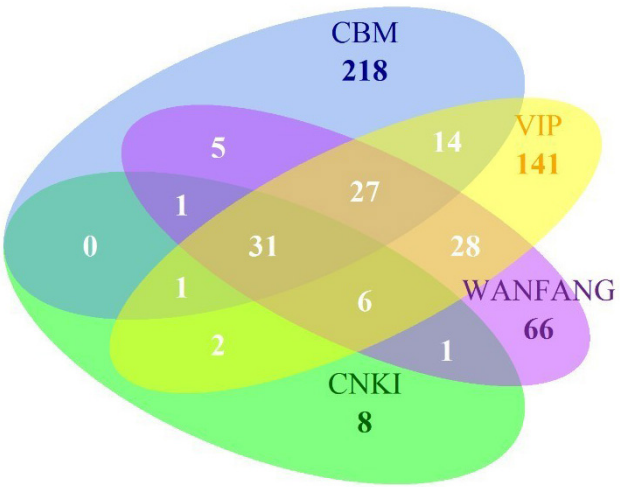


**Figure S1** Venn Diagram of Chinese Databases. There were four Chinese databases including the CBM, VIP, WANFANG, and CNKI, which had a total of 762 articles. These were 297 articles in the CBM, 250 articles in the VIP, 165 articles in the Wanfang and 50 articles in the CNKI. Articles without duplicates among databases included 218 in the CBM, 141 in the VIP, 66 in the Wanfang and 8 in the CNKI. There were 14 duplicate articles between the CBM and the VIP databases, 5 duplicate articles between the CBM and the WANFANG databases, 28 duplicate articles between the VIP and the WANFANG databases, 2 duplicate articles between the VIP and the CNKI databases, 1 duplicate article between the WANFANG and the CNKI databases, and no article were found duplicated in the CBM and the CNKI databases. In addition, there were 27 duplicate articles through the CBM, VIP and WANFANG databases, 1 duplicate article through the CBM, VIP and CNKI databases, 1 duplicate article through the CBM, WANFANG and CNKI databases, 6 duplicate articles through the VIP, WANFANG and CNKI databases. Furthermore, 31 duplicate articles were found across four databases.


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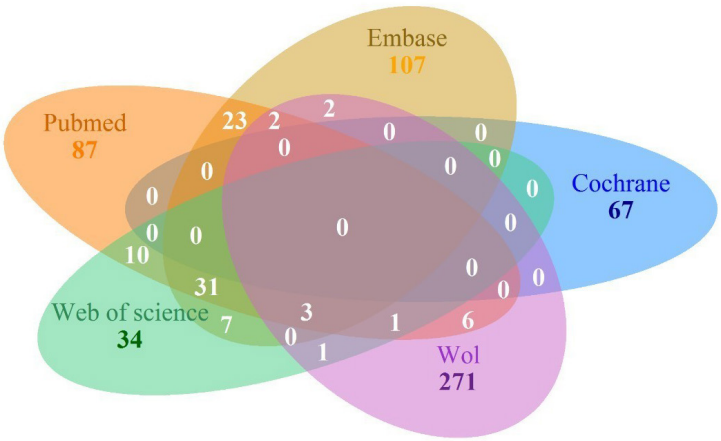


**Figure S2** Venn Diagram of English Databases. There were five English databases including the Embase, Pubmed, Web of science, Wiley online library (Wol) and Cochrane, which had a total of 778 articles. These were 175 articles in the Embase, 163 articles in the Pubmed, 87 articles in the Web of science, 286 articles in the Wol and 67 articles in the Cochrane. Articles without duplicates among databases included 67 in the Cochrane, 107 in the Embase, 87 in the Pubmed, 34 in the Web of science and 271 in the Wol. There was no duplicate article between the Cochrane and other databases. In addition, there were 23 duplicate articles between the Embase and the Pubmed databases, 7 duplicate articles between the Embase and the Web of science databases, 2 duplicate articles between the Embase and the Wol databases, 10 duplicate articles between the Pubmed and the Web of science databases, 6 duplicate articles between the Pubmed and the Wol databases, 1 duplicate article between the Web of science and the Wol databases. Furthermore, there were 31 duplicate articles through the Embase, Pubmed and Web of science databases, 2 duplicate articles through the Embase, Pubmed and Wol databases, 1 duplicate article through the Pubmed, Web of science and Wol databases, and no duplicate articles through the Embase, Web of science and Wol databases. Finally, 3 duplicate articles were found across the Embase, Pubmed, Web of science and Wol databases.


