

Mass screening for liver cancer: results from a demonstration screening project in Zhongshan City, China

Ming-Fang Ji ¹†, Zhiwei Liu ^{2,3}†, Ellen T. Chang ^{4,5}, Xia Yu ¹, Biao-Hua Wu ¹, Li Deng ¹, Qian-Jin Feng ¹, Kuang-Rong Wei ¹, Xue-Jun Liang ¹, Shi-Feng Lian ¹, Wen Quan ¹, Pan-Pan Wang ¹, Yun Du ¹, Zhi-Heng Liang ¹, Sheng-Lin Xia ⁶, Hai Lin ⁶, Fu-Gui Li ¹, Wei-Min Cheng ¹, Wei-Qiang Chen ¹, Yong Yuan ^{1,#}, and Weimin Ye ^{2,7,#,*}

Authors' affiliations

1. Cancer Research Institute of Zhongshan, Zhongshan City People's Hospital, Zhongshan, Guangdong, P. R. China
2. Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden
3. Division of Cancer Epidemiology and Genetics, National Cancer Institute, 9609 Medical Center Drive, Rockville, Maryland, USA
4. Exponent, Inc., Health Sciences, Menlo Park, California, USA
5. Division of Epidemiology, Department of Health Research and Policy, Stanford University School of Medicine, Stanford, California, USA
6. Institute for Prevention & Control of Non-Communicable Chronic Diseases, Zhongshan Center for Disease Control and Prevention, Zhongshan, Guangdong, P. R. China
7. Sun Yat-sen University Cancer Center, State Key Laboratory of Oncology in South China, Collaborative Innovation Center for Cancer Medicine, Guangzhou, P. R. China

† Authors contributed equally.

Shared senior authors.

Corresponding author

Weimin Ye, Sun Yat-sen University Cancer Center, State Key Laboratory of Oncology in South China, Collaborative Innovation Center for Cancer Medicine, Guangzhou 510060, P. R. China.

Phone: 86-20-87345685, Fax: 86-20-87343392, Email: yewm@sysucc.org.cn

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List of Abbreviations: AFP, alpha-fetoprotein; BCLC, Barcelona Clinic Liver Cancer; CT, computerized tomography; HBsAg Hepatitis B virus surface antigen; HBV, Hepatitis B virus; HCV, Hepatitis C virus; MRI, magnetic resonance imaging; SIR, standardized incidence rate; SMR, standardized mortality rate

