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Cardiovascular risk factors at age 50 and its consequences for life expectancy: A life-table analysis

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Abstract

The objective of this study is to investigate increases in life expectancy and decreases in premature death associated with at optimal risk for the major cardiovascular risk factors at 50 years of age. We used the first 48 years of follow-up of the Framingham Heart Study (FHS) original cohort. We considered four risk factors smoking, blood pressure, body mass index and total cholesterol each with two risk status levels: optimal (also referred to as favorable) and high-risk. The optimal risk profile was defined as a never smoker, with, on average, an optimal blood pressure (SBP<120 and DBP<80), optimal cholesterol level (SCL<200) and optimal BMI (BMI<25) between age 30 and 50. The high-risk profile was defined as a smoker, with high blood pressure (SBP>140 or DBP>90), high serum cholesterol (SCL>240) and obesity (BMI>30). Life table analysis shows that a fifty year-old male with an optimal risk profile can expect to survive 6 additional years compared to the total male population in the FHS. Similarly, fifty year-old females in the optimal risk group, can expect to survive 5 additional years compared to the total females in the FHS. Optimal risk profiles are associated with large increases in life expectancy and decreases in early mortality. Prevention of classical cardiovascular risk factors in middle age would increase the total life expectancy from 5 to 6 years in population levels.