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Effect of community screening on the demographic makeup and clinical severity of glaucoma patients receiving care in urban China

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ABSTRACT

Purpose: To assess differences in clinical and demographic characteristics between glaucoma patients identified by community screening and those newly diagnosed in hospital in a Chinese setting.

Design: Prospective comparative cohort study.

Methods: 373 patients identified with glaucoma among 27,000 persons undergoing community screening were enrolled as the Screening group. The Clinic group consisted of 119 consecutively-presenting, newly-diagnosed glaucoma patients in hospital. Primary outcome: mean deviation (MD), visual field index (VFI) and pattern standard deviation (PSD) on Humphrey Field Analyzer, and intraocular pressure (IOP). Disease severity was categorized into five stages based on MD.

Results: 89.6% (328/373) of Screening Group patients had IOP <21mmHg, compared to 48.7% (58/119) in the Clinic group (P<0.001). The Mean VFI, MD and PSD were 76.4±23.8%, -9.7±7.3 dB, and 6.4±3.4 dB in the Screening group; and significantly worse in the Clinic group: 44.1±32.0%, -19.8±9.5 dB, and 7.6±3.1 dB (P<0.001 for MD and VFI, P=0.001 for PSD). Nearly three-quarters of Screening patients had Early or Moderate visual field loss (monocular), while nearly half of Clinic patients had severe loss at the time of diagnosis. Screening patients were significantly more likely to be older (P<0.001) and female (P <0.001) than Clinic patients.

Conclusion: Glaucoma patients detected through community screening had significantly milder damage, and were more likely to include under-served groups (women, elderly) than those newly diagnosed in a clinic in this setting. Comparison with population studies suggests that cases of glaucoma with IOP < 21 mmHg are severely under-ascertained in China, which may be improved by screening.