

## **Supplementary Appendix**

### **Shan et al. Global incidence and risk factors for glaucoma: a systematic review and meta-analysis of prospective studies**

This supplementary material has been provided by the authors to give readers additional information about their work.

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**Table S1. Search strategy**

| Database | Date                       | Search Strategy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CNKI     | 29 <sup>th</sup> Nov, 2022 | SU% '青光眼' AND (SU% '发病率'+ '发生率'+ '死亡率'+ '病死率'+ '流行') AND (FT% '调查'+ '监测'+ '前瞻'+ '队列'+ '随访')                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Wanfang  | 29 <sup>th</sup> Nov, 2022 | (主题:(青光眼) and (主题:(发病率) or 主题:(发生率) or 主题:(死亡率) or 主题:(病死率) or 主题:(流行)) and (全部:(调查) or 全部:(监测) or 全部:(前瞻) or 全部:(队列) or 全部:(随访))) and Date:1990-*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CQVIP    | 29 <sup>th</sup> Nov, 2022 | (M=青光眼 OR R=青光眼) AND (M=(发病率 OR 发生率 OR 死亡率 OR 病死率 OR 流行) OR R=(发病率 OR 发生率 OR 死亡率 OR 病死率 OR 流行)) AND U=(调查 OR 监测 OR 前瞻 OR 队列 OR 随访)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| PubMed   | 29 <sup>th</sup> Nov, 2022 | "glaucoma"[Title/Abstract] AND ("new-onset"[Title/Abstract] OR "inciden*"[Title/Abstract] OR "morbidity*"[Title/Abstract] OR "mortality*"[Title/Abstract] OR "fatalit*"[Title/Abstract] OR "death"[Title/Abstract] OR "epidemiolog*"[Title/Abstract]) AND ("cohort*"[All Fields] OR "prospective"[All Fields] OR "follow-up*"[All Fields] OR "longitudinal"[All Fields]) AND 1990/01/01:2022/11/29[Date - Publication] AND "humans"[MeSH Terms]                                                                                                                                                                                                                                                                       |
| Embase   | 29 <sup>th</sup> Nov, 2022 | 1 'glaucoma'/exp OR 'glaucoma*':ab,ti<br>2 'new-onset':ab,ti<br>3 'incidence'/exp OR 'inciden*':ab,ti<br>4 'morbidity'/exp OR 'morbidity*':ab,ti<br>5 'mortality'/exp OR 'mortality*':ab,ti<br>6 'fatality'/exp OR 'fatalit*':ab,ti<br>7 'death'/exp OR 'death':ab,ti<br>8 'epidemiology'/exp OR 'epidemiolog*':ab,ti<br>9 #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8<br>10 'cohort analysis'/exp OR 'cohort*'<br>11 'prospective study'/exp OR 'prospective'<br>12 'follow up'/exp OR 'follow-up*'<br>13 'longitudinal study'/exp OR 'longitudinal'<br>14 #10 OR #11 OR #12 OR #13<br>15 #1 AND #9 AND #14<br>16 #15 AND [humans]/lim AND [1990-2022]/py<br>17 #16 AND [embase]/lim NOT ([embase]/lim AND [medline]/lim) |

| Database       | Date                       | Search Strategy                                  |
|----------------|----------------------------|--------------------------------------------------|
| <b>Medline</b> | 29 <sup>th</sup> Nov, 2022 | 1 exp Glaucoma/ or glaucoma*.ab,ti.              |
|                |                            | 2 New-onset.ab,ti.                               |
|                |                            | 3 exp Incidence/ or Inciden*.ab,ti.              |
|                |                            | 4 exp Morbidity/ or Morbidit*.ab,ti.             |
|                |                            | 5 exp Mortality/ or Mortalit*.ab,ti.             |
|                |                            | 6 fatalit*.ab,ti.                                |
|                |                            | 7 exp Death/ or Death.ab,ti.                     |
|                |                            | 8 exp Epidemiology/ or Epidemiolog*.ab,ti.       |
|                |                            | 9 2 or 3 or 4 or 5 or 6 or 7 or 8                |
|                |                            | 10 exp Cohort Studies/ or cohort*.af.            |
|                |                            | 11 exp Prospective studies/ or Prospective.af.   |
|                |                            | 12 exp Follow-Up Studies/ or Follow-up*.af.      |
|                |                            | 13 exp Longitudinal studies/ or Longitudinal.af. |
|                |                            | 14 10 or 11 or 12 or 13                          |
|                |                            | 15 1 and 9 and 14                                |
|                |                            | 16 limit 15 to (humans and yr="1990 -Current")   |

**Table S2. The Newcastle-Ottawa Quality Assessment Scale for cohort studies**

|                                                                                                                                                                  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Selection</b>                                                                                                                                                 |  |
| <b>1) <u>Representativeness of the exposed cohort</u></b>                                                                                                        |  |
| a) truly representative of the average _____ (describe) in the community ✖                                                                                       |  |
| b) somewhat representative of the average _____ in the community ✖                                                                                               |  |
| c) selected group of users eg nurses, volunteers                                                                                                                 |  |
| d) no description of the derivation of the cohort                                                                                                                |  |
| <b>2) <u>Selection of the non exposed cohort</u></b>                                                                                                             |  |
| a) drawn from the same community as the exposed cohort ✖                                                                                                         |  |
| b) drawn from a different source                                                                                                                                 |  |
| c) no description of the derivation of the non exposed cohort                                                                                                    |  |
| <b>3) <u>Ascertainment of exposure</u></b>                                                                                                                       |  |
| a) secure record (eg surgical records) ✖                                                                                                                         |  |
| b) structured interview ✖                                                                                                                                        |  |
| c) written self report                                                                                                                                           |  |
| d) no description                                                                                                                                                |  |
| <b>4) <u>Demonstration that outcome of interest was not present at start of study</u></b>                                                                        |  |
| a) yes ✖                                                                                                                                                         |  |
| b) no                                                                                                                                                            |  |
| <b>Comparability</b>                                                                                                                                             |  |
| <b>1) <u>Comparability of cohorts on the basis of the design or analysis</u></b>                                                                                 |  |
| a) study controls for _____ (select the most important factor) ✖                                                                                                 |  |
| b) study controls for any additional factor ✖ (This criteria could be modified to indicate specific control for a second important factor.)                      |  |
| <b>Outcome</b>                                                                                                                                                   |  |
| <b>1) <u>Assessment of outcome</u></b>                                                                                                                           |  |
| a) independent blind assessment ✖                                                                                                                                |  |
| b) record linkage ✖                                                                                                                                              |  |
| c) self report                                                                                                                                                   |  |
| d) no description                                                                                                                                                |  |
| <b>2) <u>Was follow-up long enough for outcomes to occur</u></b>                                                                                                 |  |
| a) yes (select an adequate follow up period for outcome of interest-3 years) ✖                                                                                   |  |
| b) no                                                                                                                                                            |  |
| <b>3) <u>Adequacy of follow up of cohorts</u></b>                                                                                                                |  |
| a) complete follow up - all subjects accounted for ✖                                                                                                             |  |
| b) subjects lost to follow up unlikely to introduce bias - small number lost - > 70 % (select an adequate %) follow up, or description provided of those lost) ✖ |  |
| c) follow up rate < 70 % (select an adequate %) and no description of those lost                                                                                 |  |
| d) no statement                                                                                                                                                  |  |

**Notes:** A study can be awarded a maximum of one star for each numbered item within the Selection and Outcome categories. A maximum of two stars can be given for Comparability.

**Table S3. meta-regression models of cluster-level factors related to the incidence rate of primary open-angle glaucoma**

| <b>Moderator</b>         | <b>Number of articles</b> | <b>Number of data points</b> | <b><math>\beta</math></b> | <b>95 % CI</b> |         | <b><i>P</i> value</b> |
|--------------------------|---------------------------|------------------------------|---------------------------|----------------|---------|-----------------------|
| <b>Age</b>               | 23                        | 71                           | 0.0016                    | 0.0015         | 0.0017  | < .0001               |
| <b>Female proportion</b> | 27                        | 74                           | -0.0015                   | -0.0025        | -0.0006 | 0.0018                |
| <b>WHO region</b>        |                           |                              |                           |                |         |                       |
| <b>AMR</b>               | 22                        | 29                           | Reference                 |                |         |                       |
| <b>EUR</b>               | 9                         | 25                           | -0.0011                   | -0.0258        | 0.0235  | 0.9274                |
| <b>SEAR</b>              | 1                         | 8                            | 0.0231                    | -0.0147        | 0.0610  | 0.2308                |
| <b>WPR</b>               | 3                         | 12                           | 0.0016                    | -0.0259        | 0.0291  | 0.9091                |
| <b>SDI</b>               | 29                        | 80                           | 0.0312                    | -0.0415        | 0.1040  | 0.4002                |

Notes: CI, confidence interval; SDI, Socio-demographic Index; AMR=Region of the Americas, EUR, European Region; SEAR, South-East Asian Region; WPR, Western Pacific Region.

**Table S4. Evidence credibility grading criteria**

| Category                              | Criteria                                                                                                                                                                                                                                                                                         |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Convincing evidence (class I)         | <ul style="list-style-type: none"><li>● <math>P\text{-value} &lt; 1 \times 10^{-6}</math></li><li>● More than 1000 cases</li><li>● 95% prediction interval excluding the null value</li><li>● <math>I^2 &lt; 50\%</math></li><li>● No small-study effects and excess significance bias</li></ul> |
| Highly suggestive evidence (class II) | <ul style="list-style-type: none"><li>● <math>P\text{-value} &lt; 1 \times 10^{-6}</math></li><li>● More than 1000 cases</li><li>● A statistically significant result reported in the largest individual study</li></ul>                                                                         |
| Suggestive evidence (class III)       | <ul style="list-style-type: none"><li>● <math>P\text{-value} &lt; 1 \times 10^{-3}</math></li><li>● More than 1000 cases</li></ul>                                                                                                                                                               |
| Weak evidence (class IV)              | <ul style="list-style-type: none"><li>● <math>P\text{-value} &lt; 0.05</math></li></ul>                                                                                                                                                                                                          |
| Non-significant (NS)                  | <ul style="list-style-type: none"><li>● <math>P\text{-value} &gt; 0.05</math></li></ul>                                                                                                                                                                                                          |

**Table S5. Full list of the included articles (n=50)**

| Article ID | Reference                                                                                                                                                                                                                                                       |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>G1</b>  | Zhang Y, Zhang Q, Thomas R, Li SZ, Wang NL. Development of angle closure and associated risk factors: The Handan eye study. <i>Acta Ophthalmol.</i> 2022;100(1): e253-e261.                                                                                     |
| <b>G2</b>  | Hanyuda A, Rosner BA, Wiggs JL, et al. Prospective study of dietary intake of branched-chain amino acids and the risk of primary open-angle glaucoma. <i>Acta Ophthalmol.</i> 2022;100(3): e760-e769.                                                           |
| <b>G3</b>  | Teo ZL, Soh ZD, Tham YC, et al. Six-Year Incidence and Risk Factors for Primary Angle-Closure Disease: The Singapore Epidemiology of Eye Diseases Study. <i>Ophthalmology.</i> 2022;129(7):792-802.                                                             |
| <b>G4</b>  | Azizova TV, Bragin EV, Bannikova MV, Hamada N, Grigoryeva ES. The Incidence Risk for Primary Glaucoma and Its Subtypes following Chronic Exposure to Ionizing Radiation in the Russian Cohort of Mayak Nuclear Workers. <i>Cancers (Basel).</i> 2022;14(3).     |
| <b>G5</b>  | Choudhari NS, Khanna RC, Marmamula S, et al. Fifteen-Year Incidence Rate of Primary Angle Closure Disease in the Andhra Pradesh Eye Disease Study. <i>Am J Ophthalmol.</i> 2021; 229: 34-44.                                                                    |
| <b>G6</b>  | Bragin EV, Azizova TV, Bannikova MV, Grinyov AG. Incidence of primary glaucoma in a cohort of nuclear workers. <i>Oftalmologiya.</i> 2021;18(3):560-565.                                                                                                        |
| <b>G7</b>  | Koh V, Tham YC, Tan N, et al. Six-Year Incidence and Risk Factors of Primary Glaucoma in the Singapore Indian Eye Study. <i>Ophthalmol Glaucoma.</i> 2021;4(2):201-208.                                                                                         |
| <b>G8</b>  | Founti P, Coleman AL, Wilson MR, et al. Twelve-Year Incidence of Open-angle Glaucoma: The Thessaloniki Eye Study. <i>J Glaucoma.</i> 2021;30(9):851-858.                                                                                                        |
| <b>G9</b>  | Hanyuda A, Rosner BA, Wiggs JL, et al. Low-carbohydrate-diet scores and the risk of primary open-angle glaucoma: data from three US cohorts. <i>Eye (Lond).</i> 2020;34(8):1465-1475.                                                                           |
| <b>G10</b> | Jung Y, Han K, Park H, Lee SH, Park CK. Metabolic Health, Obesity, and the Risk of Developing Open-Angle Glaucoma: Metabolically Healthy Obese Patients versus Metabolically Unhealthy but Normal Weight Patients. <i>Diabetes Metab J.</i> 2020;44(3):414-425. |
| <b>G11</b> | Bragin EV, Azizova TV, Bannikova MV, Grigoryeva ES, Hamada N. Glaucoma incidence risk in a cohort of Mayak PA workers occupationally exposed to ionizing radiation. <i>Sci Rep.</i> 2019;9(1):12469.                                                            |

