
    - Redukce o 7% vstupní tělesné hmotnosti
    - Střední fyzická aktivita (150 min týdně)
    - Behaviorální komplexní terapie

Knowler WC, N Engl J Med 2002;346:393-403



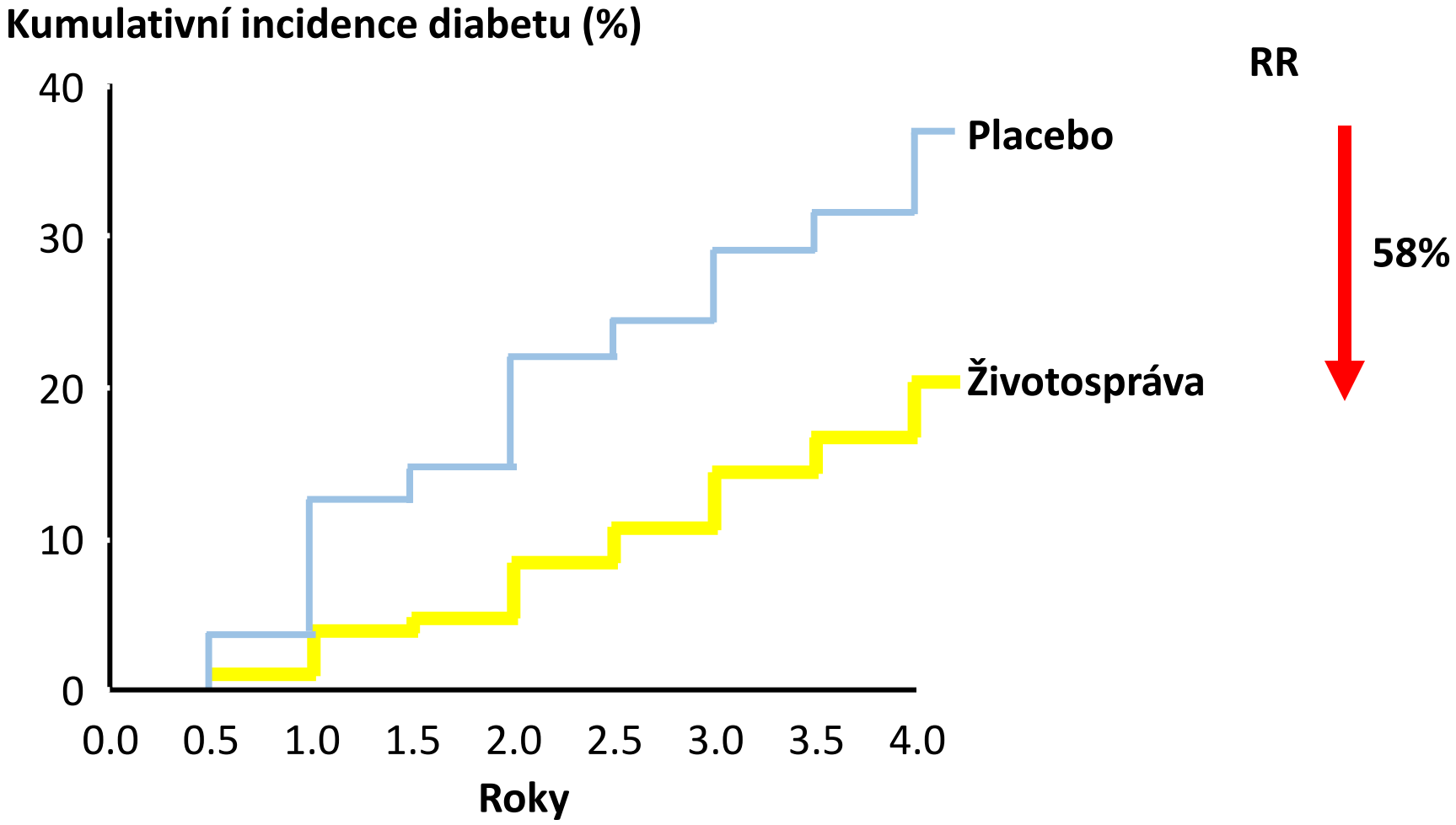
Knowler WC, N Engl J Med 2002;346:393-403

