

**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 WANFANG and the CNKI databases, 1 duplicate article between the WANFANG and the CNKI databases, 1 duplicate article between the VIP and 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. Furthermore, 31 duplicate articles were found across four databases.



**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 Pubmed and the Web of science databases, 6 duplicate articles between the Pubmed and the Wol databases, 1 duplicate articles between the Web of science and the Wol databases. Furthermore, there were 31 duplicate articles through the Embase, Pubmed and 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.

Database	Search words	Date of search	Number of records
Pubmed	(((((tuberculosis) OR mycobacterium tuberculosis) OR TB)) AND ((((((("health personnel") OR " health care personnel") OR "health care personnel") OR "health care worker") OR "health care professional") 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 (Title/Abstract] OR prevalence (Title/Abstract] OR prevalence (Title/Abstract] OR prevalence (Title/Abstract] OR prevalence (Title/Abstract])) AND ((((China[MeSH Terms])) OR hongkong[MeSH Terms]) OR taiwan[MeSH Terms])))	30 September 2019	163
Veb of science	TS=tuberculosis OR TS="mycobacterium tuberculosis" OR TS=TB TS="health personnel" OR TS="health care personnel" OR TS="healthcare personnel" OR TS="health care worker" OR TS="health care workers" OR TS="health care workers" OR TS="health care workers" OR TS="health professionals" OR TS="health care professional	30 September 2019	87
mbase	<ol> <li>"tuberculosis"/exp or "tuberculosis".mp. or "mycobacterium tuberculosis"/exp or "mycobacterium tuberculosis".mp. or "TB"/exp or "TB".mp.</li> <li>("health personnel" or " health care personnel" or "healthcare personnel" or "health care worker" or "health care workers" or "health care workers" or "health care workers" or "health care professionals" or "health care professionals" or "health care professionals" or "health care professionals" or "nurse" or "nurses" or "nursing" or physician or physicians or HCW or "allied health personnel" or "cross Infection".mp. or "Occupational Diseases".mp. or prevalence/exp or prevalence.mp. or incidence/exp or incidence.mp.</li> <li>A.Macao/exp or Macao.mp. or China/exp or China.mp. or hongkong/exp or hongkong.mp. or Taiwan/exp or Taiwan.mp.</li> </ol>	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 "health care personnel" OR "health care worker" OR "health care workers" OR "health care workers" OR "health care workers" OR "health worker" OR "health workers" OR "health care professional" OR "health care professionals" 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
Viley online library	"((tuberculosis) OR mycobacterium tuberculosis) OR TB OR "latent tuberculosis" OR "mycobacterium tuberculosis" in Abstract and "hea Ith 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 "health care 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
/anfang(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
IP(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
BM(Chinese)	("tuberculosis"[title] + "tuberculosis mycobacteria"[title] + "pulmonary tuberculosis"[title]) * (("hospital"[title] * ("staff"[title] + "worker"[title])) + "medical institution"[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 infections" [Common fields] + "Hospital infections" [Common fields] + "Medical infection"[title] + "Occupational disease"[title] + "Potential Infection"[title] + "latent infection"[title] + "infection"[title] + "incidence"[title] + "prevalence"[title])	30 September 2019	297

Study excluded	OR [95%CI]	l <sup>2</sup> value(%)	P value
Chen et al. 2019 (21)	1.81 [1.48, 2.21]	79	<0.05
Deng e <i>t al.</i> 2019 (2)	1.78 [1.45, 2.18]	79	<0.05
He e <i>t al.</i> 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 <i>et al.</i> 2015 (23)	1.62 [1.38, 1.90]	64	<0.05
Jiang <i>et al.</i> 2016 (36)	1.80 [1.47, 2.22]	79	<0.05
Li e <i>t al.</i> 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 <i>et al.</i> 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 <i>et al.</i> 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 <i>et al.</i> 2016 (39)	1.84 [1.52, 2.24]	77	<0.05
Zhou <i>et al.</i> 2014 (38)	1.78 [1.44, 2.20]	79	<0.05

