

Undiagnosed hypertension and awareness of its role in renal disease in the general population: a cross-sectional survey through the Italian pharmacy network

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BACKGROUND. Population ageing has increased the prevalence of chronic diseases such as arterial hypertension (AH) and chronic kidney disease (CKD). To assess the distribution and features of patients with undiagnosed AH in the community setting, we have conducted a cross-sectional survey in the general population of the Vicenza area (North-Eastern Italy) through the network of community pharmacies.

OBJECTIVES. Our main aim was to estimate the prevalence and the features of patients with undiagnosed AH in the general population. In addition, we assessed awareness among patients of the role of AH as a risk factor for CKD, and the prevalence of known hypertensive patients that were outside the therapeutic goal.

PARTICIPANTS, SETTING AND MEASUREMENTS. The survey was carried out between October 2014 and February 2015 by the Department of Nephrology, Dialysis and Transplantation, St. Bortolo Hospital (Vicenza, IT) in collaboration with Community Pharmacists (CP). 35 CP participated on a voluntary basis. The sample included 2036 subjects aged 18 years and older (39.1% male and 60.9% female; 94.4% Caucasian and 5.6% non-Caucasian). The survey included a single measurement of Blood Pressure (BP) and self-reported previous diagnosis of AH, risk factors for CKD, and knowledge of AH as risk factor for CKD. In addition, a sample of the patients' General Practitioners (GP, n=57) was interviewed on whether the survey triggered therapy changes and additional investigations, and a subset of the patients (n=95) was interviewed on the effects of the survey on their recourse to GP care and health awareness. Differences across groups are reported as Relative Risks (RR [95% Confidence Intervals]).

RESULTS. Of all participants, 1190 (58.5%) had no previous diagnosis of AH. Of these, 836 (71.1%) had no AH upon BP measurement, 339 (28.5%) had BP levels consistent with hypertension and therefore undiagnosed AH. The prevalence of undiagnosed AH increased with age (relative to age group <45, RR in age group 45-65 was 1.62 [1.28, 2.05] and in age group >65 2.33 [1.82, 2.99]) and was higher among men than among women (RR 1.71 [1.43, 2.04]). Undiagnosed AH patients were also more likely than subjects with no undiagnosed AH to have diabetes (RR 1.74 [1.24, 2.43]) and being overweight or obese (RR 2.2 [1.83, 2.64]). In the sample, 942 participants (46.3%) reported to be aware of the relationship between AH and CKD. This awareness was lower in men than women (RR for lacking it, 1.12 [1.02-1.23]), and it decreased with age in a progressive fashion. This awareness had a protective effect towards the risk of undiagnosed AH, also statistically significant (RR 0.76 [0.62, 0.93]). Of all participants, 814 (40.0%) had a previous diagnosis of AH; of these, 661 (81.2%) were outside the therapeutic goal. The 57 interviewed GPs reported performing additional investigations in 37 (64.9%) of their patients – including 20 of the 27 patients with known AH (74.1%). Of the 95 interviewed patients, only 78.9% reported visiting the GP after AH was found, but 91.6% believed the survey provided them with useful new information.

CONCLUSION. AH as a risk factor for renal disease demands more attention in primary care, both in subjects without a diagnosis of AH and those already under antihypertensive treatment. A profile can be sketched for patients with undiagnosed AH for use by GPs and CPs, while additional work is needed to identify the determinants of the unacceptable high rate of antihypertensive treatment failure. Screening programs should be periodically performed in the community care setting to identify undiagnosed hypertensive patients and trigger additional investigations and therapy adjustments even in known patients. Furthermore, our findings suggest that raising the awareness of AH as a risk factor for development of CKD could both prevent undiagnosed AH and increase patients' compliance in prevention and treatment.