Výsledek: DPP



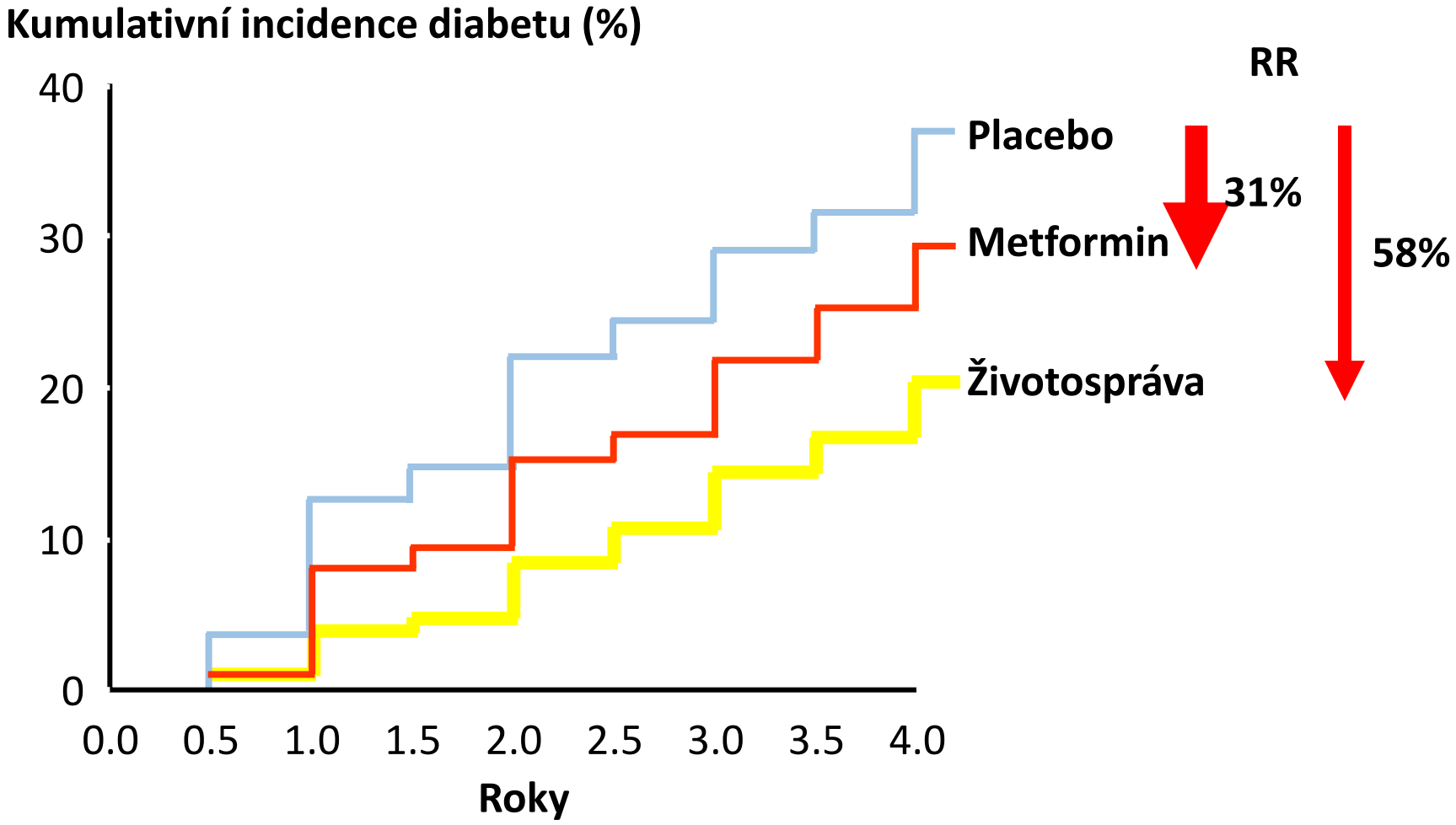
DPP. N Engl J Med 2002; 346: 393-403

Výsledek: DPP



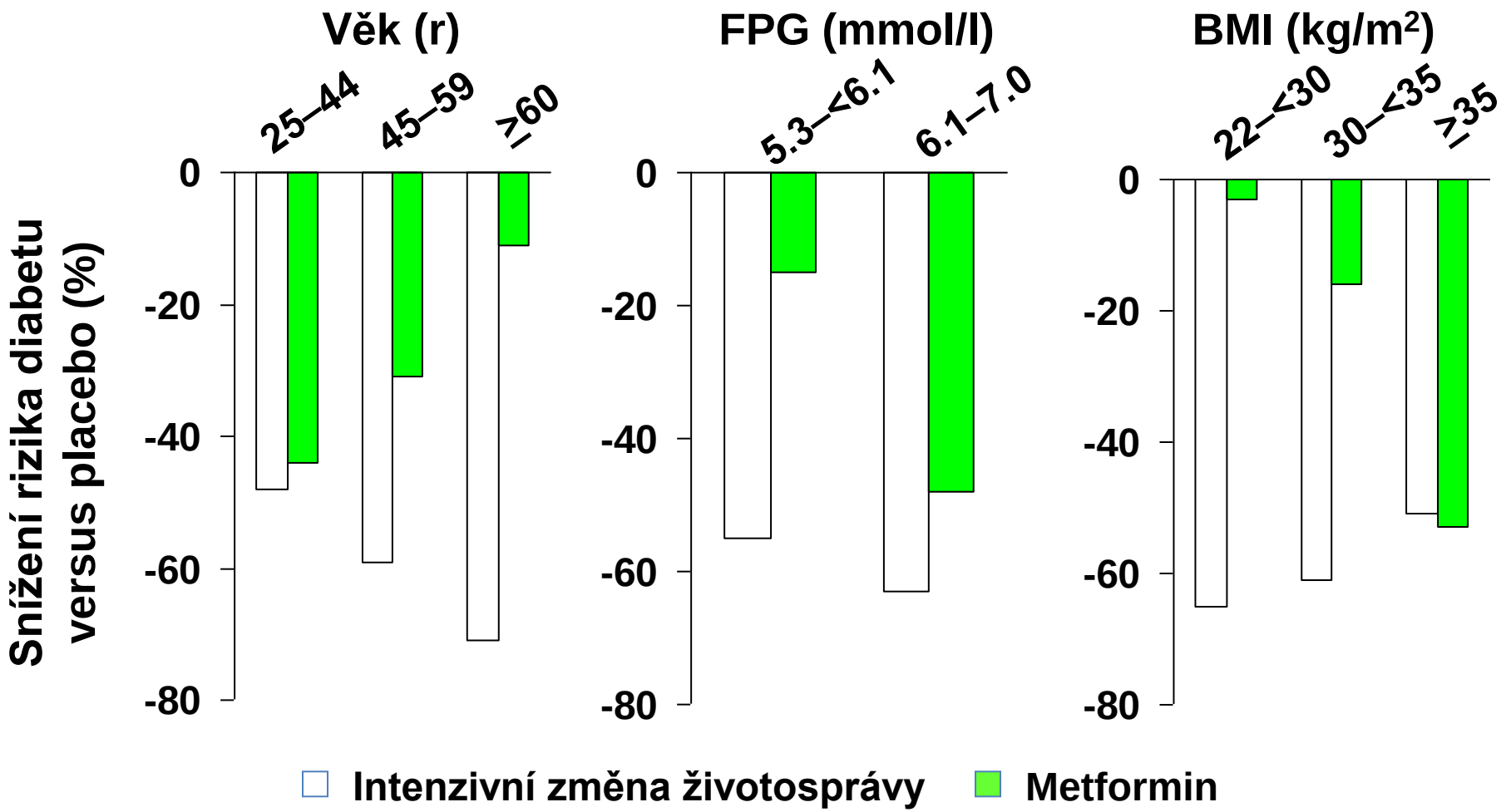
DPP. N Engl J Med 2002; 346: 393-403

Výsledek: DPP



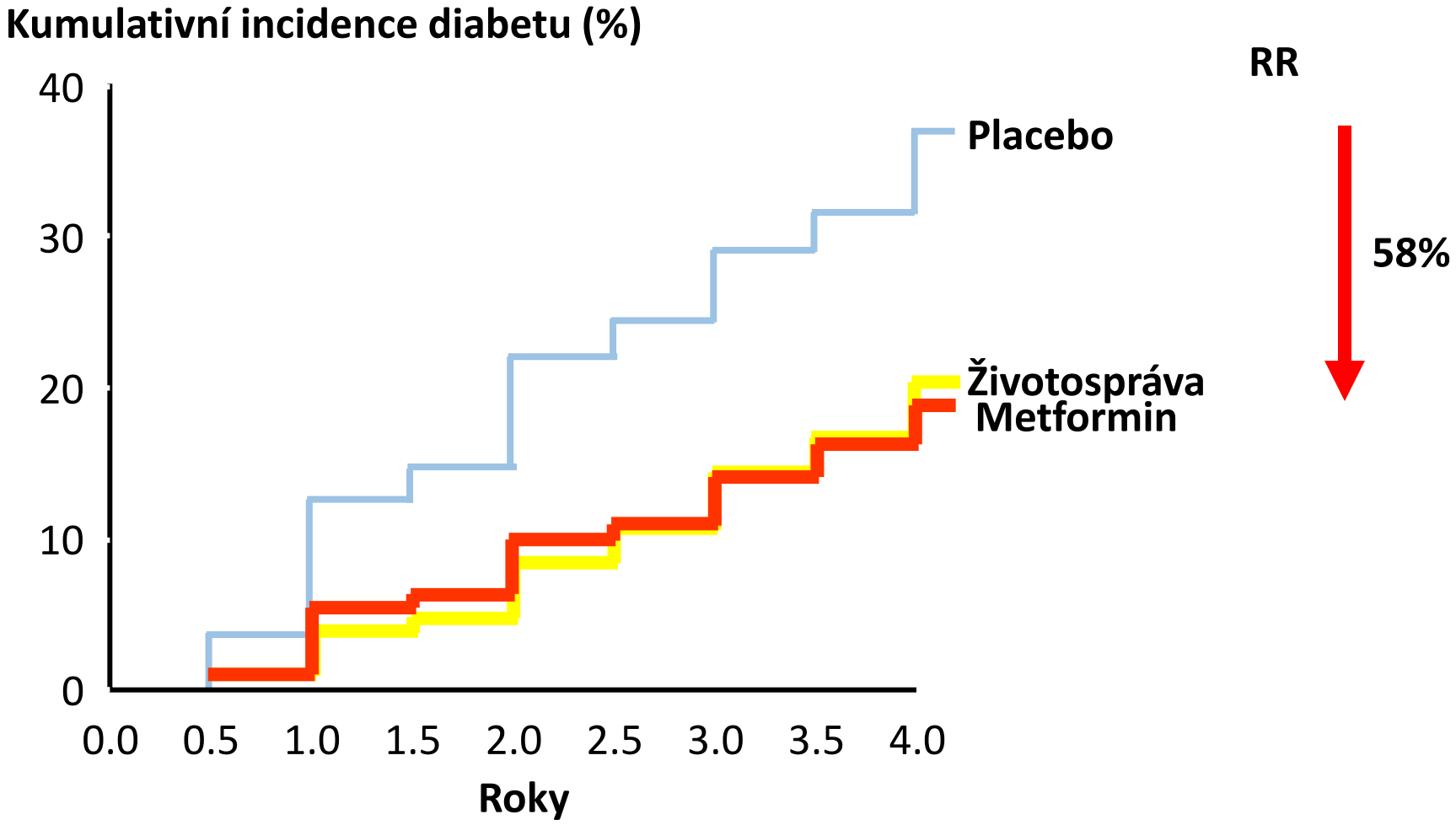
DPP. N Engl J Med 2002; 346: 393-403

Analýza podskupin v DPP



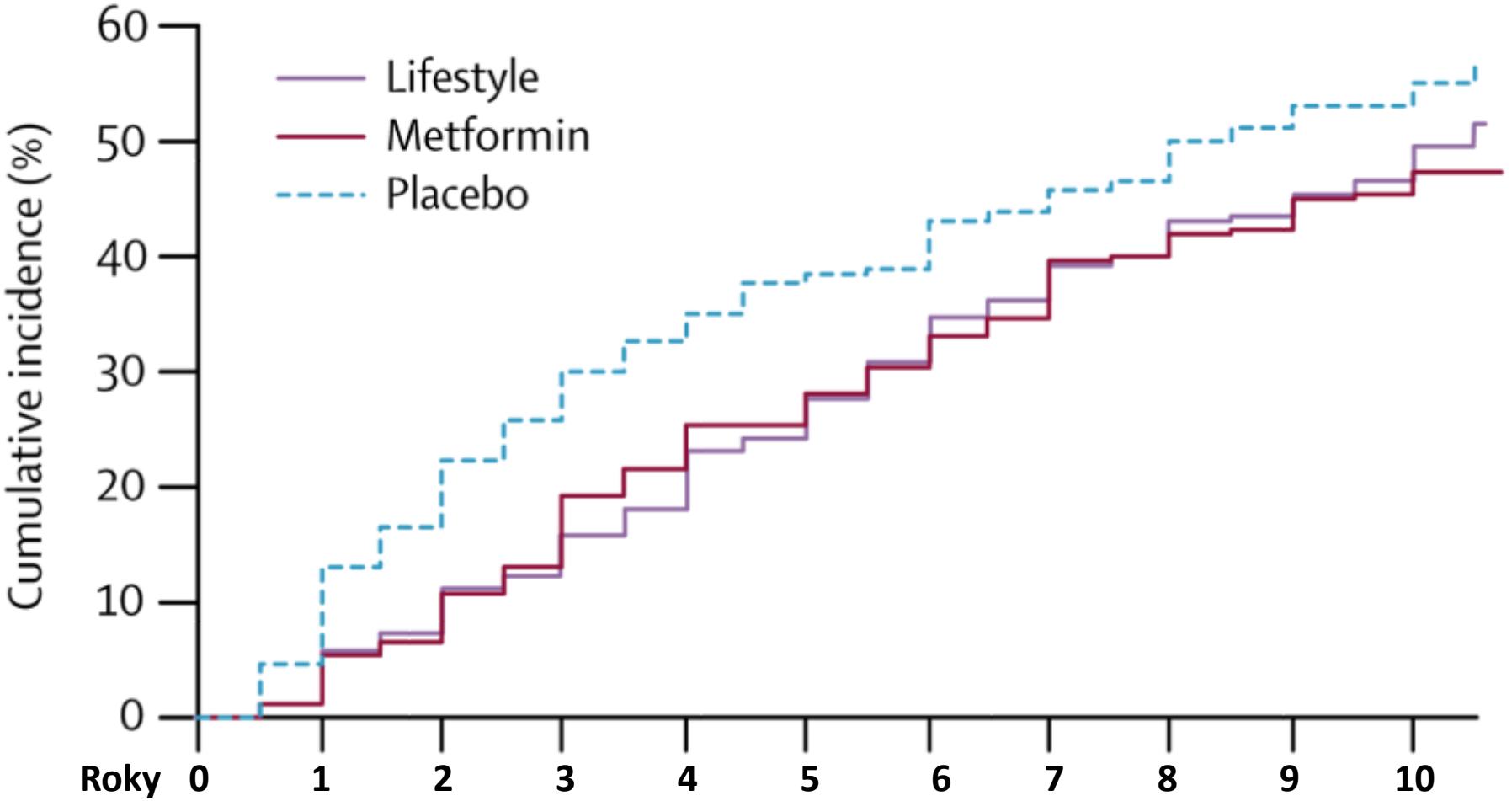
Knowler WC, N Engl J Med 2002;346:393-403