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



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

	HCW	ls	Contr	ol		Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% Cl	M-H, Random, 95% Cl
Before 2010							
He et al. 2010	811	1455	295	698	17.3%	1.72 [1.43, 2.06]	+
Hung et al. 2015	166	187	60	135	11.4%	9.88 [5.61, 17.42]	
Li et al. 2006	171	283	94	194	14.6%	1.62 [1.12, 2.35]	
Na et al. 2002	41	90	45	219	12.0%	3.24 [1.91, 5.49]	
Peng et al. 2011	42	50	31	50	6.8%	3.22 [1.25, 8.30]	
Wang et al. 2007	982	1486	324	667	17.3%	2.06 [1.71, 2.48]	+
Zhou et al. 2014	208	402	157	422	16.0%	1.81 [1.37, 2.39]	+
Zhu et al. 2014	6	20	7	85	4.7%	4.78 [1.40, 16.34]	
Total (95% CI)		3973		2470	100.0%	2.56 [1.88, 3.48]	•
Total events	2427		1013				
Heterogeneity: Tau <sup>2</sup> =	0.14: Ch	$i^2 = 40.9$	96. df = 7	(P < 0.	00001); P	²= 83%	
Test for overall effect:	•		•	<b>v</b>			
In and after 2010							
Chen et al. 2019	151	442	14	45	8.7%	1.15 [0.59, 2.23]	<b>_</b>
He et al. 2010	811	1455	295	698	21.3%	1.72 [1.43, 2.06]	+
Jiang et al. 2016	510	955	58	131	15.6%	1.44 [1.00, 2.08]	
Wang et al. 2012	271	414	60	83	11.5%	0.73 [0.43, 1.22]	
Yang et al. 2018	126	378	4	25	4.1%	2.63 [0.88, 7.81]	+
Zhang et al. 2013	220	620	34	135	14.0%	1.63 [1.07, 2.49]	
Zhang et al. 2017	16	49	2	11	2.0%	2.18 [0.42, 11.30]	
Zhao et al. 2016	148	312	37	72	11.7%	0.85 [0.51, 1.43]	
Zhao. 2018	156	265	38	66	10.9%	1.05 [0.61, 1.82]	- <u>+</u> -
Total (95% CI)		4890		1266	100.0%	1.30 [1.02, 1.66]	◆
Total events	2409		542				
Heterogeneity: Tau <sup>2</sup> =		i <sup>2</sup> = 17.0		(P = 0.	02); I <sup>2</sup> = 5	5%	
Test for overall effect:	•		•	, .			0.01 0.1 1 10 100

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

	HCW		Conti			Odds Ratio	Odds Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% Cl	M-H, Random, 95% Cl
With low-quality s	tudies						
He et al. 2010	811	1455	295	698	11.1%	1.72 [1.43, 2.06]	-
Hung et al. 2015	166	187	60	135	8.5%	9.88 [5.61, 17.42]	
Jiang et al. 2016	510	955	58	131	10.0%	1.44 [1.00, 2.08]	
Li et al. 2006	171	283	94	194	10.0%	1.62 [1.12, 2.35]	
Na et al. 2002	41	90	45	219	8.8%	3.24 [1.91, 5.49]	
Peng et al. 2011	42	50	31	50	5.7%	3.22 [1.25, 8.30]	
Wang et al. 2012	271	414	60	83	8.8%	0.73 [0.43, 1.22]	
Xu et al. 2017	25	70	7	40	5.7%	2.62 [1.01, 6.78]	
Yang et al. 2018	126	378	4	25	4.9%	2.63 [0.88, 7.81]	
Zhang et al. 2017	16	49	2	11	2.9%	2.18 [0.42, 11.30]	
Zhao et al. 2016	148	312	37	72	8.9%	0.85 [0.51, 1.43]	
Zhou et al. 2014	208	402	157	422	10.6%	1.81 [1.37, 2.39]	-
Zhu et al. 2014	6	20	7	85	4.3%	4.78 [1.40, 16.34]	
Total (95% Cl)		4665		2165	100.0%	2.06 [1.49, 2.84]	•
Total events	2541		857				
Heterogeneity: Tau <sup>2</sup> =	= 0.24; Ch	i² = 66.	05, df = 1	2 (P < 1	0.00001);	l² = 82%	
Test for overall effect:	Z = 4.39	(P < 0.0	0001)				
With high quality s	studies						
Chen et al. 2019	151	442	14	45	8.2%	1.15 [0.59, 2.23]	_ <b>-</b> _
Deng et al. 2019	273	828	23	106	11.8%	1.78 [1.09, 2.88]	
He et al. 2012	513	746	118	170	15.1%	0.97 [0.68, 1.39]	+
Wang et al. 2007	982	1486	324	667	20.5%	2.06 [1.71, 2.48]	*
Zhang et al. 2013	220	620	34	135	13.4%	1.63 [1.07, 2.49]	
Zhang et al. 2019	168	602	3444	21022	20.6%	1.98 [1.65, 2.37]	
Zhao. 2018	156	265	38	66	10.4%	1.05 [0.61, 1.82]	-+-
Total (95% CI)		4989		22211	100.0%	1.54 [1.22, 1.95]	◆
Total events	2463		3995				
Heterogeneity: Tau <sup>2</sup> =		<sup>2</sup> = 19.9	32. df = 6	(P = 0.0)	003); I <sup>2</sup> = 1	70%	
Test for overall effect:	•		•				0.01 0.1 i 10 100