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**Table S1** Details of database, journals and grey literature search

| Database | Search words | Date of search | Number of records |
|---|---|---|---|
| Pubmed | ((((((tuberculosis) OR mycobacterium tuberculosis) OR TB)) AND ((((((((((((((((((((((("health personnel") OR " health care personnel") OR "healthcare personnel") OR "health care worker") OR " health care workers") OR "healthcare worker") OR "healthcare workers") OR "health worker") OR "health workers") OR "health professional") OR "health professionals") OR "health care professional") OR "health care professionals") OR "healthcare professional") OR "healthcare professionals") OR "medical care personnel") OR "nurse") OR "nurses") OR "nursing") OR physician) OR physicians) OR HCW)) OR (((((("allied health personnel") OR caregivers) OR "medical staff") OR "nurses") OR "nursing staff") OR personnel,hospital) OR physicians))) AND ((((((("Infection Control") OR "Cross Infection") OR "Occupational Diseases") OR prevalence) OR incidence) OR (incidence[Title/Abstract] OR prevalence[Title/Abstract])) AND (((Macao[MeSH Terms]) OR (((China[MeSH Terms]) OR hongkong[MeSH Terms]) OR taiwan[MeSH Terms])))) | 30 September 2019 | 163 |
| Web of science | TS=tuberculosis OR TS="mycobacterium tuberculosis" OR TS=TB<br>TS="health personnel" OR TS="health care personnel" OR TS="healthcare personnel" OR TS="health care worker" OR TS="health care workers" OR TS="healthcare worker" OR TS="healthcare workers" OR TS="health worker" OR TS="health workers" OR TS="health professional" OR TS="health professionals" OR TS="health care professional" OR TS="health care professionals" OR TS="healthcare professional" OR TS="healthcare professionals" OR TS="medical care personnel" OR TS="nurse" OR TS="nurses" OR TS="nursing" OR TS=physician OR TS=physicians OR TS=HCW OR TS="allied health personnel" OR TS=caregivers OR TS="medical staff" OR TS="nurses" OR TS="nursing staff" OR TS="personnel,hospital" OR TS=physicians<br>TS="Infection Control" OR TS="Cross Infection" OR TS="Occupational Diseases" OR TS=prevalence OR TS=incidence OR TI=incidence OR TI=prevalence<br>TS=Macao OR TS=China OR TS=hongkong OR TS=Taiwan<br>1 AND 2 AND 3 AND 4 | 30 September 2019 | 87 |
| Embase | 1."tuberculosis"/exp or "tuberculosis".mp. or "mycobacterium tuberculosis"/exp or "mycobacterium tuberculosis".mp. or "TB"/exp or "TB".mp.<br>2.("health personnel" or " health care personnel" or "healthcare personnel" or "health care worker" or "health care workers" or "healthcare worker" or "healthcare workers" or "health worker" or "health workers" or "health professional" or "health professionals" or "health care professional" or "health care professionals" or "healthcare professional" or "healthcare professionals" or "medical care personnel" or "nurse" or "nurses" or "nursing" or physician or physicians or HCW or "allied health personnel" or caregivers or "medical staff" or "nursing staff" or personnel,hospital or physicians).mp.<br>3."Infection Control"/exp or "Infection Control".mp. or "Cross Infection"/exp or "Cross Infection".mp. or "Occupational Diseases"/exp or "Occupational Diseases".mp. or prevalence/exp or prevalence.mp. or incidence/exp or incidence.mp.<br>4.Macao/exp or Macao.mp. or China/exp or China.mp. or hongkong/exp or hongkong.mp. or Taiwan/exp or Taiwan.mp.<br>1 AND 2 AND 3 AND 4 | 30 September 2019 | 175 |