Výsledek DPP: mladší a obézní



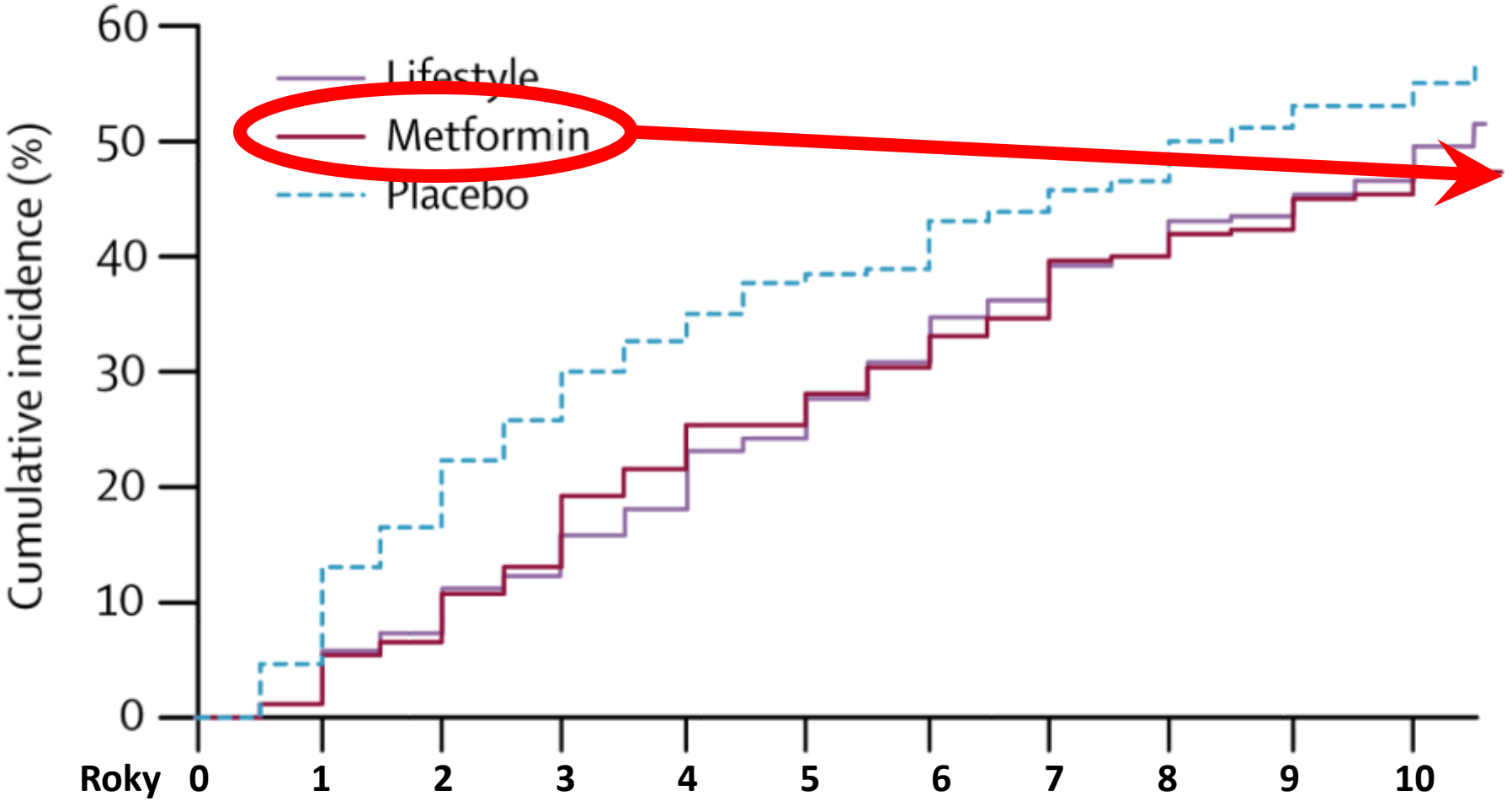
DPP. N Engl J Med 2002; 346: 393-403

DPP po 10 letech: Incidence diabetu u mladších



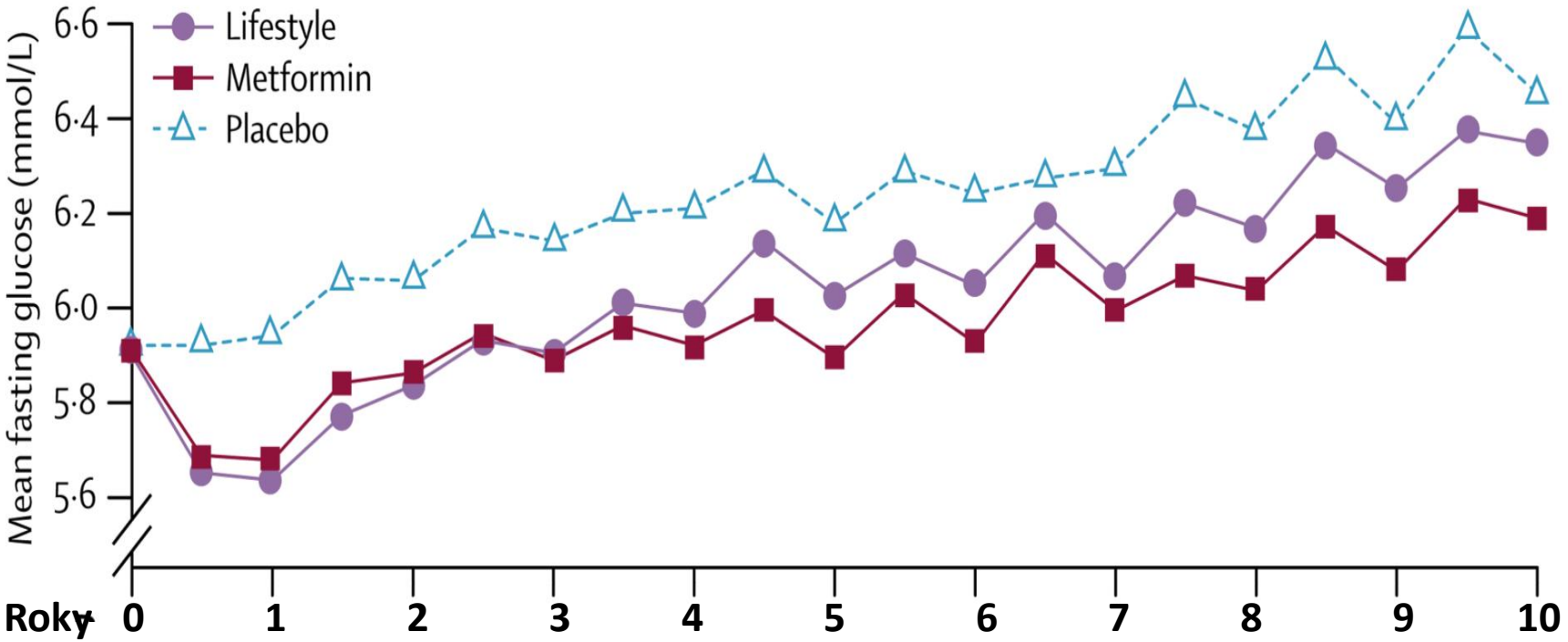
Lancet. 2009; 374(9702): 1677–1686.