| Article ID | Reference                                                                                                                                                                                                                                                                          |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| G12        | Wang W, Moroi S, Bakulski K, et al. Bone Lead Levels and Risk of Incident Primary Open-Angle Glaucoma: The VA Normative Aging Study. <i>Environ Health Perspect.</i> 2018;126(8):87002.                                                                                            |
| G13        | Kang JH, Ivey KL, Boumenna T, Rosner B, Wiggs JL, Pasquale LR. Prospective study of flavonoid intake and risk of primary open-angle glaucoma. <i>Acta Ophthalmol.</i> 2018;96(6): e692-e700.                                                                                       |
| G14        | Lee NY, Jung Y, Han K, Park CK. Fluctuation in systolic blood pressure is a major systemic risk factor for development of primary open-angle glaucoma. <i>Sci Rep.</i> 2017; 7: 43734.                                                                                             |
| G15        | Pan CW, Yang WY, Hu DN, et al. Longitudinal Cohort Study on the Incidence of Primary Open-Angle Glaucoma in Bai Chinese. <i>Am J Ophthalmol.</i> 2017; 176: 127-133.                                                                                                               |
| G16        | Kang JH, Willett WC, Rosner BA, Buys E, Wiggs JL, Pasquale LR. Association of Dietary Nitrate Intake With Primary Open-Angle Glaucoma: A Prospective Analysis From the Nurses' Health Study and Health Professionals Follow-up Study. <i>JAMA Ophthalmol.</i> 2016;134(3):294-303. |
| G17        | Li L, Li C, Zhong H, Tao Y, Yuan Y, Pan CW. Estimated Cerebrospinal Fluid Pressure and the 5-Year Incidence of Primary Open-Angle Glaucoma in a Chinese Population. <i>PLoS One.</i> 2016;11(9): e162862.                                                                          |
| G18        | Pasquale LR, Hyman L, Wiggs JL, et al. Prospective Study of Oral Health and Risk of Primary Open-Angle Glaucoma in Men: Data from the Health Professionals Follow-up Study. <i>Ophthalmology.</i> 2016;123(11):2318-2327.                                                          |
| G19        | Kang JH, Loomis SJ, Rosner BA, Wiggs JL, Pasquale LR. Comparison of Risk Factor Profiles for Primary Open-Angle Glaucoma Subtypes Defined by Pattern of Visual Field Loss: A Prospective Study. <i>Invest Ophthalmol Vis Sci.</i> 2015;56(4):2439-2448.                            |
| G20        | Vijaya L, Rashima A, Panday M, et al. Predictors for incidence of primary open-angle glaucoma in a South Indian population: the Chennai eye disease incidence study. <i>Ophthalmology.</i> 2014;121(7):1370-1376.                                                                  |
| G21        | Newman-Casey PA, Talwar N, Nan B, Musch DC, Pasquale LR, Stein JD. The potential association between postmenopausal hormone use and primary open-angle glaucoma. <i>JAMA Ophthalmol.</i> 2014;132(3):298-303.                                                                      |
| G22        | Kashiwagi K, Chiba T, Mabuchi F, Furuya T, Tsukahara S. Five-year incidence of angle closure among glaucoma health examination participants. <i>Graefes Arch Clin Exp Ophthalmol.</i> 2013;251(4):1219-1228.                                                                       |
| G23        | Vijaya L, Asokan R, Panday M, et al. Six-year incidence of angle-closure disease in a South Indian population: the Chennai Eye Disease Incidence Study. <i>Am J Ophthalmol.</i> 2013;156(6):1308-1315.                                                                             |

| Article ID | Reference                                                                                                                                                                                                                                                         |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| G24        | Marcus MW, Müskens RP, Ramdas WD, et al. Antithrombotic medication and incident open-angle glaucoma. <i>Invest Ophthalmol Vis Sci</i> . 2012;53(7):3801-3805.                                                                                                     |
| G25        | Marcus MW, Müskens RP, Ramdas WD, et al. Cholesterol-lowering drugs and incident open-angle glaucoma: a population-based cohort study. <i>PLoS One</i> . 2012;7(1): e29724.                                                                                       |
| G26        | Marcus MW, Müskens RP, Ramdas WD, et al. Corticosteroids and open-angle glaucoma in the elderly: a population-based cohort study. <i>Drugs Aging</i> . 2012;29(12):963-970.                                                                                       |
| G27        | Ramdas WD, Wolfs RC, Kiefte-de JJ, et al. Nutrient intake and risk of open-angle glaucoma: the Rotterdam Study. <i>Eur J Epidemiol</i> . 2012;27(5):385-393.                                                                                                      |
| G28        | Cedrone C, Mancino R, Ricci F, Cerulli A, Culasso F, Nucci C. The 12-year incidence of glaucoma and glaucoma-related visual field loss in Italy: the Ponza eye study. <i>J Glaucoma</i> . 2012;21(1):1-6.                                                         |
| G29        | Wise LA, Rosenberg L, Radin RG, et al. A prospective study of diabetes, lifestyle factors, and glaucoma among African-American women. <i>Ann Epidemiol</i> . 2011;21(6):430-439.                                                                                  |
| G30        | Pasquale LR, Kang JH. Female reproductive factors and primary open-angle glaucoma in the Nurses' Health Study. <i>Eye (Lond)</i> . 2011;25(5):633-641.                                                                                                            |
| G31        | Yip JLY, Nolan WP, Davaatseren U, et al. Primary angle closure glaucoma in East Asia: educational attainment as a protective factor. <i>Ophthalmic Epidemiol</i> . 2011;18(5):217-225.                                                                            |
| G32        | Pasquale LR, Willett WC, Rosner BA, Kang JH. Anthropometric measures and their relation to incident primary open-angle glaucoma. <i>Ophthalmology</i> . 2010;117(8):1521-1529.                                                                                    |
| G33        | Kang JH, Willett WC, Rosner BA, Hankinson SE, Pasquale LR. Caffeine consumption and the risk of primary open-angle glaucoma: a prospective cohort study. <i>Invest Ophthalmol Vis Sci</i> . 2008;49(5):1924-1931.                                                 |
| G34        | Leske MC, Wu S, Hennis A, Honkanen R, Nemesure B, BESs SG. Risk factors for incident open-angle glaucoma: the Barbados Eye Studies. <i>Ophthalmology</i> . 2008;115(1):85-93.                                                                                     |
| G35        | Hitzl W, Hornykewycz K, Grabner G, Reitsamer HA. [On the relationship between age and prevalence and/or incidence of primary open-angle glaucoma in the "Salzburg-Moorfields Collaborative Glaucoma Study"]. <i>Klin Monbl Augenheilkd</i> . 2007;224(2):115-119. |
| G36        | Hennis A, Wu S, Nemesure B, Honkanen R, Leske MC, Barbados ESG. Awareness of incident open-angle glaucoma in a population study: the Barbados Eye Studies. <i>Ophthalmology</i> . 2007;114(10):1816-1821.                                                         |

| Article ID | Reference                                                                                                                                                                                                               |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| G37        | Nemesure B, Honkanen R, Hennis A, Wu SY, Leske MC, Barbados ESG. Incident open-angle glaucoma and intraocular pressure. Ophthalmology. 2007;114(10):1810-1815.                                                          |
| G38        | Leske MC, Wu SY, Honkanen R, et al. Nine-year incidence of open-angle glaucoma in the Barbados Eye Studies. Ophthalmology. 2007;114(6):1058-1064.                                                                       |
| G39        | Muskens RPHM, de Voogd S, Wolfs RCW, et al. Systemic antihypertensive medication and incident open-angle glaucoma. Ophthalmology. 2007;114(12):2221-2226.                                                               |
| G40        | Papadopoulos M, Cable N, Rahi J, Khaw PT, BIG ESI. The British Infantile and Childhood Glaucoma (BIG) Eye Study. Invest Ophthalmol Vis Sci. 2007;48(9):4100-4106.                                                       |
| G41        | de Voogd S, Wolfs RCW, Jansonius NM, Witteman JCM, Hofman A, de Jong PTVM. Atherosclerosis, C-reactive protein, and risk for open-angle glaucoma: the Rotterdam study. Invest Ophthalmol Vis Sci. 2006;47(9):3772-3776. |
| G42        | de Voogd S, Ikram MK, Wolfs RCW, et al. Is diabetes mellitus a risk factor for open-angle glaucoma? The Rotterdam Study. Ophthalmology. 2006;113(10):1827-1831.                                                         |
| G43        | Pasquale LR, Kang JH, Manson JE, Willett WC, Rosner BA, Hankinson SE. Prospective study of type 2 diabetes mellitus and risk of primary open-angle glaucoma in women. Ophthalmology. 2006;113(7):1081-1086.             |
| G44        | de Voogd S, Ikram MK, Wolfs RCW, Jansonius NM, Hofman A, de Jong PTVM. Incidence of open-angle glaucoma in a general elderly population: the Rotterdam Study. Ophthalmology. 2005;112(9):1487-1493.                     |
| G45        | Ikram MK, de Voogd S, Wolfs RCW, et al. Retinal vessel diameters and incident open-angle glaucoma and optic disc changes: the Rotterdam study. Invest Ophthalmol Vis Sci. 2005;46(4):1182-1187.                         |
| G46        | Sloan FA, Brown DS, Carlisle ES, Ostermann J, Lee PP. Estimates of incidence rates with longitudinal claims data. Archives of ophthalmology (Chicago, Ill. : 1960). 2003;121(10):1462-1468.                             |
| G47        | Nemesure B, Wu S, Hennis A, Leske MC, Barbados ESG. Factors related to the 4-year risk of high intraocular pressure: the Barbados Eye Studies. Archives of ophthalmology (Chicago, Ill. : 1960). 2003;121(6):856-862.   |
| G48        | Kang JH, Pasquale LR, Rosner BA, et al. Prospective study of cigarette smoking and the risk of primary open-angle glaucoma. Archives of ophthalmology (Chicago, Ill. : 1960). 2003;121(12):1762-1768.                   |

| Article ID | Reference                                                                                                                                                           |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>G49</b> | Leske MC, Wu S, Nemesure B, Hennis A. Incident open-angle glaucoma and blood pressure. Archives of ophthalmology (Chicago, Ill. : 1960). 2002;120(7):954-959.       |
| <b>G50</b> | Leske MC, Connell AM, Wu SY, et al. Incidence of open-angle glaucoma: the Barbados Eye Studies. The Barbados Eye Studies Group. Arch Ophthalmol. 2001;119(1):89-95. |

**Table S6. Detailed characteristics of the included articles (n=50)**

| Article ID | Author            | Publish year | Country       | WHO region | SDI region | Urban/Rural | Baseline                    | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample  | PO AG | PA CG | Secondary glaucoma |
|------------|-------------------|--------------|---------------|------------|------------|-------------|-----------------------------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|---------|-------|-------|--------------------|
| <b>G1</b>  | Zhang Y, et al.   | 2022         | China         | WP R       | M-SD I     | Rural       | 2006                        | 5 years        | Yes, suspect         | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 30+              | 0.65              | CI             | 457     | -     | 0     | -                  |
| <b>G2</b>  | Hanyuda A, et al. | 2022         | United states | A MR       | H-SD I     | Mixed       | 1986                        | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-75            | 0                 | CI             | 42254   | 560   | -     | -                  |
| <b>G2</b>  | Hanyuda A, et al. | 2022         | United states | A MR       | H-SD I     | Mixed       | 1984 (NHS I), 1991 (NHS II) | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-55            | 1                 | CI             | 132435  | 1386  | -     | -                  |
| <b>G2</b>  | Hanyuda A, et al. | 2022         | United states | A MR       | H-SD I     | Mixed       | 1984 (NHS I), 1991 (NHS II) | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-75            | 75.8              | IR             | 3109037 | 1946  | -     | -                  |

| Article ID | Author               | Publication year | Country   | WHO region | SD I region | Urban/Rural | Baseline         | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample | PO AG | PA CG | Secondary glaucoma |
|------------|----------------------|------------------|-----------|------------|-------------|-------------|------------------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|--------|-------|-------|--------------------|
|            |                      |                  |           |            |             |             | II), 1986 (HPFS) |                |                      |                 |                       |                      |               |                  |                   |                |        |       |       |                    |
| G3         | Teo ZL, et al.       | 2022             | Singapore | WP R       | H-SD I      | Mixed       | 2004-2006        | 6 years        | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40+              | NA                | CI             | 1531   | -     | 2     | -                  |
| G3         | Teo ZL, et al.       | 2022             | Singapore | WP R       | H-SD I      | Mixed       | 2007-2009        | 6 years        | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40+              | NA                | CI             | 1698   | -     | 10    | -                  |
| G3         | Teo ZL, et al.       | 2022             | Singapore | WP R       | H-SD I      | Mixed       | 2009-2011        | 6 years        | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40+              | NA                | CI             | 2069   | -     | 1     | -                  |
| G4         | Azizova TV, et al.   | 2022             | Russia    | EUR        | M-SD I      | Mixed       | 1948-1982        | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 17-65            | NA                | CI             | 21650  | 540   | 32    | -                  |
| G5         | Choudhary NS, et al. | 2021             | India     | SEAR       | LM -        | Rural       | 1996-2000        | 15 years       | Yes, all             | Yes, suspect    | Yes, all              | Yes, ,               | Yes, all      | 40+              | 0.529             | CI             | 1215   | -     | 19    | -                  |

