**Burden of Wet Age-related Macular Degeneration in China**

Yabing Zhang, Ph.D. 1,, Shanlian Hu, Professor2, Jinghua Chang, Ph.D. 3
1 Shanghai Institute of Technology, Department of Labor and Social Security
2 Fudan University, College of Public Health
3 Beijing Novartis Pharma Co., Ltd.

**Background:** Age-related macular degeneration (AMD) is an aging, progressive, irreversible and blinding disease, which is divided into two types, dry AMD (DAMD) and wet AMD (WAMD). The prevalence of AMD by eye is 4.75% based on our previous literature review, and the proportion of WAMD is only 7.09%. Although the prevalence of WAMD is much lower than DAMD, its severity is far more than DAMD. New treatment technologies such as anti-vascular endothelial growth factor (anti-VEGF) and photodynamic therapy (PDT) are mainly for WAMD. So burden of disease (BOD) of WAMD is gradually increasing and causes for more concern. We intend to make an empirical study to explore BOD of WAMD in China, providing references for health care-related decision making.

**Objectives:** To explore the burden of wet age-related macular degeneration (WAMD) in China.

**Methods:** Multi-center, retrospective and cross-sectional investigation was adopted. Beijing, Chengdu, Guangzhou and Shanghai were selected as sample cities, and several hospitals were involved in each city. Patients were selected according to inclusive and exclusive criteria, and they were divided into 5 groups, i.e., photodynamic therapy (PDT), photocoagulation therapy (PCT), surgery therapy (ST1), joint therapy (JT) and support therapy (ST2) groups. Direct cost, indirect cost and burden of disease (BOD) were studied.

**Results:** 417 eligible patients were acquired, males and females accounted for 51.32% and 48.68% respectively. Burden of WAMD for per eye per year was 4,857 USD. Burden of WAMD of whole disease course for each eye was 33,999 USD. The proportion of direct medical cost in BOD was only 26.35%, however, that of indirect cost reached 68.58%.
Figure 1: BOD estimated by cities (Unit: USD/Eye/Year)

- Beijing: 2,532 (26.35%)
- Chengdu: 711 (68.58%)
- Guangzhou: 2,555 (5.06%)
- Shanghai: 6,763 (26.35%)
- Average: 3,331 (5.06%)

- Direct medical cost
- Direct non-medical cost
- Indirect cost
Table 1 BOD estimated by groups (Unit: USD/Eye/Year)

<table>
<thead>
<tr>
<th>Group</th>
<th>Direct medical cost(%)</th>
<th>Direct non-medical cost</th>
<th>Direct cost</th>
<th>Indirect cost (%)</th>
<th>BOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDT</td>
<td>3,133 (46.21)</td>
<td>252</td>
<td>3,385</td>
<td>3,395 (50.07)</td>
<td>6,779</td>
</tr>
<tr>
<td>PCT</td>
<td>87 (5.97)</td>
<td>103</td>
<td>189</td>
<td>1,260 (86.93)</td>
<td>1,450</td>
</tr>
<tr>
<td>JT</td>
<td>4,413 (60.71)</td>
<td>148</td>
<td>4,561</td>
<td>2,708 (37.25)</td>
<td>7,269</td>
</tr>
<tr>
<td>ST 1</td>
<td>674 (19.82)</td>
<td>28</td>
<td>703</td>
<td>2,700 (79.35)</td>
<td>3,403</td>
</tr>
<tr>
<td>ST 2</td>
<td>230 (5.90)</td>
<td>254</td>
<td>484</td>
<td>3,416 (87.60)</td>
<td>3,899</td>
</tr>
<tr>
<td>Average</td>
<td>1,280 (26.35)</td>
<td>246</td>
<td>1,526</td>
<td>3,331 (68.58)</td>
<td>4,857</td>
</tr>
</tbody>
</table>

**Conclusions:** The burden of WAMD is relatively high in China, it should be paid more attention by stakeholders. Although new diagnostic and therapeutic methods may raise direct medical cost, they may reduce total burden of WAMD more, which shows the advantage for new technologies. WAMD guideline will be beneficial to both patients and direct medical cost management. Targeting young patients as a priority of intervention will help to reduce total social burden of WAMD.

**References**

2. Xu K, Hu SL. Analysis of economic burden of disease from the perspective of society. Chinese Health