| Cochrane | ((tuberculosis) OR mycobacterium tuberculosis) OR TB OR “latent tuberculosis” OR “mycobacterium tuberculosis” in All Text AND "health personnel" OR " health care personnel" OR "healthcare personnel" OR "health care worker" OR "health care workers" OR "healthcare worker" OR "healthcare workers" OR "health worker" OR "health workers" OR "health professional" OR "health professionals" OR "health care professional" OR "health care professionals" OR "healthcare professional" OR "healthcare professionals" OR "medical care personnel" OR "nurse" OR "nurses" OR "nursing" OR physician OR physicians OR HCW OR "allied health personnel" OR caregivers OR "medical staff" OR "nursing staff" OR (personnel,hospital) OR physicians in All Text AND "Infection Control" OR "Cross Infection" OR "Occupational Diseases" OR prevalence OR incidence in All Text AND Macao OR China OR hongkong OR Taiwan in All Text - (Word variations have been searched) | 30 September 2019 | 67 |
| Wiley online library | "((tuberculosis) OR mycobacterium tuberculosis) OR TB OR “latent tuberculosis” OR “mycobacterium tuberculosis”" in Abstract and""hea lth personnel" OR " health care personnel" OR "healthcare personnel" OR "health care worker" OR "health care workers" OR "healthcare worker" OR "healthcare workers" OR "health worker" OR "health workers" OR "health professional" OR "health professionals" OR "health care professional" OR "health care professionals" OR "healthcare professional" OR "healthcare professionals" OR "medical care personnel" OR "nurse" OR "nurses" OR "nursing" OR physician OR physicians OR HCW OR "allied health personnel" OR caregivers OR "medical staff" OR "nursing staff" OR (personnel,hospital) OR physicians" anywhere and ""Infection Control" OR "Cross Infection" OR "Occupational Diseases" OR prevalence OR incidence" anywhere and "Macao OR China OR hongkong OR Taiwan" in Abstract | 30 September 2019 | 286 |
| CNKI (Chinese) | TI=(‘tuberculosis’ + ‘tuberculosis mycobacteria’ + ‘pulmonary tuberculosis’) * ((‘hospital’ * (‘staff’ + ‘worker’)) + ‘medical institution’ + ‘medical personnel’ + ‘doctor’ + ‘Nurse’ + ‘Medical staff’ + ‘Nursing staff’ + ‘Physician’ + ‘Medical worker’ + ‘Tuberculosis control staff’) * (‘Cross infection’ + ‘Medical infection’ + ‘Occupational disease’ + ‘Potential Infection ‘ + ‘latent infection’ + ‘infection’ + ‘epidemic’ + ‘incidence’ + ‘prevalence’) | 30 September 2019 | 50 |
| Wanfang(Chinese) | Title or keyword:(“tuberculosis” + “tuberculosis mycobacteria” + “pulmonary tuberculosis”) * ((“hospital” * (“staff” + “worker”)) + “medical institution” + “medical personnel” + “doctor” + “Nurse” + “Medical staff” + “Nursing staff” + “Physician” + “Medical worker” + “Tuberculosis control staff”) * (“Cross infection” + “Medical infection” + “Occupational disease” + “Potential Infection” + “latent infection” + “infection” + “epidemic” + “incidence” + “prevalence”) | 30 September 2019 | 165 |
| VIP(Chinese) | M=(tuberculosis OR tuberculosis mycobacteria OR pulmonary tuberculosis) AND ((hospital AND (staff OR worker)) OR medical institution OR medical personnel OR doctor OR Nurse OR Medical staff OR Nursing staff OR Physician OR Medical worker OR Tuberculosis control staff) AND (Cross infection OR Medical infection OR Occupational disease OR Potential Infection OR latent infection OR infection OR epidemic OR incidence OR prevalence) | 30 September 2019 | 250 |
| CBM(Chinese) | (“tuberculosis”[title] + “tuberculosis mycobacteria”[title] + “pulmonary tuberculosis”[title]) * ((“hospital”[title] * (“staff”[title] + “worker”[title])) + “medical institution”[title] + “medical personnel”[title] + “medical personnel”[Common field] + “doctor”[title] + “Nurse”[title] + “Medical staff”[title] + “Nursing staff”[title] + “Physician”[title] + “Medical worker”[title] + “Tuberculosis control staff”[title]) * (“Cross infection”[title] +Health care-related infections [[Common fields] + "Health-related infections" [Common fields] + "Medical-related infections" [Common fields] + "Hospital infections" [Common fields] + “Medical infection”[title] + “Occupational disease”[title] + “Potential Infection”[title] + “latent infection”[title] + “infection”[title] + “epidemic”[title] + “incidence”[title] + “prevalence”[title]) | 30 September 2019 | 297 |
| Total | | | 1540 |