DPP po 10 letech: Incidence diabetu u mladších



Lancet. 2009; 374(9702): 1677–1686.

DPP po 10 letech: glykémie nalačno



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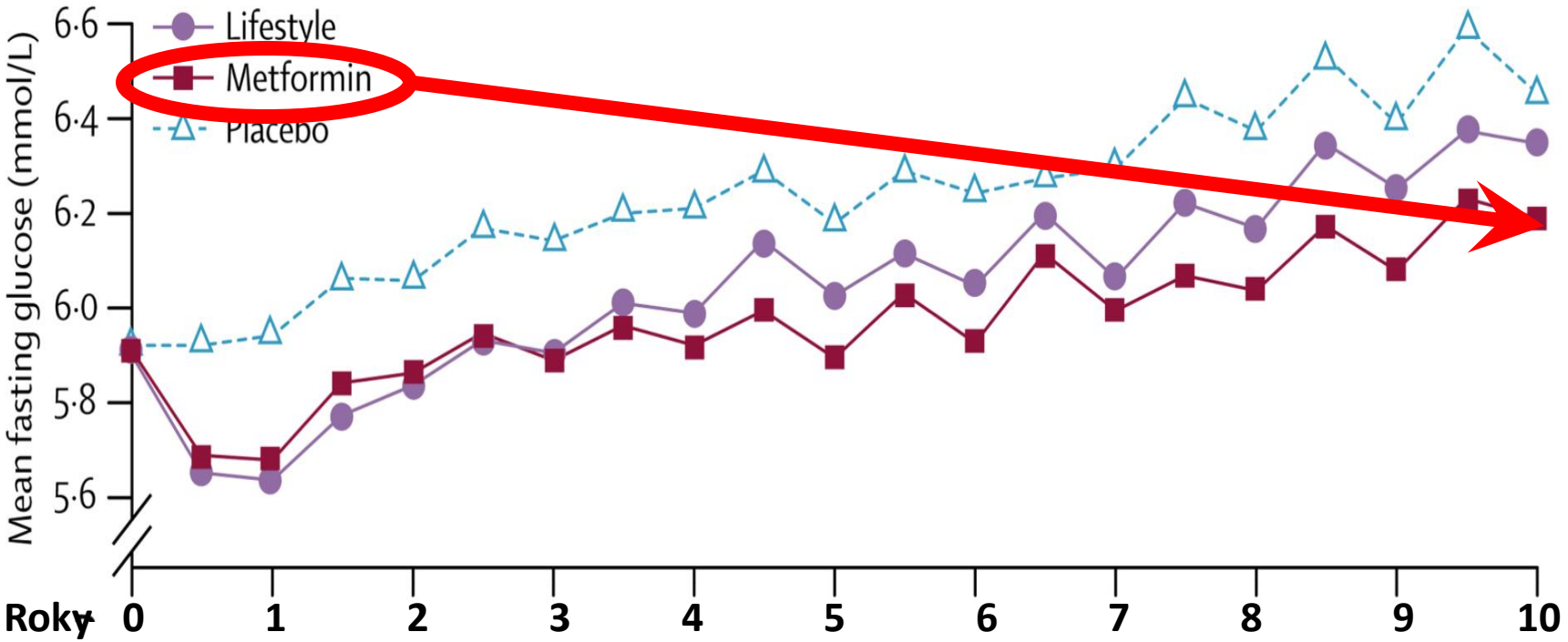


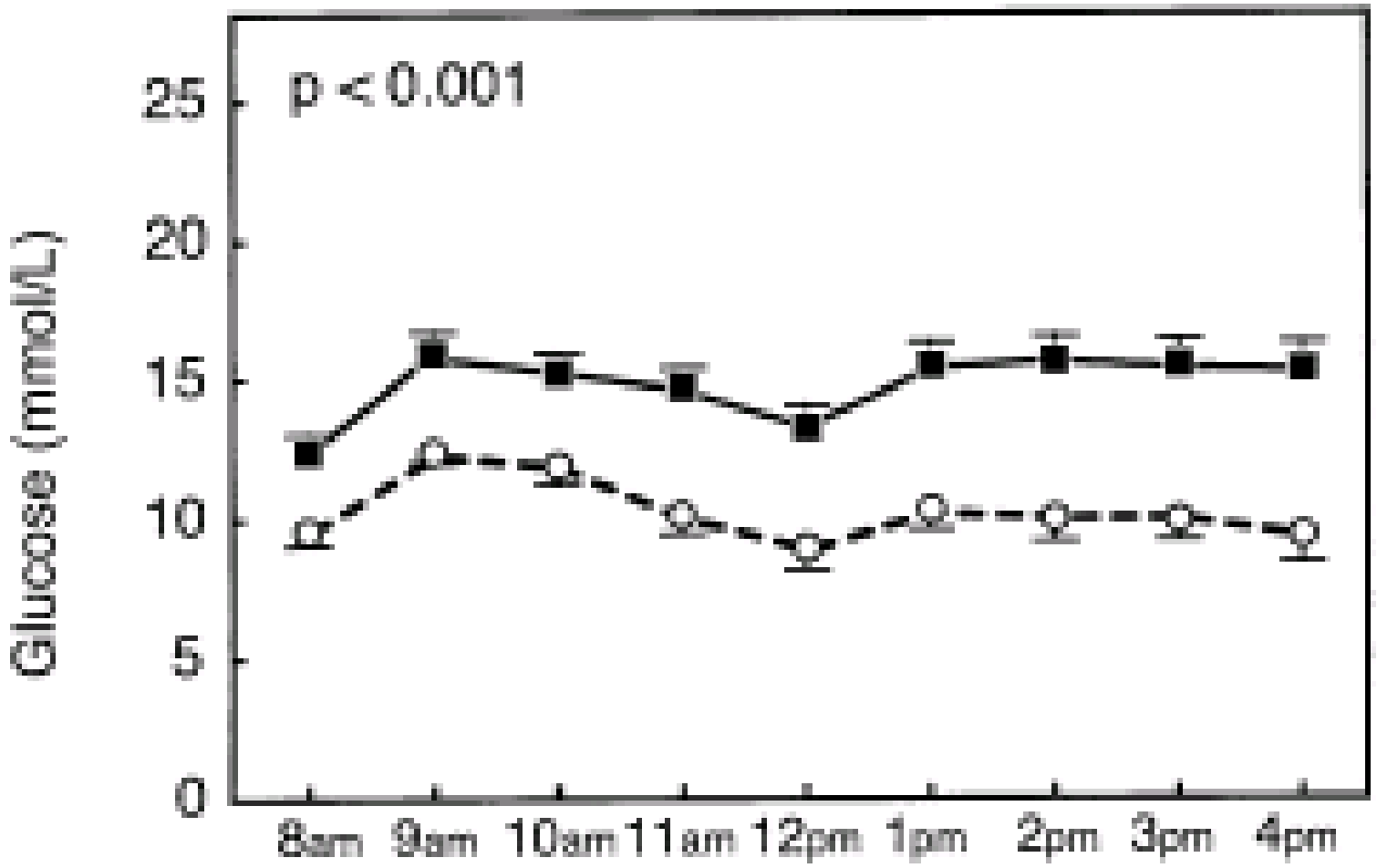
Lancet. 2009; 374(9702): 1677–1686.

Effect of intensive blood-glucose control with METFORMIN on complications in overweight patients with type 2 diabetes (UKPDS 34)

- **Interpretation:** **Since intensive glucose control with metformin appears to *decrease the risk of diabetes related endpoints in overweight diabetic patients*, and is associated with *less weight gain* and *fewer hypoglycaemic attacks* than are insulin and sulphonylureas, it may be the first-line pharmacological therapy of choice in these patients.**

Lancet 1998; 352: 854–65

Effect of METFORMIN Treatment on Multiple Cardiovascular Disease Risk Factors in Patients With Type 2 Diabetes Mellitus