| Article ID | Author            | Publication year | Country       | WHO region | SD I region    | Urban/Rural | Baseline  | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample | PO AG | PA CG | Secondary glaucoma |
|------------|-------------------|------------------|---------------|------------|----------------|-------------|-----------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|--------|-------|-------|--------------------|
| G6         | Bragin EV, et al. | 2021             | Russia        | EU R       | SD I - SD I LM | Mixed       | 1948-1982 | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | NA               | NA                | IR             | 482217 | 476   | -     | -                  |
| G7         | Koh V, et al.     | 2021             | Singapore     | WP R       | H-SD I         | Mixed       | 2007-2009 | 6 years        | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 40+              | NA                | CI             | 2158   | 37    | 10    | -                  |
| G8         | Founti P, et al.  | 2021             | Greece        | EU R       | H M-SD I       | Urban       | 2000-2005 | 12 years       | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 60+              | 0.48              | CI             | 1042   | 22    | -     | -                  |
| G9         | Hanyuda A, et al. | 2020             | United states | A MR       | H M-SD I       | Mixed       | 1980      | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 30-55            | 1                 | CI             | 78210  | 1357  | -     | -                  |

| Article ID | Author            | Publish year | Country       | WHO region | SD I region | Urban/Rural | Baseline                               | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample  | PO AG | PA CG | Secondary glaucoma |
|------------|-------------------|--------------|---------------|------------|-------------|-------------|----------------------------------------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|---------|-------|-------|--------------------|
| G9         | Hanyuda A, et al. | 2020         | United states | AMR        | HSD I       | Mixed       | 1991                                   | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 24-44            | 1                 | CI             | 66350   | 217   | -     | -                  |
| G9         | Hanyuda A, et al. | 2020         | United states | AMR        | HSD I       | Mixed       | 1986                                   | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-75            | 0                 | CI             | 41078   | 538   | -     | -                  |
| G9         | Hanyuda A, et al. | 2020         | United states | AMR        | HSD I       | Mixed       | 1980 (NHS), 1986 (HPFS), 1991 (NHS II) | 25 years       | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 24-75            | 0.7787            | IR             | 3429825 | 2112  | -     | -                  |
| G10        | Jung Y, et al.    | 2020         | the Repub     | WPR        | HSD I       | Both        | 2002                                   | NA             | No                   | No              | No                    | No                   | No            | 40+              | 0.509             | CI             | 287553  | 4970  | -     | -                  |

| Article ID | Author            | Publication year | Country           | WHO region | SD I region | Urban/Rural | Baseline  | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample | PO AG | PA CG | Secondary glaucoma |
|------------|-------------------|------------------|-------------------|------------|-------------|-------------|-----------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|--------|-------|-------|--------------------|
|            |                   |                  | Republic of Korea |            |             |             |           |                |                      |                 |                       |                      |               |                  |                   |                |        |       |       |                    |
| G11        | Bragin EV, et al. | 2019             | Russia            | EUR        | M-SD I      | Mixed       | 1948-1982 | 70 years       | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 17-65            | 0.2541            | CI             | 21763  | 461   | 15    | -                  |
| G11        | Bragin EV, et al. | 2019             | Russia            | EUR        | M-SD I      | Mixed       | 1948-1982 | 70 years       | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 17-65            | 0.2541            | IR             | 544062 | 461   | -     | -                  |
| G12        | Wang W, et al.    | 2018             | United states     | AMR        | H-SD I      | Mixed       | 1963      | 10.6 years     | No                   | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 45+              | 0                 | CI             | 634    | 4     | -     | -                  |
| G13        | Kang JH, et al.   | 2018             | United states     | AMR        | M-SD I      | Mixed       | 1976      | NA             | Yes, all             | No              | Yes, all              | Yes, all             | No            | 40-55            | 1                 | CI             | 65516  | 1058  | -     | -                  |
| G13        | Kang JH, et al.   | 2018             | United states     | AMR        | H-SD I      | Mixed       | 1986      | NA             | Yes, all             | No              | Yes, all              | Yes, all             | No            | 40-75            | 0                 | CI             | 42156  | 517   | -     | -                  |

| Article ID | Author          | Publication year | Country               | WHO region | SD I region | Urban/Rural | Baseline                | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample  | PO AG | PA CG | Secondary glaucoma |
|------------|-----------------|------------------|-----------------------|------------|-------------|-------------|-------------------------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|---------|-------|-------|--------------------|
| G13        | Kang JH, et al. | 2018             | United states         | AMR        | H-SD I      | Mixed       | 1976 (NHS), 1986 (HPFS) | NA             | Yes, all             | No              | Yes, all              | Yes, all             | No            | 40-75            | 0.61              | IR             | 1706804 | 1575  | -     | -                  |
| G14        | Lee NY, et al.  | 2017             | the Republic of Korea | WPR        | H-SD I      | Both        | 2002-2006               | 7 years        | No                   | No              | No                    | No                   | No            | 40+              | 0.41              | CI             | 80021   | 910   | -     | -                  |
| G15        | Pan CW, et al.  | 2017             | China                 | WPR        | M-SD I      | Rural       | 2010                    | 5 years        | Yes, all             | Yes, all        | Yes, all              | Yes, suspect         | Yes, all      | 55-95            | 0.636             | CI             | 1477    | 19    | -     | -                  |
| G16        | Kang JH, et al. | 2016             | United states         | AMR        | H-SD I      | Mixed       | 1976                    | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40+              | 1                 | CI             | 45955   | 1000  | -     | -                  |

| Article ID | Author              | Publish year | Country       | WHO region | SD I region | Urban/Rural | Baseline                | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample  | PO AG | PA CG | Secondary glaucoma |
|------------|---------------------|--------------|---------------|------------|-------------|-------------|-------------------------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|---------|-------|-------|--------------------|
| G16        | Kang JH, et al.     | 2016         | United states | AMR        | HMSDI       | Mixed       | 1986                    | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40+              | 0                 | CI             | 29039   | 483   | -     | -                  |
| G16        | Kang JH, et al.     | 2016         | United states | AMR        | HMSDI       | Mixed       | 1976 (NHS), HPFS (1986) | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40+              | 0.61              | IR             | 1678713 | 1483  | -     | -                  |
| G17        | Li L, et al.        | 2016         | China         | WPR        | HMSDI       | Rural       | 2010                    | 5 years        | Yes, all             | Yes, all        | Yes, all              | Yes, suspect         | Yes, all      | 55-95            | NA                | CI             | 1485    | 19    | -     | -                  |
| G18        | Pasquale LR, et al. | 2016         | United states | AMR        | HMSDI       | Mixed       | 1986                    | 26 years       | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-75            | 0                 | CI             | 40536   | 485   | -     | -                  |

| Article ID | Author              | Publication year | Country       | WHO region | SD I region | Urban/Rural | Baseline                | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample  | PO AG | PA CG | Secondary glaucoma |
|------------|---------------------|------------------|---------------|------------|-------------|-------------|-------------------------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|---------|-------|-------|--------------------|
| G18        | Pasquale LR, et al. | 2016             | United states | AMR        | HMSDI       | Mixed       | 1986                    | 26 years       | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-75            | 0                 | IR             | 528089  | 485   | -     | -                  |
| G19        | Kang JH, et al.     | 2015             | United states | AMR        | HMSDI       | Mixed       | 1976                    | 20+ years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | NA               | 1                 | CI             | 77157   | 906   | -     | -                  |
| G19        | Kang JH, et al.     | 2015             | United states | AMR        | HMSDI       | Mixed       | 1986                    | 20+ years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | NA               | 0                 | CI             | 42773   | 399   | -     | -                  |
| G19        | Kang JH, et al.     | 2015             | United states | AMR        | HMSDI       | Mixed       | 1976 (NHS), 1986 (HPFS) | 20+ years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | NA               | 0.643             | IR             | 1716214 | 1305  | -     | -                  |

| Article ID | Author                  | Published year | Country       | WHO region | SD I region | Urban/Rural | Baseline  | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample | PO AG | PA CG | Secondary glaucoma |
|------------|-------------------------|----------------|---------------|------------|-------------|-------------|-----------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|--------|-------|-------|--------------------|
| G20        | Vijaya L, et al.        | 2014           | India         | SEAR       | LM - SD I   | Both        | 2001-2004 | 6 years        | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 40+              | 0.55              | CI             | 4316   | 129   | -     | -                  |
| G21        | Newman-Casey PA, et al. | 2014           | United states | AMR        | H-SD I      | Mixed       | 2001      | 6.4 year       | No                   | No              | No                    | No                   | No            | 50+              | 1                 | CI             | 152163 | 2925  | -     | -                  |
| G22        | Kashiwagi K, et al.     | 2013           | Japan         | WPR        | H-SD I      | Urban       | 2005      | 5 years        | Yes, suspect         | Yes, suspect    | Yes, all              | Yes, suspect         | Yes, all      | 40+              | 0.74              | CI             | 331    | -     | 4     | -                  |
| G23        | Vijaya L, et al.        | 2013           | India         | SEAR       | LM - SD I   | Both        | 2001-2004 | 6 years        | Yes, all             | Yes, all        | Yes, all              | Yes, suspect         | Yes, all      | 40+              | 0.54              | CI             | 3350   | -     | 9     | -                  |

| Article ID | Author            | Publication year | Country       | WHO region | SD I region | Urban/Rural | Baseline  | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample | PO AG | PA CG | Secondary glaucoma |
|------------|-------------------|------------------|---------------|------------|-------------|-------------|-----------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|--------|-------|-------|--------------------|
| G24*       | Marcus MW, et al. | 2012             | Netherlands   | EUR        | HSDI        | Urban       | 1991-1993 | 9.8 years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 55+              | 0.584             | CI             | 3939   | 108   | -     | -                  |
| G25*       | Marcus MW, et al. | 2012             | Netherlands   | EUR        | HSDI        | Urban       | 1991-1993 | 9.8 years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 55+              | 0.584             | CI             | 3939   | 108   | -     | -                  |
| G26*       | Marcus MW, et al. | 2012             | Netherlands   | EUR        | HSDI        | Urban       | 1991-1993 | 9.8 years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 55+              | 0.584             | CI             | 3939   | 108   | -     | -                  |
| G27        | Ramdas WD, et al. | 2012             | Netherlands   | EUR        | HSDI        | Urban       | 1991-1993 | 9.7 years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 55+              | 0.59              | CI             | 3502   | 91    | -     | -                  |
| G28        | Cedrone C, et al. | 2012             | Italy         | EUR        | HMSDI       | Urban       | 1988      | 12 years       | No                   | Yes, all        | Yes, all              | Yes, suspect         | No            | 40+              | 0.5879            | CI             | 398    | 15    | 2     | -                  |
| G29        | Wise LA, et al.   | 2011             | United states | AMR        | HMI         | Mixed       | 1995      | NA             | No                   | No              | No                    | No                   | No            | 21-69            | 1                 | CI             | 32570  | 366   | -     | -                  |

| Article ID | Author              | Publication year | Country       | WHO region | SD I region     | Urban/Rural | Baseline | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample | PO AG | PA CG | Secondary glaucoma |
|------------|---------------------|------------------|---------------|------------|-----------------|-------------|----------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|--------|-------|-------|--------------------|
| G29        | Wise LA, et al.     | 2011             | United states | AMR        | SD I H M-SD I H | Mixed       | 1995     | NA             | No                   | No              | No                    | No                   | No            | 21-69            | 1                 | IR             | 416171 | 366   | -     | -                  |
| G30        | Pasquale LR, et al. | 2011             | United states | AMR        | SD I H M-SD I H | Mixed       | 1976     | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-55            | 1                 | CI             | 79440  | 813   | -     | -                  |
| G31        | Yip JLY, et al.     | 2011             | Mongolia      | WPR        | LM -SD I H      | Both        | 1999     | 3 years        | Yes, all             | Yes, all        | Yes, all              | Yes, suspect         | Yes, all      | 51-101           | 0.6422            | CI             | 1892   | -     | 29    | -                  |
| G32        | Pasquale LR, et al. | 2010             | United states | AMR        | SD I H M-SD I H | Mixed       | 1976     | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40+              | 1                 | CI             | 78777  | 642   | -     | -                  |

| Article ID | Author              | Published year | Country       | WHO region | SD I region | Urban/Rural | Baseline                | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample  | PO AG | PA CG | Secondary glaucoma |
|------------|---------------------|----------------|---------------|------------|-------------|-------------|-------------------------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|---------|-------|-------|--------------------|
| G32        | Pasquale LR, et al. | 2010           | United states | AMR        | HMSDI       | Mixed       | 1986                    | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40+              | 0                 | CI             | 41352   | 338   | -     | -                  |
| G32        | Pasquale LR, et al. | 2010           | United states | AMR        | HMSDI       | Mixed       | 1976 (NHS), 1986 (HPFS) | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40+              | 0.656             | IR             | 1610334 | 980   | -     | -                  |
| G33        | Kang JH, et al.     | 2008           | United states | AMR        | HMSDI       | Mixed       | 1980                    | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-55            | 1                 | CI             | 79120   | 658   | -     | -                  |
| G33        | Kang JH, et al.     | 2008           | United states | AMR        | HMSDI       | Mixed       | 1986                    | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-75            | 0                 | CI             | 42052   | 353   | -     | -                  |

