How does optometrist service in general out-patient clinic affect referral pattern to ophthalmologists?

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Introduction:
With the aims to enhance primary eye care and to reduce unnecessary specialist referral, a collaborative optometrist-primary care doctor assessment service was established in September 2010. Aside from those requiring urgent ophthalmologist interventions, any patient who warranted secondary eye assessment could be referred by primary care doctors to a community optometrist. Feedbacks from the optometrist were provided to the referring doctors to aid further management.

Objectives:
1) To compare ophthalmologist referral rate before and after implementation of optometrist service; and
2) To evaluate eye referral pattern before and after implementation of optometrist service.

Methodology:
The study period was from June to August 2010 (three months prior to availability of optometrist service) and June to August 2011 (one year after implementation of service). Ophthalmologist referral rate was calculated from total number of specialist referral and total number of consultations with eye symptoms or diseases coded using the International Classification of Primary Care (ICPC) system. Number of specialist referrals was adjusted to include those eventually referred to an ophthalmologist after optometrist assessment. Individual referrals from August 2010 and August 2011 were further analyzed in terms of reason of referral.

Results:
After implementation of the optometrist service, ophthalmologist referral rate significantly decreased from 36.2% to 23.5% (Fisher's exact test, P < 0.0001). Referral rate to the optometrist service was 10.0%. Among those assessed by optometrists, 4.8% was referred for specialist management. Before and after the availability of optometrist service, floaters (27.4%, 23.9%), blurred vision (16.4%, 20.2%) and cataract assessment (6.8%, 14.7%) remained the top three reasons for specialist referral.

Discussions:
1. The ophthalmologist referral rate detected in this study was higher than oversea figures of 15-17%.
This could be due to under-coding of the relevant ICPC codes for patients presented with eye symptoms or diseases.

2. While this study showed that there was an absolute decrease in percentage of specialist referral after implementation of optometrist program, the diagnostic accuracy of the optometrists and the cost associated with the optometrist service was not evaluated.

Conclusions:
With good collaboration, community optometrist could help family physicians to reduce unnecessary specialist referrals. Further study is needed to evaluate the cost-effectiveness of such shared-care model and to review the diagnostic accuracy of the optometrists.