

The influence of smoking cessation, regular physical exercise and/or physical activity on survival: a 13 years cohort study of the Indonesian population in Jakarta

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Abstrak

Mencegah proses aterosklerosis dengan membiasakan tidak merokok/stop merokok disertai olahraga teratur dan/atau pengaruh kerja fisik (trias SOK) adalah upaya preventif di masyarakat. Untuk mengetahui pengaruh trias SOK terhadap daya survival, dilakukan penelitian kohort historis pada sampel MONICA 1988 di tiga kecamatan Jakarta Selatan, serta diikuti sampai 31 Agustus 2001. Sampel dibagi menjadi kelompok trias SOK dan tanpa trias SOK. Dilakukan wawancara faktor risiko (merokok, hipertensi, hiperlipidemia, diabetes, obesitas), pemeriksaan fisik, laboratorium dan perekaman EKG. Otopsi verbal untuk mencari sebab kematian. Aktivitas fisik dikelompokkan pada: tidak ada, ringan hampir setiap hari, sedang dan berat minimal 20 menit dua kali atau lebih. Analisis statistik: regresi Cox, Kaplan Meier, Log rank, uji kappa, batas kemaknaan $p < 0,05$. Terdapat 479 (23,4%) sampel dari 2073 orang, umur 25-64 tahun (1988), terdiri dari 209 (43,6%) lelaki, 270 (56,4%) perempuan. Insiden kardiovaskular 1,2% pertahun, proporsi kematian penyakit jantung 42,9%. Daya survival sampel trias SOK lebih baik (95,7%) dibanding tanpa trias SOK (81,1%), (HR 0,20, 95% IK 0,08-0,57, $p=0,002$). Aktivitas fisik mempunyai rasio kematian rendah [ringan HR 0,45, IK 0,27-0,76, $p=0,003$], sedang (HR 0,32, IK 0,15-0,70, $p=0,004$) dan berat nol] dibanding tidak ada. Rasio kematian merokok tinggi (HR 4,99, KI 2,56-9,73, $p=0,000$). Dihasilkan Skor Kardiovaskular Jakarta, Skor 7 sampai 1 risiko rendah (<10%), skor 2 sampai 4 sedang (10-20%), skor 3-5 risiko tinggi (>20%). Upaya pencegahan penyakit kardiovaskular dengan cara tidak/stop merokok, dikombinasikan dengan olahraga teratur dan/atau kerja fisik merupakan cara tepat untuk meningkatkan daya survival. Dihasilkan Skor Kardiovaskular Jakarta untuk memprakirakan kematian kardiovaskular di masyarakat. (Med J Indones 2002; 11: 230-41)

Preventing atherosclerosis with smoking cessation, regular physical exercise and/or physical activity known as SOK (S-top/ no S-moking, sp-O-rt/ physical exercise, wor-K/ physical activity) is a simple preventive measure, which can be applied in the community. To determine the role of SOK on survival, to create cardiovascular risk score for Indonesian patients and to have a special formula to predict survival. A historical cohort study over thirteen years recruited from the subpopulation MONICA patients who resided at three districts of South Jakarta. Patients were divided into two groups, those with SOK and those without (non-SOK group). Assessment included complete history including cardiovascular risk factors (hypertension, diabetic, hyperlipidemia, obesity), physical examination, laboratory examination, twelve-lead ECG recording and level of physical activity/exercise. Outcomes included survival rate and all-cause of mortality. Statistical analysis included kappa statistic and various survival analyses. 479 participants were included in the SOK study. Mean age 46 years (range 25-64), 56% female. Cardiovascular mortality rate (including stroke) was 1.2% per year and 42.9% of mortality caused by heart disease. Survival rate was higher in SOK group compared with non-SOK (95.7% vs 81.1%) with Hazard Ratio (HR) 0.2 for SOK group (95% CI 0.08-0.57, $p=0.002$) In relation to the cardiovascular mortality rate: 1) any physical activity/exercise (OK) vs no-OK will lower the risk; low-OK (HR 0.4, $p=0.003$), medium-OK (HR 0.32,

p=0.004), high-OK (HR 0.000, p=0.000) 2) Smoking will increase the risk vs non-smoking (HR 4.99, p=0,000). For predicting the cardiovascular events in ten-year time (CV10), we formulated the Jakarta Cardiovascular Score. The score was divided into low-risk (-7-1) with CV10 <10%, average-risk (2-4) with CV10 = 10-20%, high-risk (score > 5) with CV10 >20%. Smoking cessation, regular physical exercise and/or physical activity is an effective method to reduce cardiovascular death, thus enhances the survival. We formulated a simple method to predict cardiovascular events in our community known as the Jakarta Cardiovascular Score. (Med J Indones 2002; 11: 230-41)