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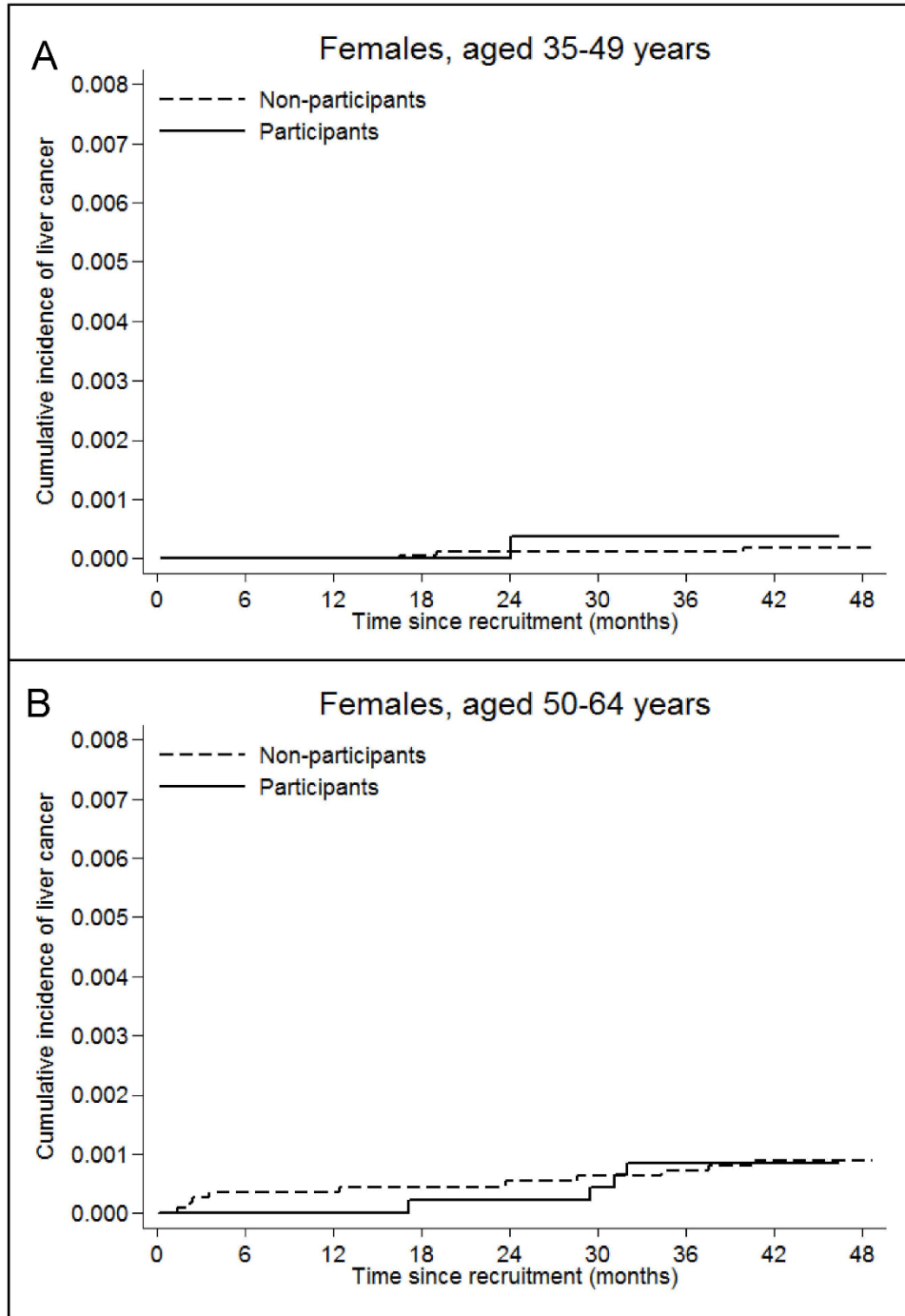
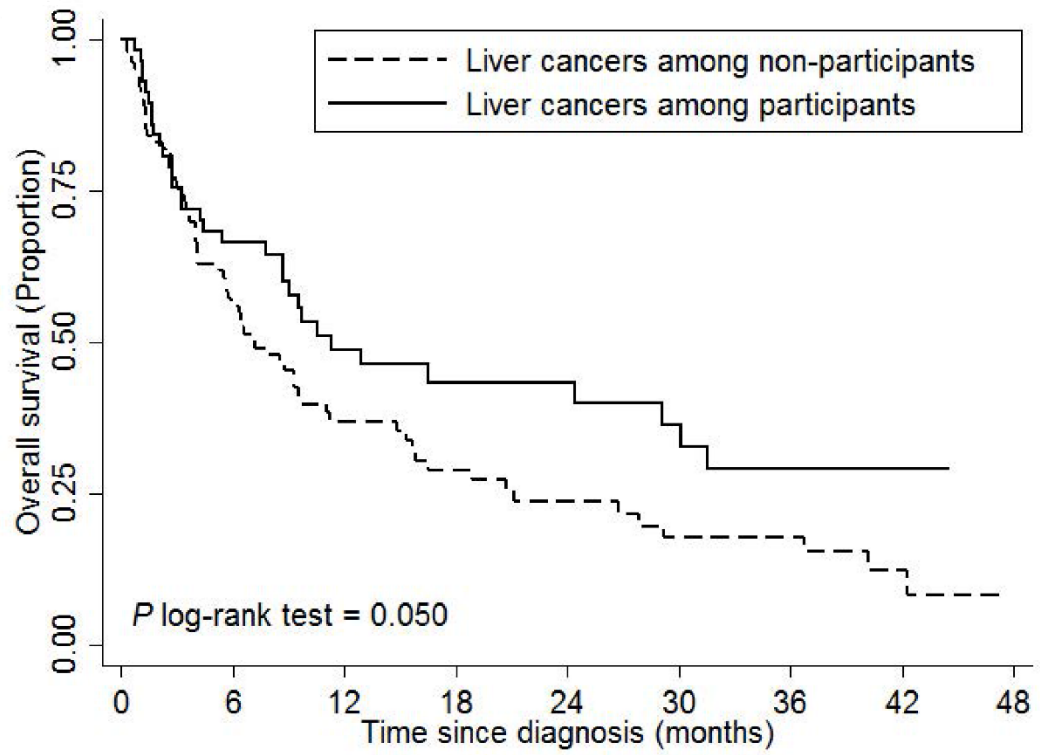