Metabolism, Vol 53, No 2 (February), 2004: pp 159-164

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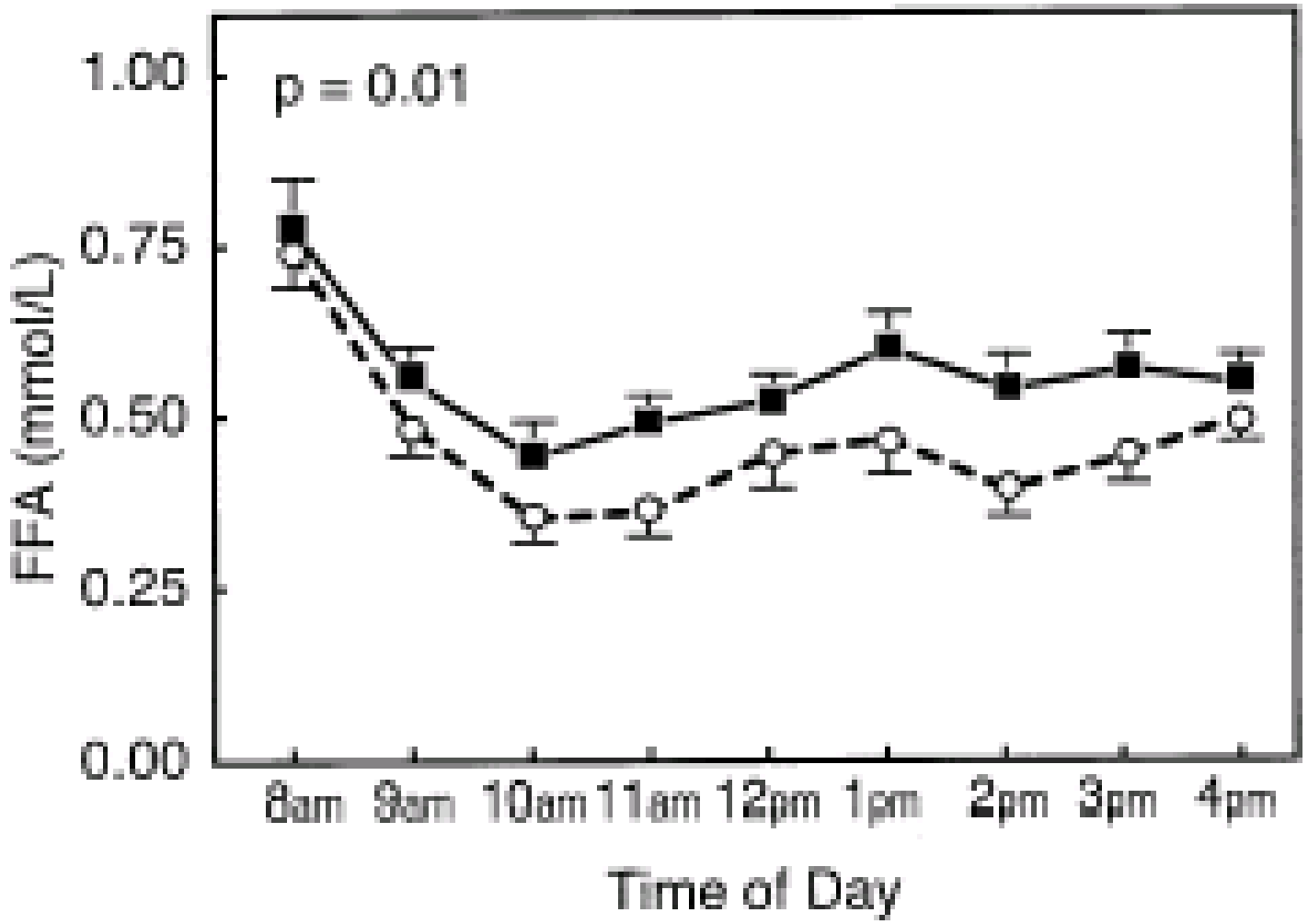

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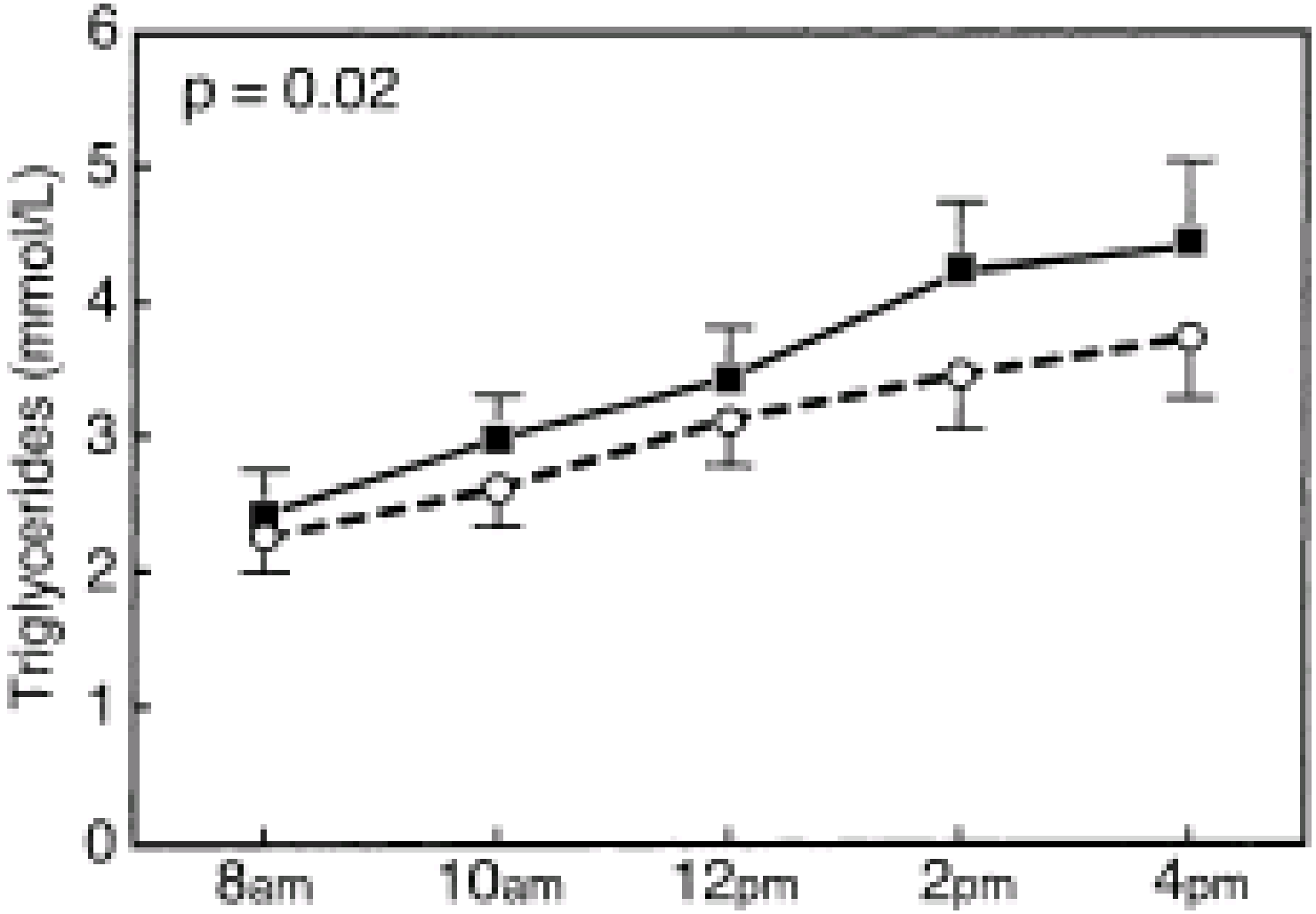
Effect of METFORMIN Treatment on Multiple Cardiovascular Disease Risk Factors in Patients With Type 2 Diabetes Mellitus