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**Table S2** Sensitivity analysis after excluding studies one by one reporting LTBI prevalence

| Study excluded | OR [95%CI] | $I^2$ value(%) | P value |
|---|---|---|---|
| Chen *et al.* 2019 (21) | 1.81 [1.48, 2.21] | 79 | <0.05 |
| Deng *et al.* 2019 (2) | 1.78 [1.45, 2.18] | 79 | <0.05 |
| He *et al.* 2010 (22) | 1.79 [1.43, 2.24] | 79 | <0.05 |
| He *et al.* 2012 (26) | 1.84 [1.52, 2.24] | 76 | <0.05 |
| Hung *et al.* 2015 (23) | 1.62 [1.38, 1.90] | 64 | <0.05 |
| Jiang *et al.* 2016 (36) | 1.80 [1.47, 2.22] | 79 | <0.05 |
| Li *et al.* 2006 (29) | 1.79 [1.45, 2.20] | 79 | <0.05 |
| Na *et al.* 2002 (28) | 1.72 [1.41, 2.10] | 78 | <0.05 |
| Peng *et al.* 2011 (31) | 1.75 [1.43, 2.13] | 79 | <0.05 |
| Wang *et al.* 2007 (30) | 1.76 [1.42, 2.19] | 78 | <0.05 |
| Xu *et al.* 2017 (32) | 1.76 [1.44, 2.15] | 79 | <0.05 |
| Yang *et al.* 2018 (34) | 1.76 [1.44, 2.15] | 79 | <0.05 |
| Zhang *et al.* 2013 (25) | 1.79 [1.45, 2.20] | 79 | <0.05 |
| Zhang *et al.* 2017 (33) | 1.77 [1.45, 2.16] | 79 | <0.05 |
| Zhang *et al.* 2019 (27) | 1.77 [1.42, 2.21] | 79 | <0.05 |
| Zhao 2018 (35) | 1.82 [1.49, 2.23] | 78 | <0.05 |
| Zhu *et al.* 2014 (24) | 1.74 [1.43, 2.12] | 78 | <0.05 |
| Wang *et al.* 2012 (37) | 1.86 [1.53, 2.25] | 76 | <0.05 |
| Zhao *et al.* 2016 (39) | 1.84 [1.52, 2.24] | 77 | <0.05 |
| Zhou *et al.* 2014 (38) | 1.78 [1.44, 2.20] | 79 | <0.05 |