| Article ID | Author           | Publication year | Country       | WHO region | SD I region | Urban/Rural | Baseline                    | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample  | PO AG | PA CG | Secondary glaucoma |
|------------|------------------|------------------|---------------|------------|-------------|-------------|-----------------------------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|---------|-------|-------|--------------------|
| G33        | Kang JH, et al.  | 2008             | United states | AMR        | HMSDI       | Mixed       | 1980 (NHS), 1986 (HPFS)     | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-75            | 0.653             | IR             | 1647311 | 1011  | -     | -                  |
| G34        | Leske MC, et al. | 2008             | Barbados      | AMR        | HMSDI       | Mixed       | 1987-1992                   | 9 years        | No                   | Yes, all        | Yes, all              | Yes, all             | No            | 40-84            | 0.59              | CI             | 3222    | 125   | -     | -                  |
| G35        | Hitzl W, et al.  | 2007             | Austria       | EUR        | HMSDI       | Mixed       | December 1996-November 2000 | 5.3 years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 40+              | NA                | CI             | 848     | 9     | -     | -                  |
| G36        | Hennis A, et al. | 2007             | Barbados      | AMR        | HMSDI       | Mixed       | April 1988-May 1992         | 9 years        | No                   | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 40-84            | NA                | CI             | 4314    | 125   | -     | -                  |

| Article ID | Author                 | Publication year | Country        | WHO region | SD I region | Urban/Rural | Baseline  | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample  | PO AG | PA CG | Secondary glaucoma |
|------------|------------------------|------------------|----------------|------------|-------------|-------------|-----------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|---------|-------|-------|--------------------|
| G37        | Nemesure B, et al.     | 2007             | Barbados       | AMR        | MSDI        | Mixed       | 1987-1992 | 9 years        | No                   | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 40-84            | 0.59              | CI             | 3222    | 125   | -     | -                  |
| G38        | Leske MC, et al.       | 2007             | Barbados       | AMR        | MSDI        | Mixed       | 1987-1992 | 9 years        | No                   | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 40-84            | 0.59              | CI             | 3222    | 125   | -     | -                  |
| G39        | Musken s RPHM, et al.  | 2007             | Netherlands    | EUR        | HSDI        | Urban       | 1990-1993 | 6.5 years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 55+              | 0.59              | CI             | 3842    | 87    | -     | -                  |
| G40        | Papadopoulos M, et al. | 2007             | United Kingdom | EUR        | MSDI        | Mixed       | 2001      | 1 year         | No                   | No              | No                    | No                   | No            | 16-              | NA                | CI             | 1354574 | -     | -     | 52                 |
| G41        | de Voogd S, et al.     | 2006             | Netherlands    | EUR        | HSDI        | Urban       | 1990-1993 | 6.5 years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 55+              | 0.58              | CI             | 3842    | 87    | -     | -                  |

| Article ID | Author              | Publication year | Country       | WHO region | SD I region | Urban/Rural | Baseline  | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample | PO AG | PA CG | Secondary glaucoma |
|------------|---------------------|------------------|---------------|------------|-------------|-------------|-----------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|--------|-------|-------|--------------------|
| G42        | de Voogds, et al.   | 2006             | Netherlands   | EUR        | HSD I       | Urban       | 1990-1993 | 6.5 years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 55+              | 0.6               | CI             | 3837   | 87    | -     | -                  |
| G43        | Pasquale LR, et al. | 2006             | United states | AMR        | MSD I       | Mixed       | 1976      | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-55            | 1                 | CI             | 76318  | 429   | -     | -                  |
| G43        | Pasquale LR, et al. | 2006             | United states | AMR        | MSD I       | Mixed       | 1976      | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-55            | 1                 | IR             | 998292 | 429   | -     | -                  |
| G44        | de Voogds, et al.   | 2005             | Netherlands   | EUR        | HSD I       | Urban       | 1990-1993 | 6.5 years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 55+              | 0.58              | CI             | 3842   | 87    | -     | -                  |
| G44        | de Voogds, et al.   | 2005             | Netherlands   | EUR        | HSD I       | Urban       | 1990-1993 | 6.5 years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 55+              | 0.58              | IR             | 24539  | 87    | -     | -                  |

| Article ID | Author           | Publish year | Country       | WHO region | SD I region | Urban/Rural | Baseline  | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample | PO AG | PA CG | Secondary glaucoma |
|------------|------------------|--------------|---------------|------------|-------------|-------------|-----------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|--------|-------|-------|--------------------|
| G45        | Ikram MK, et al. | 2005         | Netherlands   | EUR        | HSD I       | Urban       | 1990-1993 | 6.5 years      | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 55+              | 0.58              | CI             | 3469   | 74    | -     | -                  |
| G46        | Sloan FA, et al. | 2003         | United states | AMR        | HSD I       | Mixed       | 1991      | NA             | No                   | No              | No                    | No                   | No            | NA               | NA                | CI             | 2009   | 1982  | -     | -                  |
| G46        | Sloan FA, et al. | 2003         | United states | AMR        | HSD I       | Mixed       | 1992      | NA             | No                   | No              | No                    | No                   | No            | NA               | NA                | CI             | 17570  | 562   | -     | -                  |
| G46        | Sloan FA, et al. | 2003         | United states | AMR        | HSD I       | Mixed       | 1993      | NA             | No                   | No              | No                    | No                   | No            | NA               | NA                | CI             | 16079  | 386   | -     | -                  |
| G46        | Sloan FA, et al. | 2003         | United states | AMR        | HSD I       | Mixed       | 1994      | NA             | No                   | No              | No                    | No                   | No            | NA               | NA                | CI             | 14583  | 350   | -     | -                  |

| Article ID | Author           | Publish year | Country       | WHO region | SD I region | Urban/Rural | Baseline | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample | PO AG | PA CG | Secondary glaucoma |
|------------|------------------|--------------|---------------|------------|-------------|-------------|----------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|--------|-------|-------|--------------------|
| G46        | Sloan FA, et al. | 2003         | United states | AMR        | HI-M-SD     | Mixed       | 1995     | NA             | No                   | No              | No                    | No                   | No            | NA               | NA                | CI             | 13094  | 380   | -     | -                  |
| G46        | Sloan FA, et al. | 2003         | United states | AMR        | HI-M-SD     | Mixed       | 1996     | NA             | No                   | No              | No                    | No                   | No            | NA               | NA                | CI             | 11593  | 232   | -     | -                  |
| G46        | Sloan FA, et al. | 2003         | United states | AMR        | HI-M-SD     | Mixed       | 1997     | NA             | No                   | No              | No                    | No                   | No            | NA               | NA                | CI             | 10240  | 164   | -     | -                  |
| G46        | Sloan FA, et al. | 2003         | United states | AMR        | HI-M-SD     | Mixed       | 1998     | NA             | No                   | No              | No                    | No                   | No            | NA               | NA                | CI             | 9013   | 162   | -     | -                  |
| G46        | Sloan FA, et al. | 2003         | United states | AMR        | HI-M-SD     | Mixed       | 1998     | NA             | No                   | No              | No                    | No                   | No            | NA               | NA                | CI             | 7988   | 112   | -     | -                  |

| Article ID | Author             | Published year | Country       | WHO region | SD I region | Urban/Rural | Baseline                | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample  | PO AG | PA CG | Secondary glaucoma |
|------------|--------------------|----------------|---------------|------------|-------------|-------------|-------------------------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|---------|-------|-------|--------------------|
| G47        | Nemesure B, et al. | 2003           | Barbados      | AMR        | SD I M-SD I | Mixed       | 1988-1992               | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 40-84            | 0.6               | CI             | 2495    | 18    | -     | -                  |
| G48        | Kang JH, et al.    | 2003           | United states | AMR        | SD I M-SD I | Mixed       | 1976                    | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-55            | 1                 | CI             | 73560   | 286   | -     | -                  |
| G48        | Kang JH, et al.    | 2003           | United states | AMR        | SD I M-SD I | Mixed       | 1986                    | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-75            | 0                 | CI             | 37655   | 164   | -     | -                  |
| G48        | Kang JH, et al.    | 2003           | United states | AMR        | SD I M-SD I | Mixed       | 1976 (NHS), 1986 (HPFS) | NA             | Yes, all             | Yes, all        | Yes, all              | Yes, all             | No            | 40-75            | 0.6614            | IR             | 1035227 | 450   | -     | -                  |

| Article ID | Author           | Publication year | Country  | WHO region | SDI   | Urban/Rural | Baseline  | Follow-up time | ACA/depth evaluation | IOP measurement | Optic disc evaluation | Visual field testing | Visual acuity | Age range (year) | Female proportion | Incidence type | Sample | POAG | PACG | Secondary glaucoma |
|------------|------------------|------------------|----------|------------|-------|-------------|-----------|----------------|----------------------|-----------------|-----------------------|----------------------|---------------|------------------|-------------------|----------------|--------|------|------|--------------------|
| G49        | Leske MC, et al. | 2002             | Barbados | AMR        | M-SDI | Mixed       | 1988-1992 | 4 years        | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 40-84            | NA                | CI             | 2989   | 67   | -    | -                  |
| G50        | Leske MC, et al. | 2001             | Barbados | AMR        | M-SDI | Mixed       | 1988-1992 | 4 years        | Yes, all             | Yes, all        | Yes, all              | Yes, all             | Yes, all      | 40-84            | 0.5905            | CI             | 2989   | 67   | -    | -                  |

**Notes:** WHO, World Health Organization; EUR, European Region; AMR, Region of the Americas; SEAR, South-East Asian Region; WPR, Western Pacific Region; SDI, social demographic index; H-SDI, high SDI; HM-SDI, high-middle SDI; M-SDI, middle SDI; LM-SDI, low-middle SDI; ACA, Anterior chamber angle; IOP, intraocular pressure; POAG, primary open-angle glaucoma; PACG, primary angle-closure glaucoma; CI, cumulative incidence; IR, incidence rate. \*Article G24, G25 and G26 had different inclusion and exclusion criteria.

**Table S7. Main characteristics of the included articles**

| Characteristics      | Articles reported glaucoma incidence (n=50) | Articles reported associated factors (n=38) |
|----------------------|---------------------------------------------|---------------------------------------------|
|                      | N (%)                                       | N (%)                                       |
| <b>Publish year</b>  |                                             |                                             |
| 1990-1999            | 0 (0.0%)                                    | 0 (0.0%)                                    |
| 2000-2009            | 18 (36.0%)                                  | 13 (34.2%)                                  |
| 2010-2022            | 32 (64.0%)                                  | 25 (65.8%)                                  |
| <b>WHO region</b>    |                                             |                                             |
| EUR                  | 16 (32.0%)                                  | 12 (31.6%)                                  |
| AFR                  | 0 (0.0%)                                    | 0 (0.0%)                                    |
| EMR                  | 0 (0.0%)                                    | 0 (0.0%)                                    |
| AMR                  | 22 (44.0%)                                  | 19 (50.0%)                                  |
| SEAR                 | 3 (6.0%)                                    | 2 (5.3%)                                    |
| WPR                  | 9 (18.0%)                                   | 5 (13.2%)                                   |
| <b>SDI region</b>    |                                             |                                             |
| H-SDI                | 18 (36.0%)                                  | 16 (42.1%)                                  |
| HM-SDI               | 16 (32.0%)                                  | 9 (23.7%)                                   |
| M-SDI                | 12 (24.0%)                                  | 10 (26.3%)                                  |
| LM-SDI               | 5 (10.0%)                                   | 3 (7.9%)                                    |
| <b>Study setting</b> |                                             |                                             |
| Urban                | 12 (24.0%)                                  | 10 (26.3%)                                  |
| Rural                | 4 (8.0%)                                    | 3 (7.9%)                                    |
| Mixed                | 34 (68.0%)                                  | 25 (65.8%)                                  |

| Characteristics                                | Articles reported glaucoma incidence (n=50) | Articles reported associated factors (n=38) |
|------------------------------------------------|---------------------------------------------|---------------------------------------------|
|                                                | N (%)                                       | N (%)                                       |
| <b>Subtype</b>                                 |                                             |                                             |
| POAG                                           | 43 (86.0%)                                  | 37 (97.4%)                                  |
| PACG                                           | 10 (20.0%)                                  | 3 (7.9%)                                    |
| Secondary glaucoma                             | 1 (2.0%)                                    | 0 (0.0%)                                    |
| <b>Anterior chamber angle/depth evaluation</b> |                                             |                                             |
| Yes, all                                       | 36 (72.0%)                                  | 29 (76.3%)                                  |
| Yes, suspects                                  | 2 (4.0%)                                    | 0 (0.0%)                                    |
| No                                             | 12 (24.0%)                                  | 9 (23.7%)                                   |
| <b>IOP measurement</b>                         |                                             |                                             |
| Yes, all                                       | 41 (82.0%)                                  | 32 (84.2%)                                  |
| Yes, suspects                                  | 2 (4.0%)                                    | 1 (2.6%)                                    |
| No                                             | 7 (14.0%)                                   | 5 (13.2%)                                   |
| <b>Optic disc evaluation</b>                   |                                             |                                             |
| Yes, all                                       | 44 (88.0%)                                  | 34 (89.5%)                                  |
| Yes, suspects                                  | 0 (0.0%)                                    | 0 (0.0%)                                    |
| No                                             | 6 (12.0%)                                   | 4 (10.5%)                                   |
| <b>Visual field testing</b>                    |                                             |                                             |
| Yes, all                                       | 36 (72.0%)                                  | 29 (76.3%)                                  |
| Yes, suspects                                  | 8 (16.0%)                                   | 5 (13.2%)                                   |
| No                                             | 6 (12.0%)                                   | 4 (10.5%)                                   |
| <b>Visual acuity</b>                           |                                             |                                             |
| Yes, all                                       | 24 (48.0%)                                  | 16 (42.1%)                                  |

| Characteristics      | Articles reported glaucoma incidence (n=50) | Articles reported associated factors (n=38) |
|----------------------|---------------------------------------------|---------------------------------------------|
|                      | N (%)                                       | N (%)                                       |
| Yes, suspects        | 0 (0.0%)                                    | 0 (0.0%)                                    |
| No                   | 26 (52.0%)                                  | 22 (57.9%)                                  |
| <b>Quality score</b> |                                             |                                             |
| 9                    | 22 (44.0%)                                  | 17 (44.7%)                                  |
| 8                    | 19 (38.0%)                                  | 16 (43.2%)                                  |
| 7                    | 7 (14.0%)                                   | 5 (13.5%)                                   |
| 6                    | 1 (2.0%)                                    | 0 (0.0%)                                    |
| 5                    | 1 (2.0%)                                    | 0 (0.0%)                                    |