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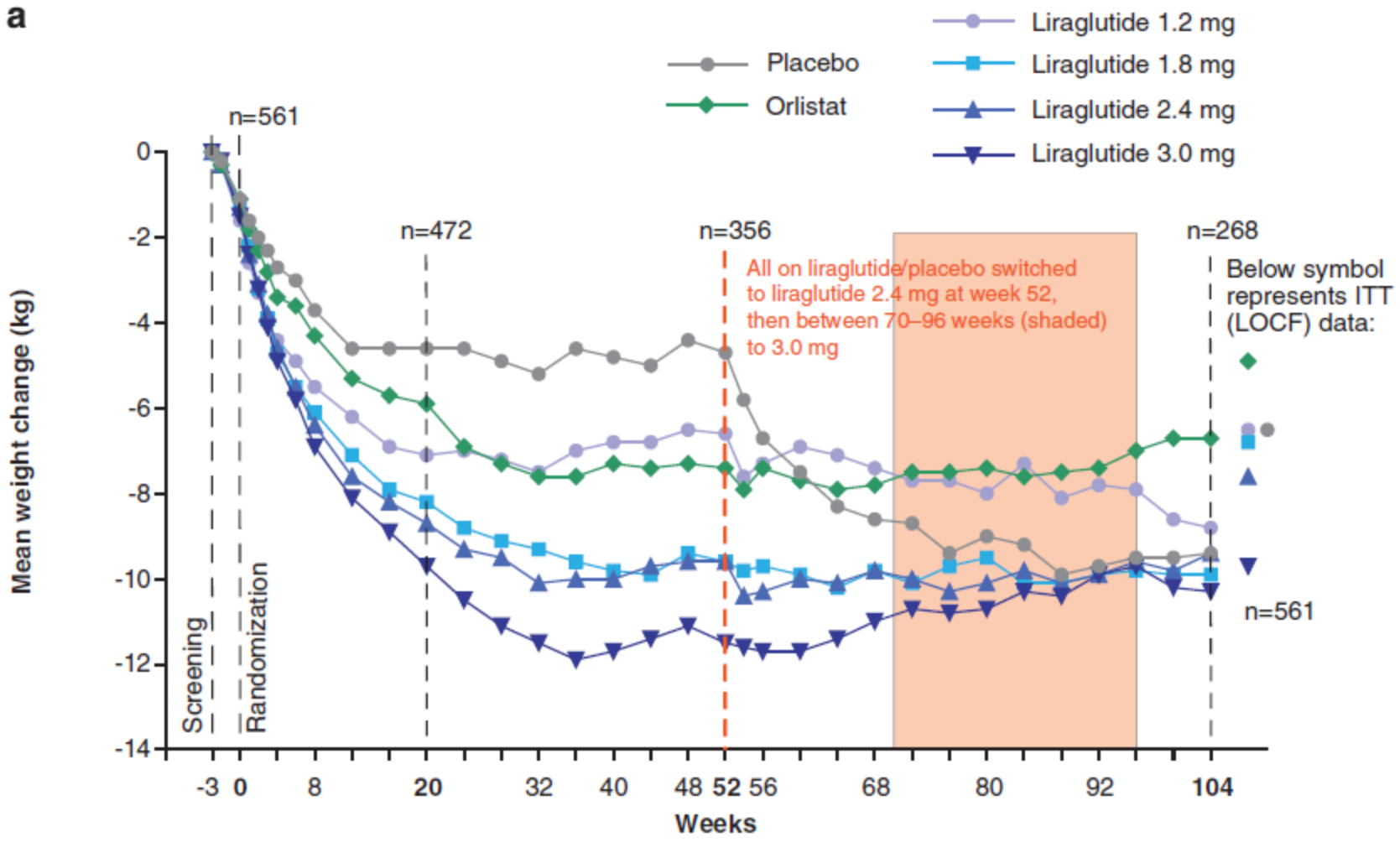
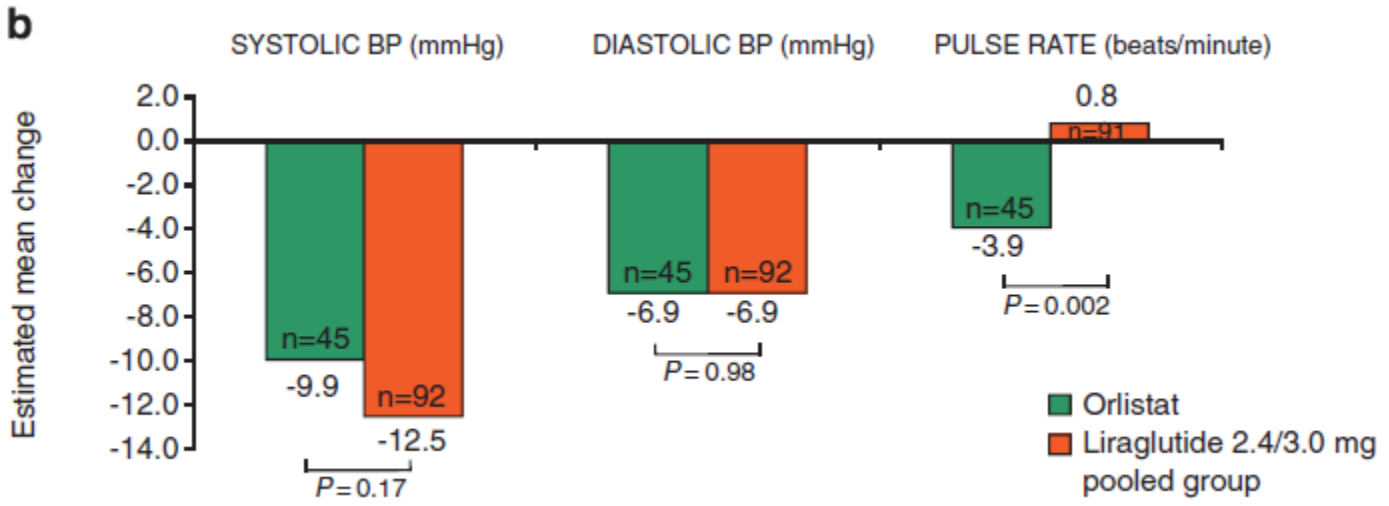
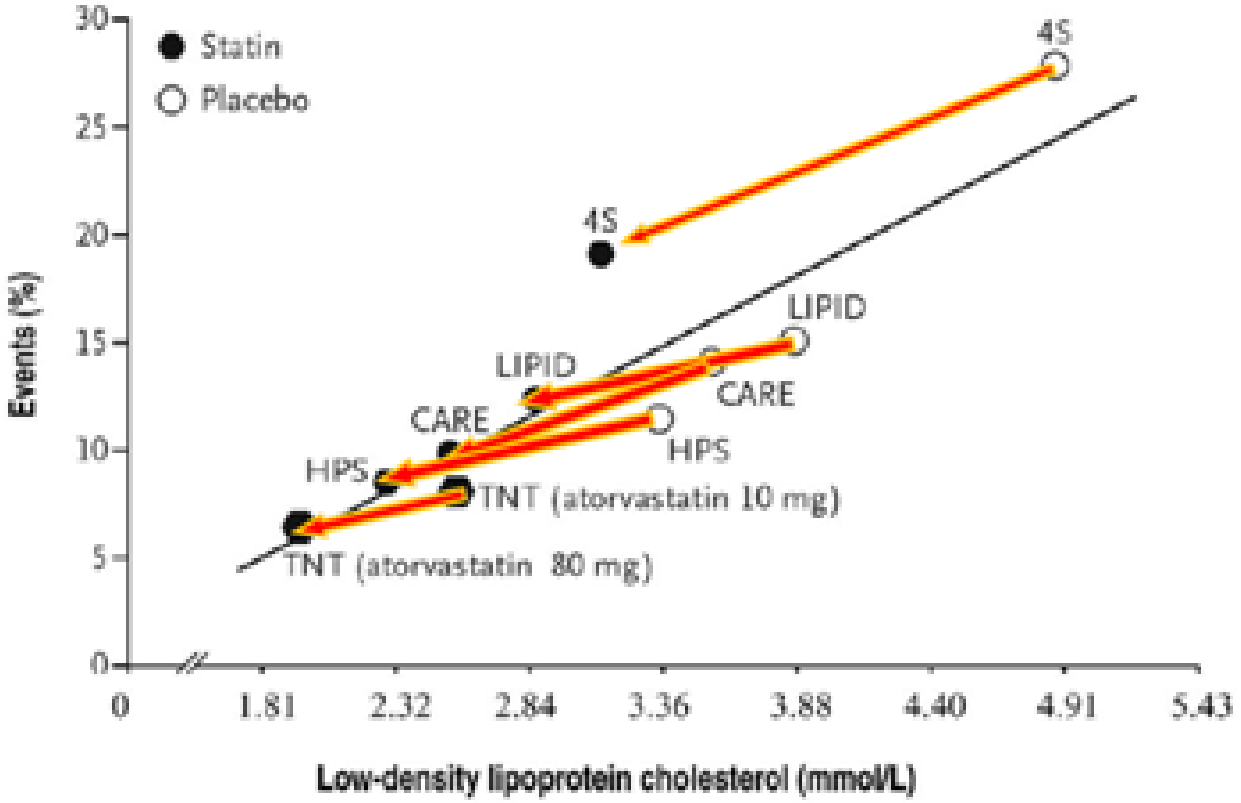


