

裕福な国対貧しい国でパラドクスが認められた

PURE：高所得国では低所得国よりも心血管リスクファクターは多いが死亡率は低い

PURE: Cardiovascular risk factors greater, but mortality lower in high income vs. low income nations

高所得国に居住する人々は心血管リスクファクターの負荷は大きいにもかかわらず、低所得国の人々よりも重篤で致死的でさえあり得る心血管疾患(CVD)の多くから逃れられていると2013年European Society of Cardiology学会で発表された。**PURE** (Prospective Urban Rural Epidemiologic) スタディでは高所得国(カナダ、スウェーデン、アラブ首長国連邦)、10の中所得国、低所得国(インド、バングラデシュ、パキスタン、ジンバブエ)の郊外および都市の人々それぞれ16,110人、104,260人、および34,875人を組み入れた。対象者は35~70歳であり、平均3.9年間追跡された。CVDリスクファクターは高所得国で最も多く、低所得国で最も低かったが、医療および予防対策もこれに準じた($P < 0.0001$)。全体で、CVDによる入院は中および低所得国よりも高所得国で高かったが($P < 0.05$)、入院理由を調査する中で、低所得国と比べ高所得国では致死적および他の重大なCVD(心筋梗塞、脳卒中等および心不全)のいずれも頻度が低く、重大でないCVDが多く認められた(全体で $P < 0.001$)。これらの結果は、心臓に対し健康的な習慣に加え優れたヘルスケアシステムの価値を強調している。

Full Text

Despite being weighed down by more cardiovascular risk factors, people living in higher income countries are able to avoid many of the severe and even fatal consequences of cardiovascular disease (CVD) compared to their counterparts in lower income parts of the world reported researchers at the European Society of Cardiology 2013 Congress.

These "surprise" findings, from the **PURE** (Prospective Urban Rural Epidemiologic) Study underscore the value of a good healthcare system in addition to healthy heart habits, said lead investigator Salim Yusuf, M.D., professor of medicine of McMaster University's Michael G. DeGroote School of Medicine, vice president of research at the Hamilton Health Sciences and director of the Population Health Research Institute (PHRI) in Hamilton, Ontario, Canada.

"What we've got is a paradox: a higher risk factor burden in high-income countries compared to low-income countries, but a lower mortality rate from CVD - and this is not because risk factors don't matter - they do," said Dr. Yusuf, who presented the study at the ESC Congress 2013.

"But it's telling us that there's something that's even more important, or at least as important, and that is healthcare - healthcare access, equity, and efficiency - a lot of the positives of the Canadian and Swedish and other European healthcare systems."

The **PURE** study enrolled 155,245 subjects from 17 countries to assess the influence of cardiovascular (CV) risk factors on CV disease and mortality. The study population included 16,110 subjects from high income countries (primarily Canada but also Sweden and the United Arab Emirates), 104,260 subjects from 10 middle-income countries, and 34,875 subjects from 4 low-income countries (India, Bangladesh, Pakistan, and Zimbabwe). Subjects were between 35 and 70 years old, from both rural and urban areas, and were surveyed and followed for a mean of 3.9 years.

Cardiovascular risk was calculated for each subject using the INTERHEART Risk Score (IHRS), and based on age, sex, smoking, diabetes, blood pressure, family history of heart disease, working heart rate, psychosocial assessment, diet and physical activity.

Treatment and prevention practices were also noted such as hypertension control, smoking cessation, use of lipid lowering drugs and secondary prevention.

The study found that CVD risk factors were highest in high-income countries and lowest in low-income countries, but treatment and preventive measures also followed this pattern ($P < 0.0001$).

Overall, hospitalizations for CVD were highest in the high versus middle and low-income countries ($P < 0.05$), but in examining the reasons for hospitalization the study showed that compared to low-income countries, both fatal and other major CVD (myocardial infarction, stroke and heart failure) were less common in high-income countries and non-major CVD was more common ($P < 0.001$ for all).

Specifically, major CVD occurred at a rate of 4.3 per 1,000 person years in high-income countries, compared to 5.1 and 6.4 in middle and low-income countries respectively. And fatal CVD occurred at a rate of 0.6 per 1,000 person years in high-income countries compared to 1.7, 3.8 in middle and low-income countries respectively.

In contrast, the rate of non-major CVD in high-income countries was 4.3 per 1,000 person years, compared to 5.1, and 6.4 in middle and low-income countries ($P < 0.001$).

"In countries like Canada, when people get even a relatively mild condition, they are generally treated for it - things are being picked up early resulting in less severe disease - whereas in poorer countries mild CVD doesn't get picked up until its severe or patients die," explained Dr. Yusuf.

"What this is telling us is that healthcare matters. The gurus of cardiovascular disease prevention have kept emphasizing the control of risk factors, with very little recognition that healthcare matters, but this is telling us that healthcare matters at least as much as risk factor control. Now the challenge is to identify those key aspects of health care that are effective and apply them to low and middle-income countries in a much more frugal manner."

Dr. Yusuf declared no conflicts of interest.

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