**Notes:** WHO, World Health Organization; EUR, European Region; AFR, African Region; EMR, Eastern Mediterranean Region; AMR, Region of the Americas; SEAR, South-East Asian Region; WPR, Western Pacific Region; SDI, social demographic index; H-SDI, high SDI; HM-SDI, high-middle SDI; M-SDI, middle SDI; LM-SDI, low-middle SDI; POAG, primary open-angle glaucoma; PACG, primary angle-closure glaucoma; IOP, intraocular pressure. Four articles provided incidence data for both POAG and PACG.

**Table S8. Quality assessment of included articles (n=50)**

| Article ID | Author               | Year Published | Selection |    |    |    | Comparability | Outcome |    |    | NOS score |
|------------|----------------------|----------------|-----------|----|----|----|---------------|---------|----|----|-----------|
|            |                      |                | S1        | S2 | S3 | S4 | C1            | O1      | O2 | O3 |           |
| G1         | Zhang Y, et al.      | 2022           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |
| G2         | Hanyuda A, et al.    | 2022           |           | *  | *  | *  | **            | *       | *  | *  | 8         |
| G3         | Teo ZL, et al.       | 2022           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |
| G4         | Azizova TV, et al.   | 2022           |           | *  | *  | *  | **            | *       | *  | *  | 8         |
| G5         | Choudhari NS, et al. | 2021           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |
| G6         | Bragin EV, et al.    | 2021           |           | *  | *  | *  |               | *       | *  | *  | 6         |
| G7         | Koh V, et al.        | 2021           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |
| G8         | Founti P, et al.     | 2021           | *         | *  | *  | *  | **            | *       | *  |    | 8         |
| G9         | Hanyuda A, et al.    | 2020           |           | *  | *  | *  | **            | *       | *  | *  | 8         |
| G10        | Jung Y, et al.       | 2020           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |
| G11        | Bragin EV, et al.    | 2019           |           | *  | *  | *  | **            | *       | *  | *  | 8         |
| G12        | Wang W, et al.       | 2018           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |
| G13        | Kang JH, et al.      | 2018           |           | *  | *  | *  | **            | *       | *  | *  | 8         |
| G14        | Lee NY, et al.       | 2017           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |
| G15        | Pan CW, et al.       | 2017           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |
| G16        | Kang JH, et al.      | 2016           |           | *  | *  | *  | **            | *       | *  | *  | 8         |
| G17        | Li L, et al.         | 2016           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |
| G18        | Pasquale LR, et al.  | 2016           |           | *  |    | *  | **            | *       | *  | *  | 7         |
| G19        | Kang JH, et al.      | 2015           |           | *  |    | *  | **            | *       | *  | *  | 7         |
| G20        | Vijaya L, et al.     | 2014           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |

| Article ID | Author                  | Year Published | Selection |    |    |    | Comparability | Outcome |    |    | NOS   |
|------------|-------------------------|----------------|-----------|----|----|----|---------------|---------|----|----|-------|
|            |                         |                | S1        | S2 | S3 | S4 | C1            | O1      | O2 | O3 | score |
| G21        | Newman-Casey PA, et al. | 2014           | *         | *  | *  | *  | **            | *       | *  | *  | 9     |
| G22        | Kashiwagi K, et al.     | 2013           | *         | *  | *  | *  | *             | *       | *  |    | 7     |
| G23        | Vijaya L, et al.        | 2013           | *         | *  | *  | *  | **            | *       | *  | *  | 9     |
| G24        | Marcus MW, et al.       | 2012           | *         | *  | *  | *  | **            | *       | *  |    | 8     |
| G25        | Marcus MW, et al.       | 2012           | *         | *  | *  | *  | **            | *       | *  |    | 8     |
| G26        | Marcus MW, et al.       | 2012           | *         | *  | *  | *  | **            | *       | *  |    | 8     |
| G27        | Ramdas WD, et al.       | 2012           | *         | *  | *  | *  | **            | *       | *  |    | 8     |
| G28        | Cedrone C, et al.       | 2012           | *         | *  | *  | *  | **            | *       | *  | *  | 9     |
| G29        | Wise LA, et al.         | 2011           | *         | *  |    | *  | **            | *       | *  | *  | 8     |
| G30        | Pasquale LR, et al.     | 2011           |           | *  |    | *  | **            | *       | *  | *  | 7     |
| G31        | Yip JLY, et al.         | 2011           | *         | *  | *  | *  | **            | *       | *  | *  | 9     |
| G32        | Pasquale LR, et al.     | 2010           |           | *  | *  | *  | **            | *       | *  | *  | 8     |
| G33        | Kang JH, et al.         | 2008           |           | *  |    | *  | **            | *       | *  | *  | 7     |
| G34        | Leske MC, et al.        | 2008           | *         | *  | *  | *  | **            | *       | *  | *  | 9     |
| G35        | Hitzl W, et al.         | 2007           | *         | *  | *  | *  |               | *       | *  | *  | 7     |
| G36        | Hennis A, et al.        | 2007           | *         | *  |    | *  | **            | *       | *  | *  | 8     |
| G37        | Nemesure B, et al.      | 2007           | *         | *  | *  | *  | **            | *       | *  | *  | 9     |
| G38        | Leske MC, et al.        | 2007           | *         | *  | *  | *  | **            | *       | *  | *  | 9     |
| G39        | Muskens RPHM, et al.    | 2007           | *         | *  | *  | *  | **            | *       | *  | *  | 9     |
| G40        | Papadopoulos M, et al.  | 2007           | *         | *  | *  | *  | **            | *       |    | *  | 8     |
| G41        | de Voogd S, et al.      | 2006           | *         | *  | *  | *  | **            | *       | *  | *  | 9     |
| G42        | de Voogd S, et al.      | 2006           | *         | *  | *  | *  | **            | *       | *  |    | 8     |
| G43        | Pasquale LR, et al.     | 2006           |           | *  | *  | *  | **            | *       | *  | *  | 8     |
| G44        | de Voogd S, et al.      | 2005           | *         | *  | *  | *  | **            | *       | *  |    | 8     |

| Article ID | Author             | Year Published | Selection |    |    |    | Comparability | Outcome |    |    | NOS score |
|------------|--------------------|----------------|-----------|----|----|----|---------------|---------|----|----|-----------|
|            |                    |                | S1        | S2 | S3 | S4 | C1            | O1      | O2 | O3 |           |
| G45        | Ikram MK, et al.   | 2005           | *         | *  | *  | *  | **            | *       | *  |    | 8         |
| G46        | Sloan FA, et al.   | 2003           | *         | *  |    | *  |               | *       | *  |    | 5         |
| G47        | Nemesure B, et al. | 2003           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |
| G48        | Kang JH, et al.    | 2003           |           | *  |    | *  | **            | *       | *  | *  | 7         |
| G49        | Leske MC, et al.   | 2002           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |
| G50        | Leske MC, et al.   | 2001           | *         | *  | *  | *  | **            | *       | *  | *  | 9         |

**Notes:** S1: Representativeness of the exposed cohort; S2: Selection of the non exposed cohort; S3: Ascertainment of exposure; S4: Demonstration that outcome of interest was not present at start of study; C1: Comparability of cohorts on the basis of the design or analysis; O1: Assessment of outcome; O2: Was follow-up long enough for outcomes to occur (3 year); O3: Adequacy of follow up of cohorts (70% or no description).

**Table S9. Estimated incidence rate of primary open-angle glaucoma in adults aged 40–79 years in 2019, by WHO region (per 10,000 person-years)**

| Sex     | Age group          | AFR                        | AMR                        | SEAR                       | EUR                        | EMR                        | WPR                        |
|---------|--------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Male    | 40-44 years        | 8.36 (1.66-18.48)          | 3.75 (0.95-7.61)           | 5.80 (1.52-11.65)          | 1.50 (0.10-4.85)           | 5.98 (1.14-13.49)          | 3.15 (0.83-6.61)           |
|         | 45-49 years        | 15.84 (6.19-28.99)         | 8.83 (4.59-14.08)          | 12.04 (5.89-19.81)         | 5.01 (1.53-10.15)          | 12.17 (4.85-22.16)         | 7.92 (4.12-12.79)          |
|         | 50-54 years        | 24.69 (12.29-40.75)        | 15.61 (10.00-22.28)        | 19.87 (11.86-29.57)        | 10.19 (4.84-17.14)         | 20.15 (10.46-32.60)        | 14.47 (9.28-20.70)         |
|         | 55-59 years        | 35.07 (20.04-53.76)        | 24.01 (17.07-32.01)        | 29.35 (19.52-40.88)        | 17.18 (10.14-25.79)        | 29.93 (17.88-44.82)        | 22.48 (15.93-30.10)        |
|         | 60-64 years        | 47.08 (29.35-68.54)        | 34.04 (25.69-43.49)        | 40.42 (28.73-53.84)        | 25.80 (17.09-36.09)        | 41.33 (27.01-58.51)        | 32.00 (24.03-41.10)        |
|         | 65-69 years        | 60.96 (40.21-85.62)        | 45.86 (35.86-57.01)        | 53.47 (39.54-69.22)        | 36.06 (25.42-48.34)        | 54.56 (37.82-74.25)        | 43.52 (33.89-54.32)        |
|         | 70-74 years        | 77.21 (53.57-104.76)       | 59.59 (48.24-72.10)        | 68.46 (52.69-86.05)        | 47.89 (35.36-62.10)        | 70.76 (51.10-93.51)        | 56.00 (44.71-68.56)        |
|         | 75-79 years        | 94.46 (67.97-124.92)       | 74.83 (61.90-88.96)        | 84.78 (67.02-104.42)       | 61.27 (46.79-77.49)        | 87.8 (65.33-113.49)        | 70.04 (56.97-84.47)        |
|         | <b>40-79 years</b> | <b>29.16 (16.42-45.51)</b> | <b>23.62 (17.20-31.11)</b> | <b>26.94 (18.11-37.45)</b> | <b>20.28 (13.40-28.84)</b> | <b>25.76 (15.52-38.79)</b> | <b>23.35 (17.06-30.77)</b> |
| Female  | 40-44 years        | 14.94 (4.22-31.41)         | 5.56 (1.85-12.09)          | 10.79 (3.93-20.48)         | 3.61 (0.61-9.44)           | 11.60 (3.33-24.29)         | 6.41 (2.45-12.33)          |
|         | 45-49 years        | 20.91 (7.98-39.53)         | 9.40 (3.97-17.35)          | 16.03 (7.60-27.22)         | 7.06 (2.25-14.37)          | 16.99 (6.77-31.58)         | 10.77 (5.44-17.88)         |
|         | 50-54 years        | 27.82 (12.69-48.61)        | 14.11 (7.15-23.52)         | 22.21 (12.21-34.93)        | 11.39 (4.99-20.23)         | 23.43 (11.27-39.93)        | 16.14 (9.53-24.44)         |
|         | 55-59 years        | 35.59 (18.30-58.52)        | 19.50 (11.03-30.46)        | 29.36 (17.75-43.69)        | 16.84 (8.94-27.14)         | 30.99 (16.77-49.61)        | 22.23 (14.33-31.85)        |
|         | 60-64 years        | 44.39 (24.83-69.64)        | 25.72 (15.67-38.35)        | 37.46 (24.19-53.49)        | 23.23 (13.84-35.00)        | 39.14 (23.13-59.51)        | 29.18 (19.92-40.21)        |
|         | 65-69 years        | 54.06 (32.22-81.63)        | 33.01 (21.32-47.33)        | 46.63 (31.56-64.54)        | 30.43 (19.48-43.78)        | 47.94 (30.26-69.88)        | 37.22 (26.57-49.69)        |
|         | 70-74 years        | 65.03 (40.56-95.39)        | 41.00 (27.58-57.15)        | 56.51 (39.68-76.23)        | 38.25 (25.57-53.46)        | 58.50 (38.42-83.05)        | 45.30 (33.01-59.59)        |
|         | 75-79 years        | 76.41 (49.62-109.14)       | 50.40 (35.21-68.39)        | 67.42 (48.71-89.10)        | 47.18 (32.73-64.26)        | 69.92 (47.44-97.03)        | 54.41 (40.37-70.62)        |
|         | <b>40-79 years</b> | <b>31.49 (15.78-52.92)</b> | <b>20.60 (12.29-31.53)</b> | <b>27.39 (16.54-41.03)</b> | <b>19.54 (11.49-30.09)</b> | <b>27.47 (14.71-44.62)</b> | <b>22.69 (14.93-32.26)</b> |
| Overall | 40-44 years        | 9.88 (2.50-20.59)          | 4.05 (1.27-8.30)           | 6.98 (2.29-13.18)          | 2.12 (0.29-5.83)           | 7.32 (1.84-15.39)          | 3.99 (1.37-7.72)           |
|         | 45-49 years        | 16.81 (6.84-30.25)         | 8.32 (4.06-13.93)          | 12.81 (6.49-20.73)         | 5.50 (1.82-10.80)          | 13.23 (5.55-23.57)         | 8.52 (4.59-13.50)          |
|         | 50-54 years        | 24.86 (12.39-40.93)        | 13.79 (8.15-20.79)         | 19.92 (11.95-29.55)        | 10.21 (4.88-17.12)         | 20.58 (10.76-33.15)        | 14.49 (9.33-20.69)         |
|         | 55-59 years        | 34.15 (19.33-52.57)        | 20.29 (13.33-28.64)        | 28.42 (18.83-39.68)        | 16.45 (9.62-24.80)         | 29.47 (17.50-44.23)        | 21.65 (15.29-29.08)        |