International Journal of Obesity (2012) 36, 843–854



International Journal of Obesity (2012) 36, 843–854

Zbohatnutí společnosti → KV mortalita → Dieta → Statiny



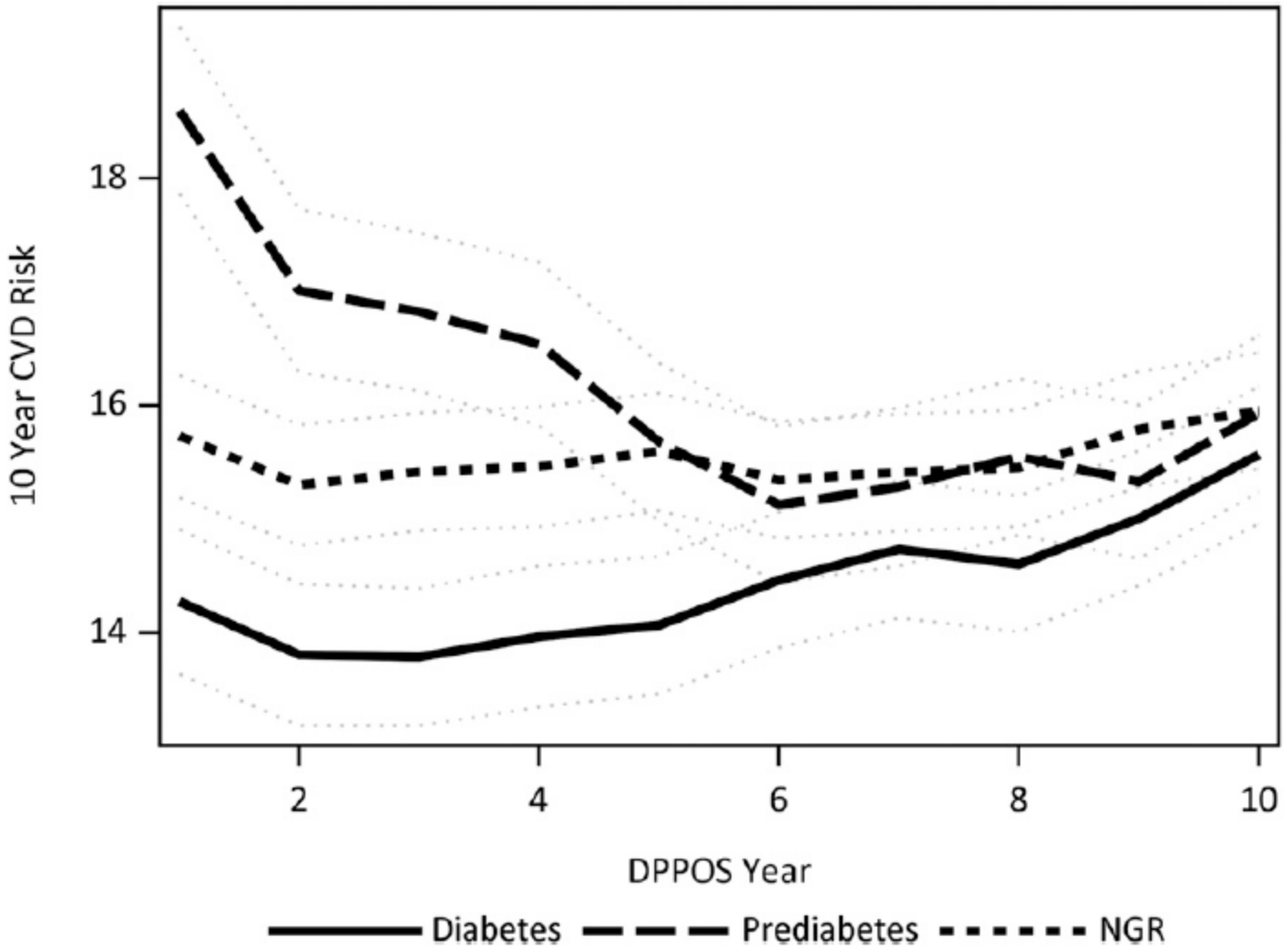
Can J Cardiol Vol 22 No 10 August 2006

Statin use in prediabetic patients: rationale and results to date

Anastazia Kei, Evangelos C. Rizos and Moses Elisaf

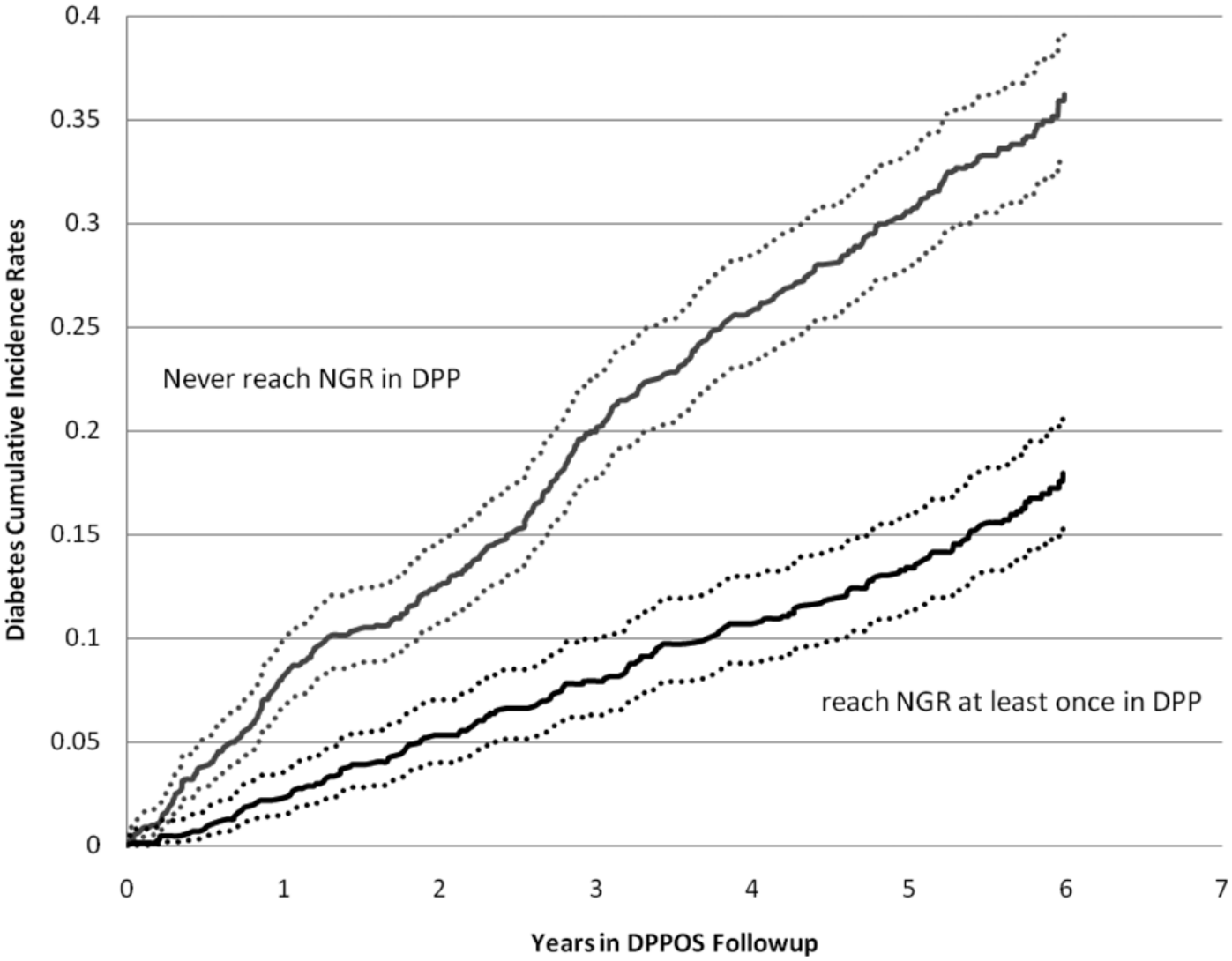
***Abstract*:** Prediabetes increases the risk for new-onset diabetes mellitus in patients receiving statins and this risk is dose- and time- dependent. Explanations for the conversion of a predisposed individual to diabetes are ambiguous including reductions in ubiquinone and adiponectin levels. However, the risk of new-onset diabetes mellitus is far outweighed by the statin-induced considerable decrease in cardiovascular events. Thus, prediabetic patients at high cardiovascular risk should not be denied high-dose statin therapy due to the small increase in the risk of developing diabetes since statins, especially at higher doses, cause greater reductions in cardiovascular events compared with standard statin doses. Moreover, lifestyle modification or even antidiabetic drugs are highly recommended in these individuals.