http://dx.doi.org/10.21037/jtd-20-1612

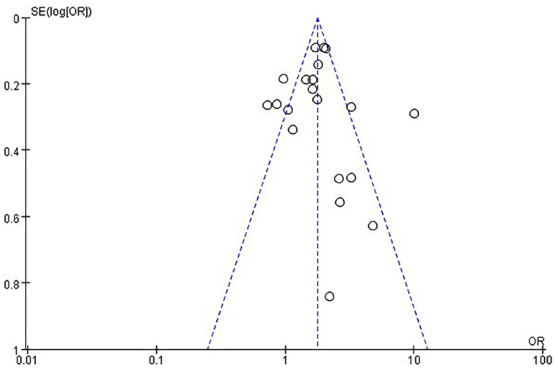


**Figure S3** Funnel plot of included studies on LTBI prevalence among HCWs.

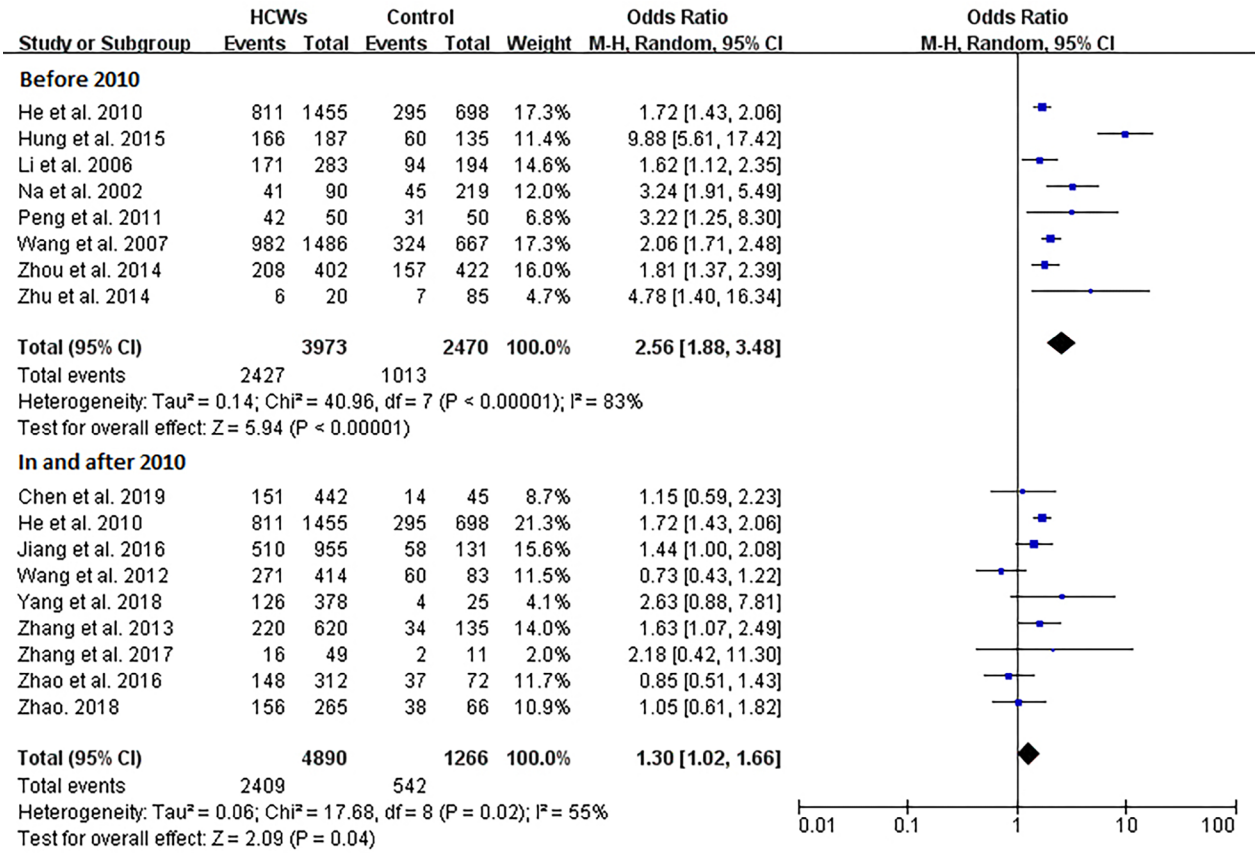


**Figure S4** Forest plot showing pooled odds ratio (OR) for LTBI among HCWs according to study period.


http://dx.doi.org/10.21037/jtd-20-1612

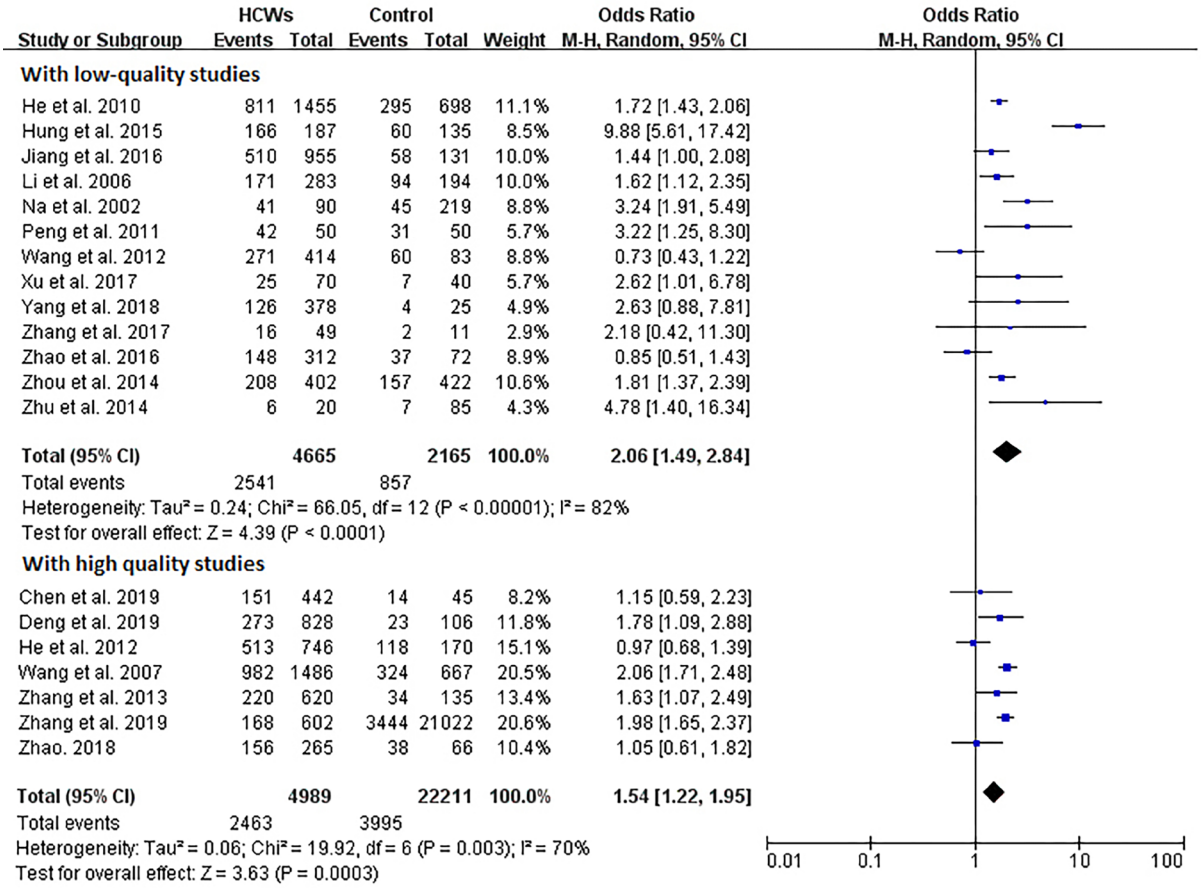


**Figure S5** Forest plot showing pooled odds ratio (OR) for LTBI among HCWs according to quality of included literature.