| <b>Sex</b> | <b>Age group</b>   | <b>AFR</b>                 | <b>AMR</b>                 | <b>SEAR</b>                | <b>EUR</b>                 | <b>EMR</b>                 | <b>WPR</b>                 |
|------------|--------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
|            | 60-64 years        | 44.75 (27.51-65.68)        | 27.83 (19.45-37.65)        | 38.24 (26.97-51.19)        | 23.97 (15.67-33.78)        | 39.52 (25.58-56.27)        | 30.05 (22.40-38.80)        |
|            | 65-69 years        | 56.77 (36.83-80.57)        | 36.69 (26.69-48.23)        | 49.67 (36.38-64.76)        | 32.70 (22.73-44.27)        | 50.84 (34.83-69.75)        | 40.03 (30.90-50.33)        |
|            | 70-74 years        | 70.73 (48.17-97.17)        | 46.67 (35.23-59.67)        | 62.43 (47.54-79.13)        | 42.68 (31.04-55.95)        | 64.72 (46.19-86.26)        | 50.60 (39.98-62.49)        |
|            | 75-79 years        | 85.08 (60.07-114.03)       | 58.00 (45.01-72.62)        | 76.18 (59.50-94.71)        | 53.65 (40.33-68.68)        | 79.33 (58.3-103.48)        | 62.20 (49.95-75.83)        |
|            | <b>40-79 years</b> | <b>29.08 (16.20-45.53)</b> | <b>21.03 (14.32-29.19)</b> | <b>26.27 (17.51-36.67)</b> | <b>19.51 (12.69-27.96)</b> | <b>25.62 (15.26-38.72)</b> | <b>22.45 (16.24-29.76)</b> |

**Notes:** WHO, World Health Organization; EUR, European Region; AFR, African Region; EMR, Eastern Mediterranean Region; AMR, Region of the Americas; SEAR, South-East Asian Region; WPR, Western Pacific Region.

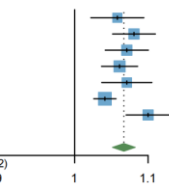
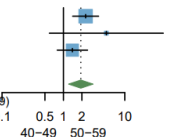
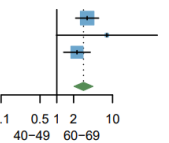
**Table S10. Estimated incidence rate of primary open-angle glaucoma in adults aged 40–79 years in 2019, by SDI region (per 10,000 person-years)**

| <b>Sex</b>     | <b>Age group</b>   | <b>High SDI</b>            | <b>High-middle SDI</b>     | <b>Middle SDI</b>          | <b>Low-middle SDI</b>      | <b>Low SDI</b>             |
|----------------|--------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| <b>Male</b>    | 40-44 years        | 0.52 (0.00-4.22)           | 1.74 (0.04-4.85)           | 3.50 (0.95-6.84)           | 6.32 (1.67-12.67)          | 11.35 (1.87-26.29)         |
|                | 45-49 years        | 3.23 (0.02-9.27)           | 5.58 (2.05-10.21)          | 8.52 (4.69-13.14)          | 12.89 (6.22-21.33)         | 20.24 (6.64-39.47)         |
|                | 50-54 years        | 7.80 (2.02-16.04)          | 11.20 (6.19-17.3)          | 15.25 (10.20-21.15)        | 21.04 (12.36-31.57)        | 30.42 (12.93-53.77)        |
|                | 55-59 years        | 14.10 (6.12-24.44)         | 18.53 (12.12-26.01)        | 23.65 (17.39-30.77)        | 30.80 (20.16-43.30)        | 42.11 (20.89-69.25)        |
|                | 60-64 years        | 22.04 (11.93-34.51)        | 27.50 (19.67-36.42)        | 33.67 (26.16-42.08)        | 42.15 (29.51-56.68)        | 55.32 (30.41-86.25)        |
|                | 65-69 years        | 31.78 (19.39-46.61)        | 38.28 (28.81-48.89)        | 45.54 (36.48-55.54)        | 55.37 (40.44-72.29)        | 70.43 (41.52-105.64)       |
|                | 70-74 years        | 43.46 (28.91-60.36)        | 51.03 (40.16-63.05)        | 59.41 (49.12-70.67)        | 70.65 (53.76-89.51)        | 87.68 (55.07-126.45)       |
|                | 75-79 years        | 56.57 (39.86-75.64)        | 65.18 (52.78-78.76)        | 74.63 (62.91-87.35)        | 87.19 (68.22-108.16)       | 106.05 (69.78-148.51)      |
|                | <b>40-79 years</b> | <b>18.87 (10.87-29.43)</b> | <b>20.05 (14.07-27.18)</b> | <b>23.38 (17.54-30.07)</b> | <b>27.76 (18.31-39.03)</b> | <b>36.04 (17.85-60.04)</b> |
| <b>Female</b>  | 40-44 years        | 1.39 (0.00-6.07)           | 3.10 (0.52-6.83)           | 5.38 (2.26-9.20)           | 8.91 (3.37-15.99)          | 15.02 (3.69-31.50)         |
|                | 45-49 years        | 4.01 (0.18-10.49)          | 6.61 (2.76-11.5)           | 9.83 (5.79-14.63)          | 14.57 (7.52-23.32)         | 22.48 (7.99-42.44)         |
|                | 50-54 years        | 7.76 (1.96-15.98)          | 11.21 (6.22-17.23)         | 15.31 (10.34-21.10)        | 21.20 (12.57-31.60)        | 30.75 (13.16-54.02)        |
|                | 55-59 years        | 12.62 (5.06-22.49)         | 16.91 (10.85-24.00)        | 21.90 (16.02-28.61)        | 28.90 (18.75-40.84)        | 40.06 (19.47-66.35)        |
|                | 60-64 years        | 18.54 (9.28-30.08)         | 23.66 (16.50-31.88)        | 29.52 (22.68-37.25)        | 37.63 (25.90-51.18)        | 50.33 (26.76-79.70)        |
|                | 65-69 years        | 25.58 (14.49-39.03)        | 31.55 (23.07-41.15)        | 38.30 (30.20-47.32)        | 47.51 (33.92-63.03)        | 61.77 (34.94-94.68)        |
|                | 70-74 years        | 33.86 (21.05-48.99)        | 40.72 (31.12-51.46)        | 48.38 (39.29-58.44)        | 58.75 (43.59-75.84)        | 74.63 (44.81-110.45)       |
|                | 75-79 years        | 43.06 (28.47-60.00)        | 50.77 (39.87-62.84)        | 59.30 (48.99-70.64)        | 70.76 (53.84-89.67)        | 88.15 (55.29-127.12)       |
|                | <b>40-79 years</b> | <b>16.35 (8.60-26.62)</b>  | <b>19.33 (13.25-26.50)</b> | <b>21.75 (16.08-28.25)</b> | <b>26.49 (17.15-37.57)</b> | <b>35.29 (16.92-59.26)</b> |
| <b>Overall</b> | 40-44 years        | 1.03 (0.00-5.32)           | 2.39 (0.27-5.80)           | 4.41 (1.59-7.99)           | 7.56 (2.49-14.27)          | 13.16 (2.77-28.87)         |
|                | 45-49 years        | 3.69 (0.11-9.99)           | 6.08 (2.39-10.83)          | 9.15 (5.23-13.86)          | 13.70 (6.85-22.29)         | 21.35 (7.31-40.94)         |
|                | 50-54 years        | 7.78 (1.98-16.00)          | 11.21 (6.21-17.26)         | 15.28 (10.27-21.13)        | 21.11 (12.46-31.58)        | 30.59 (13.04-53.90)        |
|                | 55-59 years        | 13.21 (5.48-23.27)         | 17.71 (11.48-25.00)        | 22.80 (16.73-29.72)        | 29.89 (19.48-42.12)        | 41.08 (20.18-67.81)        |

| <b>Sex</b> | <b>Age group</b>   | <b>High SDI</b>           | <b>High-middle SDI</b>     | <b>Middle SDI</b>          | <b>Low-middle SDI</b>      | <b>Low SDI</b>             |
|------------|--------------------|---------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
|            | 60-64 years        | 19.90 (10.31-31.80)       | 25.49 (18.01-34.04)        | 31.64 (24.45-39.71)        | 39.96 (27.76-54.02)        | 52.81 (28.58-82.96)        |
|            | 65-69 years        | 27.95 (16.37-41.93)       | 34.61 (25.68-44.66)        | 41.94 (33.36-51.46)        | 51.53 (37.25-67.77)        | 66.03 (38.17-100.07)       |
|            | 70-74 years        | 37.57 (24.09-53.39)       | 45.28 (35.11-56.58)        | 53.78 (44.10-64.42)        | 64.68 (48.66-82.66)        | 80.95 (49.78-118.20)       |
|            | 75-79 years        | 48.14 (32.75-65.88)       | 56.71 (45.19-69.41)        | 66.53 (55.56-78.53)        | 78.69 (60.78-98.60)        | 96.74 (62.24-137.38)       |
|            | <b>40-79 years</b> | <b>17.35 (9.50-27.74)</b> | <b>19.68 (13.65-26.83)</b> | <b>22.58 (16.82-29.18)</b> | <b>27.14 (17.75-38.32)</b> | <b>35.67 (17.39-59.65)</b> |