Ther Adv Chronic Dis
2015, Vol. 6(5) 246– 251



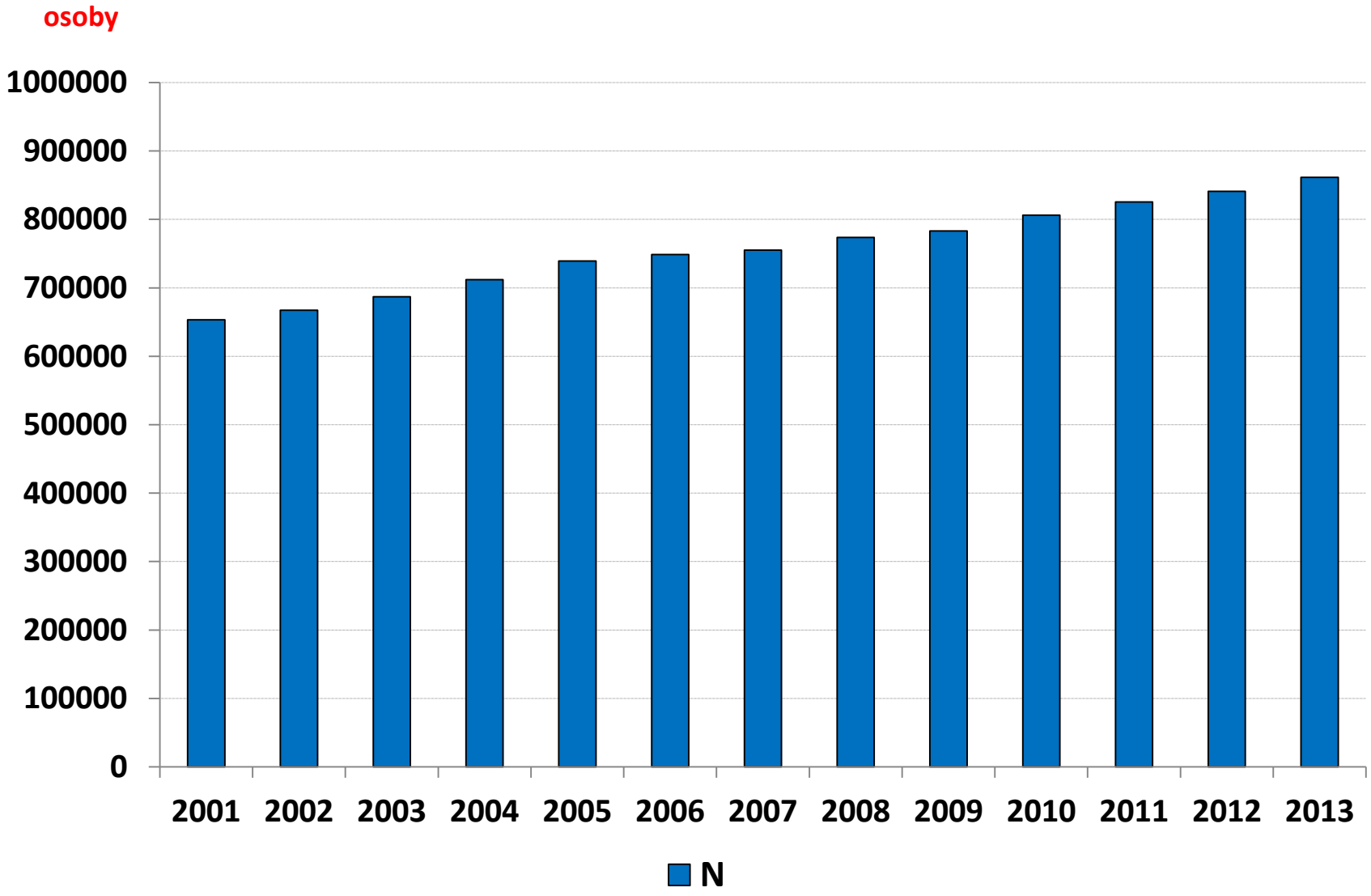
Diabetes Care 2014;37:2622–2631

Děkuji za pozornost



Lancet. 2012 June 16; 379(9833): 2243–2251.

Počet pacientů s diabetem v ČR



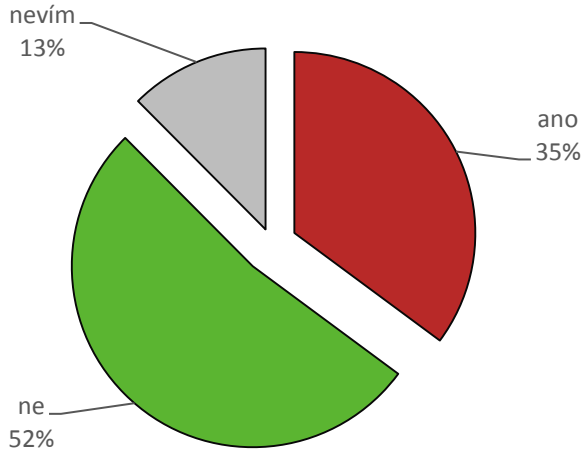
http://www.uzis.cz/category/tematicke-rady/zdravotnicka-statistika/diabetologie-pece-diabetiky

Výskyt onemocnění diabetem mellitus

Q3) Trpíte diabetem neboli cukrovkou?
Q4) Trpí někdo z Vašich blízkých pokrevních příbuzných, jako jsou rodiče, prarodiče, sourozenci diabetem neboli cukrovkou?

Trpím diabetem mellitus?
(populace, n=1036, údaje v %)

Výskyt diabetu u blízkých pokrevních příbuzných
(populace, n=1036, údaje v %)



- **Prevalence diabetu mellitus stoupá s věkem. Zhruba pětina dotázaných ve věku 56-70 let trpí některou z forem diabetu, z toho 1 % uvedlo, že se jedná o diabetes typu 1.**
- **Osobní zkušenost s výskytem diabetu mellitus ve svém nejbližším okolí má více než třetina dotázaných. Tuto zkušenost ovšem uvedlo 64 % těch, kteří sami trpí cukrovkou. Je zde tedy vysoká genetická podmíněnost ve smyslu hereditární zátěže.**

Effect of METFORMIN Treatment on Multiple Cardiovascular Disease Risk Factors in Patients With Type 2 Diabetes Mellitus

- **Administration of metformin, either as monotherapy or in combination with a sulfonylurea drug, improved glycemic control and led to a decrease in several CVD risk factors in patients with type 2 diabetes.**

Metabolism, Vol 53, No 2 (February), 2004: pp 159-164

O čem bude přednáška

- **Patofyziologie: genetická predeterminace DM2**
- **Patofyziologie: dynamika klinického vývoje DM2**
- **Prediabetes**
- **Kardiovaskulární rizikové faktory u prediabetu**
- **Diferencované kardiovaskulární riziko u jednotlivých osob**
- **Možnosti ovlivnění kardiovaskulárního rizika u pacientů s prediabetem**

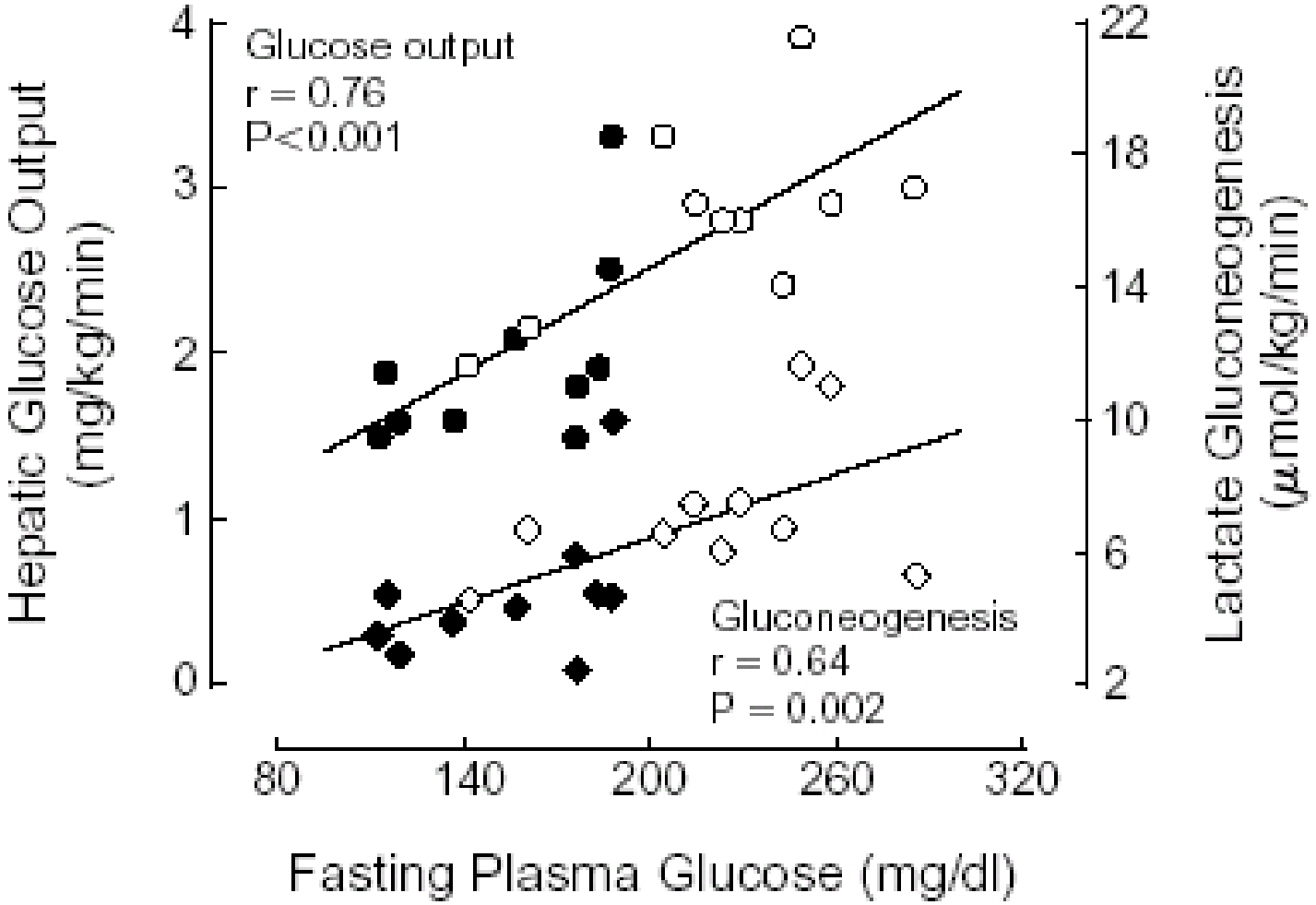
METFORMIN:

všestranná intervence v jedné molekule

- Historie METFORMINU
- METFORMIN a intervence hyperglykémie
- Vztah dávky METFORMINU a účinku
- METFORMIN snižuje kardiovaskulární riziko
- Vliv METFORMINU na tělesnou hmotnost
- METFORMIN: prémie
- Závěr

Prevence diabetu
Snížení rizika malignit
XR : compliance

METFORMIN snižuje HGO



Stumvoll M. et al.: N Engl J Med 1995;333:550-4