5.3 THE GLOBAL BURDEN OF DISEASE 2010: ESTIMATING BURDENS AT ATTRIBUTABLE TO NUTRITIONAL AND METABOLIC RISK FACTORS: METHODS AND FINDINGS

Chair: Dr. John Powles, UK

GLOBAL REGIONAL AND NATIONAL TRENDS IN METABOLIC RISK FACTORS OF CHRONIC DISEASES: ANALYSIS OF HEALTH SURVEYS AND EPIDEMIOLOGIC STUDIES SINCE 1980

Methods

For each risk factor, we searched for published articles, analysed health surveys, and included unpublished reports. We excluded non-random samples or self-reported measurements. We used a Bayesian hierarchical model with a non-linear age component and a smoothing time trend for each sex separately.

Results

BMI had the most available data (960 country-years), followed by SBP (780), FPG (546) and TC (321). SBP declined in high-income regions by 2.1 to 3.9 mm Hg/decade, remained the same in East and South Asia and increased in Oceania and Eastern high-income regions by 2.1 to 3.9 mm Hg/decade, remained the same in East and South Asia and increased in Oceania and Eastern high-income regions by 2.1 to 3.9 mm Hg/decade, remained the same in East and South Asia and increased in Oceania and Eastern high-income regions by 2.1 to 3.9 mm Hg/decade, remained the same in East and South Asia and increased in Oceania and Eastern high-income regions by 2.1 to 3.9 mm Hg/decade, remained the same in East and South Asia and increased in Oceania and Eastern high-income regions by 2.1 to 3.9 mm Hg/decade, remained the same in East and South Asia and increased in Oceania and Eastern high-income regions by 2.1 to 3.9 mm Hg/decade, remained the same in East and South Asia and increased in Oceania and Eastern high-income regions by 2.1 to 3.9 mm Hg/decade, remained the same in East and South Asia and increased in Oceania and Eastern high-income regions by 2.1 to 3.9 mm Hg/decade, remained the same in East and South Asia and increased in Oceania and Eastern high-income regions by 2.1 to 3.9 mm Hg/decade, remained the same in East and South Asia and increased in Oceania and Eastern high-income regions by 2.1 to 3.9 mm Hg/decade.

Conclusion

There was a large variation in levels and trends of metabolic risk factors. Population and individual-level interventions should be formulated to continue beneficial trends and reverse the hazardous ones. National health surveys are essential in monitoring such interventions.

GLOBAL BURDENS OF CHRONIC DISEASE ATTRIBUTABLE TO SUBOPTIMAL DIETARY HABITS: CHALLENGES AND ADVANCES

Introduction

Little quantitative data are available on the global impact of diet on chronic diseases, including cardiovascular diseases, type 2 diabetes and cancer.

Methods

We used a comparative risk assessment framework to develop systematic and comparable methods to establish for selected dietary risk factors the effect sizes of probable or convincing causal diet-disease relationships; the alternative minimum risk exposure distribution, and the exposure distribution. These inputs, together with disease-specific mortality rates, allow computation of the numbers of events attributable to each dietary factor globally and in 21 world regions.

Results

Using WHO evidence criteria for convincing / probable causal effects, we identified potential causal diet-disease relationships. Effect sizes and ranges of uncertainty were derived from published or de-novo systematic reviews and meta-analyses of trials or high-quality observational studies. Alternative minimum-risk distributions were identified based on amounts corresponding to lowest disease rates in existing populations. Optimal and alternative definitions for each diet exposure were established based on the data used to quantify the harmful or protective effects. We developed methods for identifying and obtaining comparable data from nationally representative diet surveys throughout the world (see separately submitted Abstract). Multi-level hierarchical models will be developed and will be presented to handle the diversity of diet metrics, units of measure, energy-adjustment techniques, and to impute missing data.

Conclusions

These new methods will allow, for the first time, comparable and quantitative assessment of the global impact of specific dietary factors on chronic disease mortality. Such global assessment is not only possible, but imperative for priority setting and policy making.