**Notes:** SDI, social demographic index.

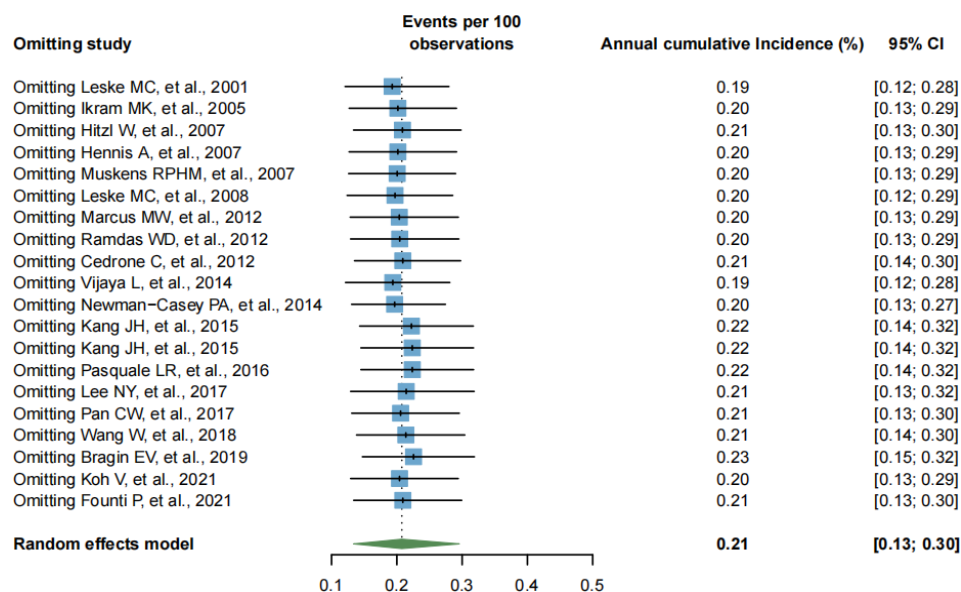
**Table S11. Meta-analyses of risk factors for primary open-angle glaucoma**

| Risk factor                             | Article ID | Author               | Year Published | Country     | Meta-analysis                                                                                                                                                                                         |           |               |
|-----------------------------------------|------------|----------------------|----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------|
| <b>Age - per year increase</b>          |            |                      |                |             |                                                                                                                                                                                                       |           |               |
|                                         | G7         | Koh V, et al.        | 2021           | Singapore   | <b>Study</b><br><br><b>Random effects model</b><br>Heterogeneity: $I^2 = 62\%$ , $\chi^2_6 = 15.60$ ( $p = 0.02$ ) | <b>OR</b> | <b>95%CI</b>  |
|                                         | G24        | Marcus MW, et al.    | 2012           | Netherlands |                                                                                                                                                                                                       | 1.06      | [1.02; 1.09]  |
|                                         | G25        | Marcus MW, et al.    | 2012           | Netherlands |                                                                                                                                                                                                       | 1.08      | [1.05; 1.11]  |
|                                         | G26        | Marcus MW, et al.    | 2012           | Netherlands |                                                                                                                                                                                                       | 1.07      | [1.04; 1.10]  |
|                                         | G27        | Ramdas WD, et al.    | 2012           | Netherlands |                                                                                                                                                                                                       | 1.06      | [1.04; 1.09]  |
|                                         | G34        | Leske MC, et al.     | 2008           | Barbados    |                                                                                                                                                                                                       | 1.07      | [1.04; 1.11]  |
|                                         | G39        | Muskens RPHM, et al. | 2007           | Netherlands |                                                                                                                                                                                                       | 1.04      | [1.03; 1.06]  |
| <b>Age - 50-59 years vs 40-49 years</b> |            |                      |                |             |                                                                                                                                                                                                       |           |               |
|                                         | G20        | Vijaya L, et al.     | 2014           | India       | <b>Study</b><br><br><b>Random effects model</b><br>Heterogeneity: $I^2 = 19\%$ , $\chi^2_2 = 2.48$ ( $p = 0.29$ )  | <b>OR</b> | <b>95%CI</b>  |
|                                         | G28        | Cedrone C, et al.    | 2012           | Italy       |                                                                                                                                                                                                       | 2.30      | [1.41; 3.74]  |
|                                         | G34        | Leske MC, et al.     | 2008           | Barbados    |                                                                                                                                                                                                       | 5.00      | [0.59; 42.38] |
| <b>Age - 60-69 years vs 40-49 years</b> |            |                      |                |             |                                                                                                                                                                                                       |           |               |
|                                         | G20        | Vijaya L, et al.     | 2014           | India       | <b>Study</b><br><br><b>Random effects model</b><br>Heterogeneity: $I^2 = 6\%$ , $\chi^2_2 = 2.13$ ( $p = 0.34$ ) | <b>OR</b> | <b>95%CI</b>  |
|                                         | G28        | Cedrone C, et al.    | 2012           | Italy       |                                                                                                                                                                                                       | 7.90      | [0.98; 63.64] |
|                                         | G34        | Leske MC, et al.     | 2008           | Barbados    |                                                                                                                                                                                                       | 2.30      | [1.33; 3.98]  |
| <b>Age - 70+ years vs 40-49 years</b>   |            |                      |                |             |                                                                                                                                                                                                       |           |               |
|                                         | G20        | Vijaya L, et al.     | 2014           | India       |                                                                                                                                                                                                       |           |               |

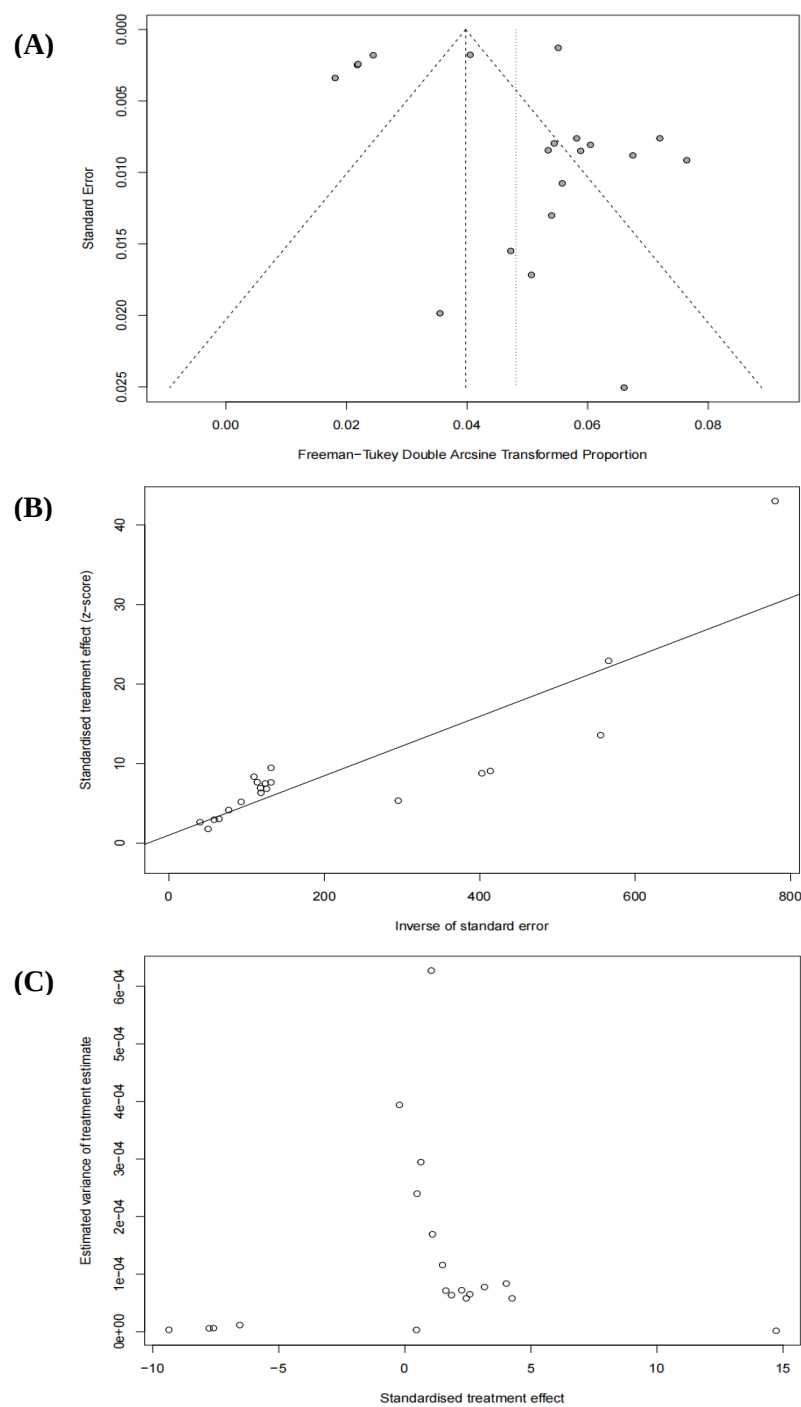
| Risk factor               | Article ID | Author               | Year Published | Country     | Meta-analysis                                                                              |  |              |                                                               |
|---------------------------|------------|----------------------|----------------|-------------|--------------------------------------------------------------------------------------------|--|--------------|---------------------------------------------------------------|
|                           | G28        | Cedrone C, et al.    | 2012           | Italy       | Study                                                                                      |  | OR           | 95%CI                                                         |
|                           | G34        | Leske MC, et al.     | 2008           | Barbados    | Random effects model<br>Heterogeneity: $I^2 = 0\%$ , $\chi^2_2 = 0.85$ ( $p = 0.66$ )      |  | 2.77         | [1.45; 5.41]<br>[0.72; 99.80]<br>[1.48; 4.55]<br>[1.82; 4.22] |
| Female                    |            |                      |                |             |                                                                                            |  |              |                                                               |
|                           | G11        | Bragin EV, et al.    | 2019           | Russia      | Study                                                                                      |  | OR           | 95%CI                                                         |
|                           | G15        | Pan CW, et al.       | 2017           | China       | Bragin EV, et al.,2019<br>Pan CW, et al.,2017                                              |  | 0.66<br>0.70 | [0.54; 0.81]<br>[0.31; 1.60]                                  |
|                           | G20        | Vijaya L, et al.     | 2014           | India       | Vijaya L, et al.,2014<br>Marcus MW, et al.,2012                                            |  | 0.90<br>0.57 | [0.64; 1.27]<br>[0.39; 0.84]                                  |
|                           | G24        | Marcus MW, et al.    | 2012           | Netherlands | Marcus MW, et al.,2012<br>Marcus MW, et al.,2012                                           |  | 0.56<br>0.63 | [0.38; 0.83]<br>[0.43; 0.93]                                  |
|                           | G25        | Marcus MW, et al.    | 2012           | Netherlands | Ramdas WD, et al.,2012<br>Cedrone C, et al.,2012                                           |  | 0.74<br>0.63 | [0.48; 1.15]<br>[0.23; 1.74]                                  |
|                           | G26        | Marcus MW, et al.    | 2012           | Netherlands | Leske MC, et al.,2008<br>Leske MC, et al.,2007                                             |  | 0.83<br>0.76 | [0.57; 1.21]<br>[0.59; 0.97]                                  |
|                           | G27        | Ramdas WD, et al.    | 2012           | Netherlands | Muskens RPHM, et al.,2007<br>de Voogd S, et al.,2005                                       |  | 1.11<br>1.30 | [0.69; 1.79]<br>[0.87; 1.94]                                  |
|                           | G28        | Cedrone C, et al.    | 2012           | Italy       | Random effects model<br>Heterogeneity: $I^2 = 38\%$ , $\chi^2_{11} = 17.73$ ( $p = 0.09$ ) |  | 0.76         | [0.66; 0.88]                                                  |
|                           | G34        | Leske MC, et al.     | 2008           | Barbados    |                                                                                            |  |              |                                                               |
|                           | G38        | Leske MC, et al.     | 2007           | Barbados    |                                                                                            |  |              |                                                               |
|                           | G39        | Muskens RPHM, et al. | 2007           | Netherlands |                                                                                            |  |              |                                                               |
|                           | G44        | de Voogd S, et al.   | 2005           | Netherlands |                                                                                            |  |              |                                                               |
| IOP (per 1 mmHg increase) |            |                      |                |             |                                                                                            |  |              |                                                               |
|                           | G7         | Koh V, et al.        | 2021           | Singapore   |                                                                                            |  |              |                                                               |
|                           | G24        | Marcus MW, et al.    | 2012           | Netherlands |                                                                                            |  |              |                                                               |
|                           | G25        | Marcus MW, et al.    | 2012           | Netherlands |                                                                                            |  |              |                                                               |
|                           | G27        | Ramdas WD, et al.    | 2012           | Netherlands |                                                                                            |  |              |                                                               |