Figure S1. Cumulative incidence of liver cancer according screening status in females stratified by age group at study entry.



| Number at risk | | | | | | | | | |
|----------------|-----|----|----|----|----|----|---|---|---|
| unscreened | 102 | 48 | 26 | 17 | 13 | 9 | 8 | 3 | 0 |
| screened | 57 | 35 | 21 | 15 | 13 | 10 | 8 | 2 | 0 |

Figure S2. Kaplan-Meier survival estimates for patients with liver cancer in participation group and non-participation group. Log-rank test was used to calculate P values. Two cases were excluded due to no follow-up time.

Supplementary Table 1. Number of participants in re-examination during follow-up among subjects positive for hepatitis B surface antigen (N=2848), 2012-2015. *

| | Gender | | Age in 2012 (years) | | | |
|------------------------|--------|--------|---------------------|-------|-------|-------|
| | male | female | 35-39 | 40-49 | 50-59 | 60-64 |
| AFP | | | | | | |
| Baseline† | 1914 | 934 | 421 | 1173 | 974 | 280 |
| 1st round | 696 | 438 | 131 | 436 | 424 | 143 |
| 2nd round | 1092 | 507 | 212 | 619 | 597 | 171 |
| 3rd round | 922 | 402 | 168 | 540 | 484 | 132 |
| 4th round | 1190 | 592 | 225 | 688 | 672 | 197 |
| 5th round | 983 | 504 | 189 | 583 | 564 | 151 |
| Ultrasonography | | | | | | |
| Baseline | 1167 | 593 | 237 | 693 | 644 | 186 |
| 1st round | 402 | 207 | 94 | 257 | 206 | 52 |
| 2nd round | 1031 | 482 | 203 | 611 | 545 | 154 |
| 3rd round | 936 | 412 | 176 | 562 | 490 | 120 |
| 4th round | 1032 | 507 | 203 | 584 | 584 | 168 |
| 5th round | 911 | 491 | 170 | 527 | 548 | 157 |

* Dates for the first to the fifth round of re-examinations: October 2012 - August 2013, April 2014, October 2014, April 2015, and October 2015, respectively.

† Baseline serum samples were used for testing for AFP thus all subjects had baseline AFP information.

Abbreviation: alpha-fetoprotein, AFP

Supplementary Table 2. Liver cancer incidence and mortality by surveillance compliance status, 2012-2015 *

| Participant | HBsAg | Ultrasonography examinations | Total No. | No. of liver cancer | Incidence RR (95% CI) | Cancer-specific mortality RR (95% CI) | Overall mortality RR (95% CI) |
|--------------------|--------------|-------------------------------------|------------------|----------------------------|------------------------------|--|--------------------------------------|
| No | Unknown | No | 50,544 | 104 | ref. | ref. | ref. |
| Yes | - | No | 15,118 | 14 | 0.35 (0.20, 0.61) | 0.41 (0.21, 0.77) | 0.88 (0.76, 1.02) |
| | + | Not as recommended | 2,641 | 19 | 2.82 (1.73, 4.61) | 2.88 (1.59, 5.22) | 0.90 (0.65, 1.26) |
| | + | As recommended | 207 | 24 | 47.9 (30.7, 74.8) | 23.9 (11.9, 47.8) | 2.68 (1.39, 5.17) |

* Relative risk (RR) was adjusted for sex and age.