http://dx.doi.org/10.21037/jtd-20-1612

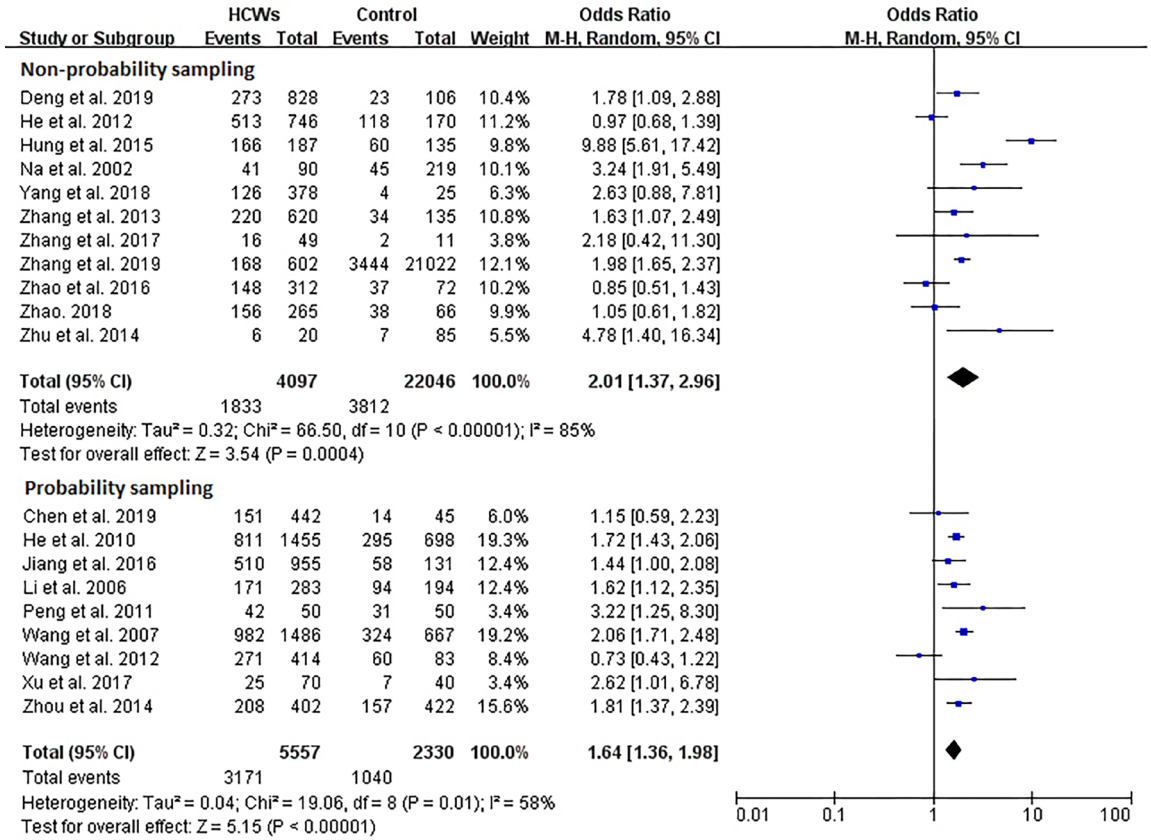


**Figure S6** Forest plot showing pooled odds ratio (OR) for LTBI among HCWs according to sampling methods.


http://dx.doi.org/10.21037/jtd-20-1612

**Table S3** T-test for age difference between HCWs and control group

| Author, year, and reference | Age of HCWs ($\bar{x}$±s) | Age of controls ($\bar{x}$±s) | t Value | P value |
|---|---|---|---|---|
| Peng *et al.*, 2011 (31) | 35.6±12.4 | 36.8±13.4 | 0.465 | >0.05 |
| Xu *et al.*, 2017 (32) | 33.4±7.72 | 35.9±11.4 | 1.368 | >0.05 |
| Zhou *et al.*, 2014 (38) | 37.05±9.34 | 37.82±9.54 | 1.170 | >0.05 |

**Table S4** Chi-square test of gender difference between HCWs and control group

| Author, year, and reference | HCWs | | Controls | | $X^2$ Value | P value |
|---|---|---|---|---|---|---|
| | No. of male (%) | No. of female (%) | No. of male (%) | No. of female (%) | | |
| Zhu *et al.*, 2014 (24) | 10 (50) | 10 (50) | 46 (54) | 39 (46) | 0.110 | >0.05 |
| Li *et al.*, 2006 (29) | 88 (31) | 195 (69) | 119 (61) | 75 (39) | 42.862 | 0.001* |
| Peng *et al.*, 2011 (31) | 24 (48) | 25 (52) | 25 (50) | 25 (50) | 0.160 | >0.05 |
| Xu *et al.*, 2017 (32) | 13 (32) | 27 (68) | 14 (35) | 26 (65) | 0.056 | >0.05 |
| Zhou *et al.*, 2014 (38) | 95 (24) | 307 (76) | 94 (22) | 328 (78) | 0.214 | >0.05 |


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