| Risk factor                       | Article ID           | Author               | Year<br>Published | Country          | Meta-analysis                                                                                                                                                                                                                                                                                                                                                                       |                   |                     |              |
|-----------------------------------|----------------------|----------------------|-------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------|--------------|
|                                   | G34                  | Leske MC, et al.     | 2008              | Barbados         | <p><b>Study</b></p> <p>Koh V, et al.,2021<br/>Marcus MW, et al.,2012<br/>Marcus MW, et al.,2012<br/>Ramdas WD, et al.,2012<br/>Leske MC, et al.,2008<br/>Nemesure B, et al.,2007<br/>Muskens RPHM, et al.,2007<br/>de Voogd S, et al.,2005</p> <p><b>Random effects model</b><br/>Heterogeneity: <math>I^2 = 35\%</math>, <math>\chi^2_7 = 10.73</math> (<math>p = 0.15</math>)</p> | <b>Odds Ratio</b> | <b>OR</b>           | <b>95%CI</b> |
|                                   | G37                  | Nemesure B, et al.   | 2007              | Barbados         |                                                                                                                                                                                                                                                                                                                                                                                     | 1.34              | [1.18; 1.52]        |              |
|                                   | G39                  | Muskens RPHM, et al. | 2007              | Netherlands      |                                                                                                                                                                                                                                                                                                                                                                                     | 1.12              | [1.07; 1.17]        |              |
|                                   |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     | 1.12              | [1.07; 1.17]        |              |
|                                   |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     | 1.16              | [1.10; 1.22]        |              |
|                                   |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     | 1.12              | [1.08; 1.16]        |              |
|                                   |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     | 1.12              | [1.08; 1.16]        |              |
|                                   |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     | 1.10              | [1.05; 1.15]        |              |
|                                   |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     | 1.16              | [1.09; 1.24]        |              |
|                                   |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     | <b>1.13</b>       | <b>[1.11; 1.15]</b> |              |
| <b>IOP treatment</b>              |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     |                   |                     |              |
|                                   | G24                  | Marcus MW, et al.    | 2012              | Netherlands      | <p><b>Study</b></p> <p>Marcus MW, et al.,2012<br/>Marcus MW, et al.,2012<br/>Ramdas WD, et al.,2012<br/>Muskens RPHM, et al.,2007</p> <p><b>Random effects model</b><br/>Heterogeneity: <math>I^2 = 0\%</math>, <math>\chi^2_3 = 0.69</math> (<math>p = 0.87</math>)</p>                                                                                                            | <b>Odds Ratio</b> | <b>OR</b>           | <b>95%CI</b> |
|                                   | G25                  | Marcus MW, et al.    | 2012              | Netherlands      |                                                                                                                                                                                                                                                                                                                                                                                     | 3.24              | [1.73; 6.07]        |              |
|                                   | G27                  | Ramdas WD, et al.    | 2012              | Netherlands      |                                                                                                                                                                                                                                                                                                                                                                                     | 3.39              | [1.82; 6.32]        |              |
|                                   |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     | 3.87              | [1.95; 7.69]        |              |
|                                   |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     | 4.80              | [2.21; 10.44]       |              |
| G39                               | Muskens RPHM, et al. | 2007                 | Netherlands       | <b>3.69</b>      | <b>[2.64; 5.15]</b>                                                                                                                                                                                                                                                                                                                                                                 |                   |                     |              |
| <b>Famliy history of glaucoma</b> |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     |                   |                     |              |
|                                   | G19                  | Kang JH, et al.      | 2015              | United<br>states | <p><b>Study</b></p> <p>Kang JH, et al.,2015<br/>Marcus MW, et al.,2012<br/>Marcus MW, et al.,2012<br/>Marcus MW, et al.,2012<br/>Cedrone C, et al.,2012<br/>Leske MC, et al.,2008</p> <p><b>Random effects model</b><br/>Heterogeneity: <math>I^2 = 46\%</math>, <math>\chi^2_5 = 9.27</math> (<math>p = 0.10</math>)</p>                                                           | <b>Odds Ratio</b> | <b>OR</b>           | <b>95%CI</b> |
|                                   |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     | 3.20              | [2.83; 3.62]        |              |
|                                   | G24                  | Marcus MW, et al.    | 2012              | Netherlands      |                                                                                                                                                                                                                                                                                                                                                                                     | 1.82              | [1.06; 3.12]        |              |
|                                   |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     | 1.85              | [1.08; 3.16]        |              |
|                                   |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     | 2.24              | [1.31; 3.84]        |              |
|                                   | G25                  | Marcus MW, et al.    | 2012              | Netherlands      |                                                                                                                                                                                                                                                                                                                                                                                     | 3.80              | [1.22; 11.87]       |              |
|                                   | G26                  | Marcus MW, et al.    | 2012              | Netherlands      |                                                                                                                                                                                                                                                                                                                                                                                     | 2.40              | [1.28; 4.51]        |              |
| G28                               | Cedrone C, et al.    | 2012                 | Italy             | <b>2.49</b>      | <b>[1.92; 3.24]</b>                                                                                                                                                                                                                                                                                                                                                                 |                   |                     |              |
| G34                               | Leske MC, et al.     | 2008                 | Barbados          |                  |                                                                                                                                                                                                                                                                                                                                                                                     |                   |                     |              |
| <b>Myopia</b>                     |                      |                      |                   |                  |                                                                                                                                                                                                                                                                                                                                                                                     |                   |                     |              |

| Risk factor         | Article ID | Author              | Year Published | Country       | Meta-analysis                                                 |            |             |                     |
|---------------------|------------|---------------------|----------------|---------------|---------------------------------------------------------------|------------|-------------|---------------------|
|                     | G15        | Pan CW, et al.      | 2017           | China         | Study                                                         | Odds Ratio | OR          | 95%CI               |
|                     | G20        | Vijaya L, et al.    | 2014           | India         | Pan CW, et al.,2017                                           |            | 3.40        | [1.32; 8.74]        |
|                     | G24        | Marcus MW, et al.   | 2012           | Netherlands   | Vijaya L, et al.,2014                                         |            | 1.70        | [1.13; 2.56]        |
|                     | G25        | Marcus MW, et al.   | 2012           | Netherlands   | Marcus MW, et al.,2012                                        |            | 2.09        | [1.08; 4.04]        |
|                     | G26        | Marcus MW, et al.   | 2012           | Netherlands   | Marcus MW, et al.,2012                                        |            | 2.30        | [1.19; 4.44]        |
|                     | G28        | Cedrone C, et al.   | 2012           | Italy         | Marcus MW, et al.,2012                                        |            | 2.22        | [1.13; 4.37]        |
|                     |            |                     |                |               | Cedrone C, et al.,2012                                        |            | 3.10        | [0.83; 11.60]       |
|                     |            |                     |                |               | <b>Random effects model</b>                                   |            | <b>2.08</b> | <b>[1.59; 2.70]</b> |
|                     |            |                     |                |               | Heterogeneity: $I^2 = 0\%$ , $\chi^2 = 2.44$ ( $p = 0.78$ )   |            |             |                     |
| <b>Diabetes</b>     |            |                     |                |               |                                                               |            |             |                     |
|                     | G15        | Pan CW, et al.      | 2017           | China         | Study                                                         | Odds Ratio | OR          | 95%CI               |
|                     | G19        | Kang JH, et al.     | 2015           | United states | Pan CW, et al.,2017                                           |            | 0.30        | [0.05; 1.94]        |
|                     | G20        | Vijaya L, et al.    | 2014           | India         | Kang JH, et al.,2015                                          |            | 1.34        | [1.11; 1.62]        |
|                     | G28        | Cedrone C, et al.   | 2012           | Italy         | Vijaya L, et al.,2014                                         |            | 0.83        | [0.56; 1.24]        |
|                     | G34        | Leske MC, et al.    | 2008           | Barbados      | Cedrone C, et al.,2012                                        |            | 0.50        | [0.08; 3.16]        |
|                     | G42        | de Voogd S, et al.  | 2006           | Netherlands   | Leske MC, et al.,2008                                         |            | 1.20        | [0.75; 1.92]        |
|                     | G43        | Pasquale LR, et al. | 2006           | United states | de Voogd S, et al.,2006                                       |            | 0.65        | [0.25; 1.66]        |
|                     |            |                     |                |               | Pasquale LR, et al.,2006                                      |            | 1.82        | [1.23; 2.70]        |
|                     |            |                     |                |               | <b>Random effects model</b>                                   |            | <b>1.13</b> | <b>[0.83; 1.53]</b> |
|                     |            |                     |                |               | Heterogeneity: $I^2 = 54\%$ , $\chi^2 = 13.09$ ( $p = 0.04$ ) |            |             |                     |
| <b>Hypertension</b> |            |                     |                |               |                                                               |            |             |                     |
|                     | G15        | Pan CW, et al.      | 2017           | China         | Study                                                         | Odds Ratio | OR          | 95%CI               |
|                     | G20        | Vijaya L, et al.    | 2014           | India         | Leske MC, et al.,2002                                         |            | 0.49        | [0.29; 0.84]        |
|                     | G28        | Cedrone C, et al.   | 2012           | Italy         | Pan CW, et al.,2017                                           |            | 2.50        | [0.92; 6.82]        |
|                     | G34        | Leske MC, et al.    | 2008           | Barbados      | Vijaya L, et al.,2014                                         |            | 0.60        | [0.40; 0.90]        |
|                     |            |                     |                |               | Cedrone C, et al.,2012                                        |            | 1.40        | [0.40; 4.95]        |
|                     | G49        | Leske MC, et al.    | 2002           | Barbados      | Leske MC, et al.,2008                                         |            | 0.80        | [0.52; 1.24]        |
|                     |            |                     |                |               | <b>Random effects model</b>                                   |            | <b>0.82</b> | <b>[0.50; 1.33]</b> |
|                     |            |                     |                |               | Heterogeneity: $I^2 = 60\%$ , $\chi^2 = 9.93$ ( $p = 0.04$ )  |            |             |                     |

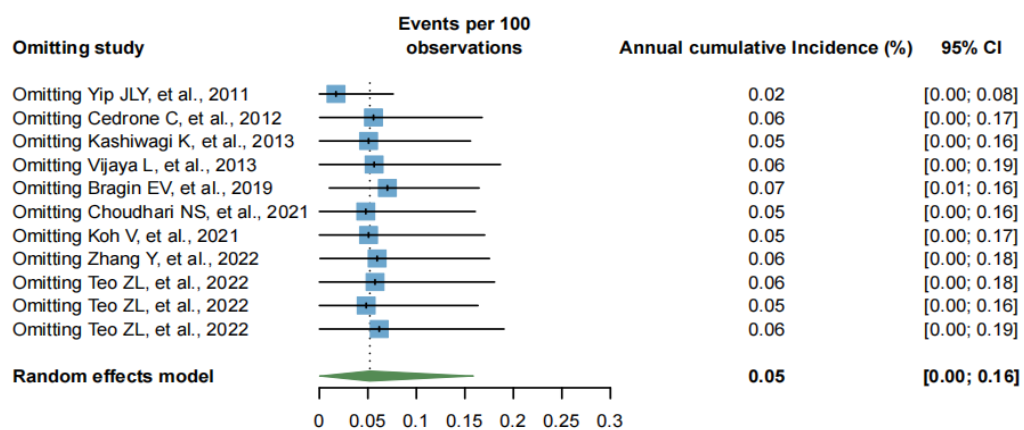


**Figure S1. Leave-one-out sensitivity analysis for the pooled annual cumulative incidence of primary open-angle glaucoma.**

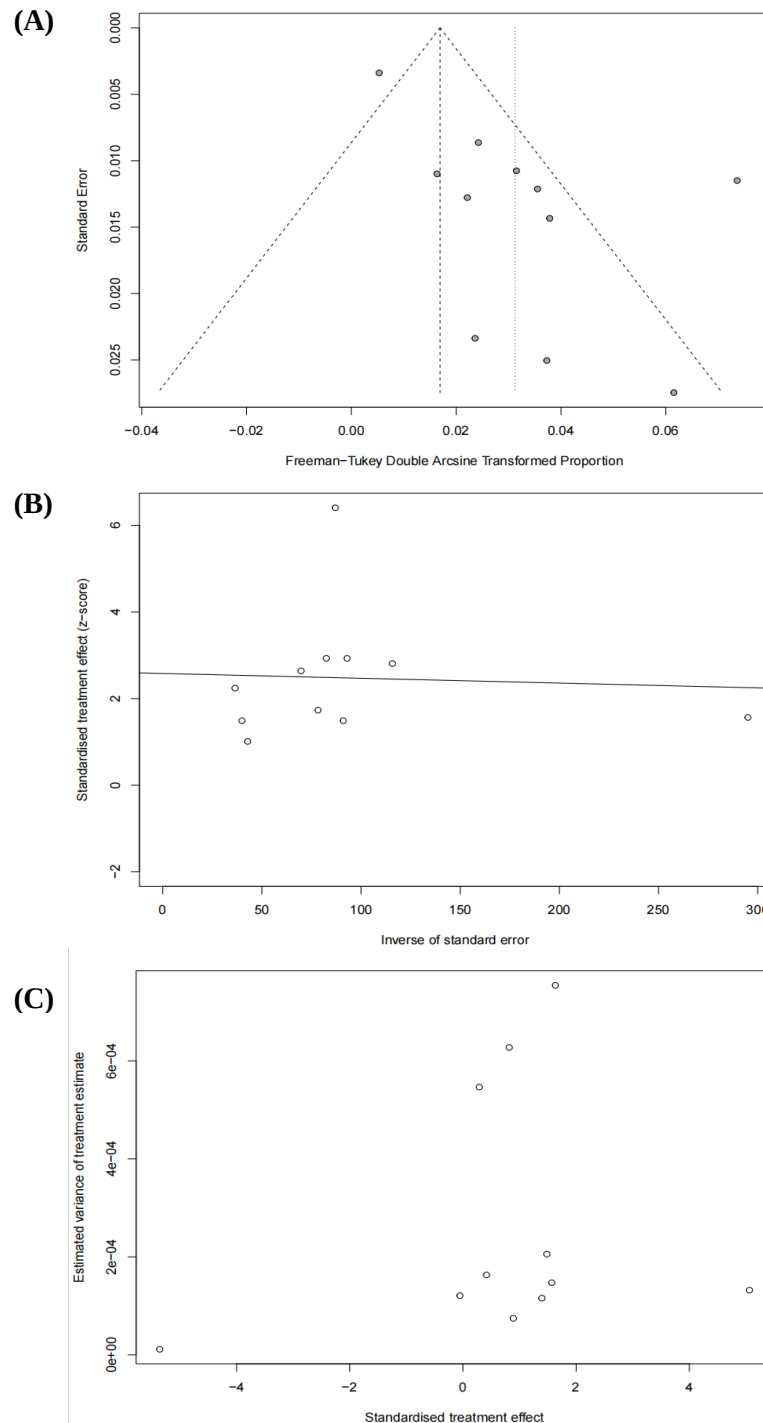


**Figure S2. Publication bias test for the pooled annual cumulative incidence of primary open-angle glaucoma.**

**Notes:** (A) Funnel plot; (B) Egger's regression test; (C) Begg's rank correlation test.



**Figure S3. Leave-one-out sensitivity analysis for the pooled annual cumulative incidence of primary angle-closure glaucoma.**



**Figure S4. Publication bias test for the pooled annual cumulative incidence of primary angle-closure glaucoma.**

**Notes:** (A) Funnel plot; (B) Egger's regression test; (C) Begg's rank correlation test.