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

	HCW	Is	Cont	rol		Odds Ratio	Odds Ratio
study or Subgroup	Events	Total	Events	Total	Weight	M-H, Random, 95% Cl	M-H, Random, 95% Cl
Non-probability sa	ampling						
Deng et al. 2019	273	828	23	106	10.4%	1.78 [1.09, 2.88]	
le et al. 2012	513	746	118	170	11.2%	0.97 [0.68, 1.39]	-
lung et al. 2015	166	187	60	135	9.8%	9.88 [5.61, 17.42]	
Va et al. 2002	41	90	45	219	10.1%	3.24 [1.91, 5.49]	
′ang et al. 2018	126	378	4	25	6.3%	2.63 [0.88, 7.81]	
hang et al. 2013	220	620	34	135	10.8%	1.63 [1.07, 2.49]	
hang et al. 2017	16	49	2	11	3.8%	2.18 [0.42, 11.30]	
hang et al. 2019	168	602	3444	21022	12.1%	1.98 [1.65, 2.37]	-
(hao et al. 2016	148	312	37	72	10.2%	0.85 [0.51, 1.43]	
(hao. 2018	156	265	38	66	9.9%	1.05 [0.61, 1.82]	_ <b>+</b> _
(hu et al. 2014	6	20	7	85	5.5%	4.78 [1.40, 16.34]	
otal (95% Cl)		4097		22046	100.0%	2.01 [1.37, 2.96]	•
otal events	1833		3812				
leterogeneity: Tau <sup>2</sup>	= 0.32; Ch	i² = 66.	50, df = 1	0 (P < 0.	00001); F	² = 85%	
est for overall effect	t: Z = 3.54 /	(P = 0.0	0004)	•			
Probability sampl	ing						
Chen et al. 2019	151	442	14	45	6.0%	1.15 [0.59, 2.23]	_ <b>-</b>
He et al. 2010	811	1455	295	698	19.3%	1.72 [1.43, 2.06]	+
Jiang et al. 2016	510	955	58	131	12.4%	1.44 [1.00, 2.08]	
_i et al. 2006	171	283	94	194	12.4%	1.62 [1.12, 2.35]	
Peng et al. 2011	42	50	31	50	3.4%	3.22 [1.25, 8.30]	
Nang et al. 2007	982	1486	324	667	19.2%	2.06 [1.71, 2.48]	+
Nang et al. 2012	271	414	60	83	8.4%	0.73 [0.43, 1.22]	
(u et al. 2017	25	70	7	40	3.4%	2.62 [1.01, 6.78]	<b>├</b> • • •
Zhou et al. 2014	208	402	157	422	15.6%	1.81 [1.37, 2.39]	-
21100 81 81. 2014				2220	100.0%	1.64 [1.36, 1.98]	•
fotal (95% Cl)		5557		2330	100.070		
	3171	5557	1040		100.076		·
Fotal (95% CI)							

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

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

	0 1			
Author, year, and reference	Age of HCWs ( $\overline{x}\pm s$ )	Age of controls ( $\bar{x}\pm s$ )	t Value	P value
Peng <i>et al.</i> , 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 <i>et al.</i> , 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	Н	CWs	Co	X <sup>2</sup> Value	Dualua	
Author, year, and reference	No. of male (%)	No. of female (%)	No. of male (%)	No. of female (%)	X value	P value
Zhu <i>et al.</i> , 2014 (24)	10 (50)	10 (50)	46 (54)	39 (46)	0.110	>0.05
Li <i>et al.</i> , 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 <i>et al.</i> , 2014 (38)	95 (24)	307 (76)	94 (22)	328 (78)	0.214	>0.05