

McDonagh TA, C Morrison, A Lawrence. Symptomatic and asymptomatic left-ventricular systolic dysfunction in an urban population. *Lancet* 1997;35:829-833.

BACKGROUND: In most previous epidemiological studies on the prevalence of chronic heart failure (CHF) the disorder has been defined on clinical criteria. In a cross-sectional survey of 2000 men and women aged 25-74, randomly sampled from one geographical area, we assessed left-ventricular systolic function by echocardiography. METHODS: 1640 (83%) of those invited took part. They completed a questionnaire on current medication, history, and symptoms of breathlessness. Blood pressure was measured and electrocardiography (ECG) and echocardiography were done. Left-ventricular ejection fraction was measurable in 1467 (89.5%) participants by the biplane Simpson's rate method. FINDINGS: The mean left-ventricular ejection fraction was 47.3%. The prevalence of definite left-ventricular systolic dysfunction (defined as a left-ventricular ejection fraction $<$ or $=$ 30%) was 2.9% overall (43 participants); it increased with age and was higher in men than in women (4.0 vs 2.0%). The left-ventricular systolic dysfunction was symptomatic in 1.5% of participants and asymptomatic in 1.4%, 83% of participants with left-ventricular systolic dysfunction had evidence of ischaemic heart disease (IHD) from history or ECG criteria compared with 21% of those without this abnormality ($p < 0.001$). Hypertension was also more common in those with left-ventricular systolic dysfunction (72 vs 38%, $p < 0.001$), but there was no difference between those with and without left-ventricular systolic dysfunction in the rate of hypertension without IHD. INTERPRETATION: Left-ventricular systolic dysfunction was at least twice as common as symptomatic heart failure defined by clinical criteria. The main risk factors are IHD and hypertension in the presence of IHD; screening of such high-risk groups for left-ventricular systolic dysfunction should be considered.