

Table S1. Searching Strategy

Database	Search Strategy	Results
PubMed	#1: "Pharmacists"[Mesh]	12,972
	#2: (clinical pharmacist[Title/Abstract]) OR clinical pharmacy[Title/Abstract]	2,556
	#3: ((Infectious disease[Title/Abstract]) OR infection[Title/Abstract]) OR infect[Title/Abstract]	929,661
	#4: (sepsis[Title/Abstract])	77,415
	#5: infectious[Title/Abstract]	1,824,455
	#6: #1 OR #2	14,658
	#7: #3 OR #4 OR #5	1,095,954
	#8: #6 AND #7	326
Embase	#1: exp pharmacist/	63,535
	#2: exp pharmacist/or pharmacist.mp.	67,428
	#3: clinical pharmacist.ab,kw,ti.	2,491
	#4: clinical pharmacy.ab,kw,ti.	3,216
	#5: infectious.ab,kw,ti.	209,379
	#6: infection.ab,kw,ti.	1,024,014
	#7: infect.ab,kw,ti.	23,218
	#8: sepsis.ab,kw,ti.	109,432
	#9: infectious disease.ab,kw,ti.	28,772
	#10: #1 or #2 or #3 or #4	68,531
	#11: #5 or #6 or #7 or #8 or #9	1,245,313
	#12: #10 and #11	1,977
Cochrane Library	#1: infectious:ti,ab,kw or infection:ti,ab,kw or infect:ti,ab,kw(Word variations have been searched)	73,098
	#2: clinical pharmacy:ti,ab,kw or clinical pharmacist:ti,ab,kw or pharmacist:ti,ab,kw(Word variations have been searched)	4,303

#3: MeSH descriptor:[Pharmacists] explode all trees	542
#4: MeSH descriptor:[Infection] explode all trees	20,098
#5: #1 or #4	77,494
#6: #2 or #3	4,303
#7: #5 and #6	580

Table S2. Characteristics of included studies (n=50)

Study ID	Province (Institute)	Rank (Institute)	Location (Institute)	Study Time	Study Design	Sample Size	No. of Consultation	Characteristics of Patients	Gender (Male /Female)	Age (d: days, m: months, y: years, n: number of patients)	Outcome
ZHAO HX ¹⁶	Anhui	Secondary	M	Phase II	Case series	162	162	Inpatients, resistant bacteria infection	92/70	Age range: 6m-89y	ARC
LI L ¹⁷	Sichuan	Tertiary	W	Phase II	Case series	11	11	Inpatients, resistant bacteria infection	5/6	Average age: (67.5±14.5)y 0-1y: 2 20-30y: n=1 31-49y: n=2 50-60y: n=2 61-70y: n=4 71-80y: n=12 81-90y: n=9	ARC; ERA
HUANG YP ¹⁸	Chongqing	Secondary	W	Phase II	Case series	32	32	Inpatients, resistant bacteria infection	17/15		ARC; ERA
WANG HM ¹⁹	Chongqing	Tertiary	W	Phase II	Case series	240	240	Inpatients, resistant bacteria infection	NR	NR	ARC
LIANG ZM ²⁰	Guangdong	Tertiary	E	Phase I	Case series	79	79	Inpatients, resistant bacteria infection	56/23	Average age: (43.13±19.94)y Age range: 4-91y	ARC; ERA
PANG TY ²¹	Guangdong	Secondary	E	Phase II	Case series	106	106	Inpatients, resistant bacteria infection	49/57	Age range: 16-89y <40y: n=1 40-70y: n=42 >70y: n=63	ARC; ERA
CAI JY	Guangdong	Tertiary	E	Phase	Case	909	909	Inpatients, resistant	521/388	Average age:	ARC

				II	series			bacteria infection		(46.32±18.43)y Age range: 2-86y	
PANG XJ ²³	Guangxi	Tertiary	E	Phase I	Case series	28	28	Inpatients, resistant bacteria infection	16/12	Average age: (42.6±3.7)y	ARC; ERA
MA HB ²⁴	Henan	Tertiary	M	Phase II	Case series	11	11	Inpatients, resistant bacteria infection	7/4	Average age: (43.7±5.9)y Age range: 8-81y	ARC
FANG WJ ²⁵	Shanghai	Secondary	E	Phase II	Case series	30	30	Inpatients, resistant bacteria infection	21/9	Average age: 72y Age range: 43-90y	ARC
TANG SY ²⁶	Guangxi	Tertiary	E	Phase II	Case series	300	300	Inpatients, infectious disease, children	177/123	Age range: 1d-15y	ARC
WEI YJ ²⁷	Guangxi	Tertiary	E	Phase II	Case series	51	51	Inpatients, infectious disease, children	32/19	Age range: 2d-13y 0-31d: n=28 31d-1y: n=16 1-5y: n=5 >5y: n=2	ARC; ERA
ZHANG C ²⁸	Shanghai	Tertiary	E	Phase II	Case series	23	25	Inpatients, infectious disease, children	19/4	Age range: 1m-8y	ARC
WANG HF ²⁹	Sichuan	Tertiary	W	Phase II	Case series	164	164	Inpatients, infectious disease, children	NR	NR	ARC; ERA
SHI GY ³⁰	Beijing	Tertiary	E	Phase II	Case series	100	100	Inpatients, infectious disease	NR	NR	ARC
QIN L ³¹	Beijing	Tertiary	E	Phase II	Case series	90	90	Inpatients, infectious disease	NR	≥60y: n=21 ≤5y: n=4	ARC; ERA
WANG T ³²	Beijing	Tertiary	E	Phase II	Case series	176	176	Inpatients, infectious disease	94/82	Average age: (45.64±6.27)y	ARC

											Age range: 3-78y	
LIN SZ ³³	Fujian	Tertiary	E	Phase II	Case series	24	41	Inpatients, infectious disease	NR	NR	ARC	
											Average age: (58.93±27.02)y	
											Age range: 1m-95y	
ZHU SH ³⁴	Guangdong	Secondary	E	Phase II	Case series	71	71	Inpatients, infectious disease	38/33	<6y: n=8 18-45y: n=13 45-65y: n=19 65-80y: n=10 >80y: n=21	ARC; ERA	
ZHU LP ³⁵	Guangdong	Secondary	E	Phase II	Case series	262	262	Inpatients, infectious disease	NR	NR	ARC	
LI XQ ³⁶	Guangdong	Tertiary	E	Phase I	Case series	317	317	Inpatients, infectious disease	NR	NR	ARC	
YE QM ³⁷	Guangdong	Tertiary	E	Phase I	Case series	127	127	Inpatients, infectious disease	NR	≥60y: n=43 18-60y: n=73 ≤18y: n=11	ARC	
LI YR ³⁸	Guangdong	Tertiary	E	Phase I	Case series	1201	1201	Inpatients, infectious disease	NR	NR	ARC	
XUE JW ³⁹	Guangdong	Tertiary	E	Phase II	Case series	312	312	Inpatients, infectious disease	NR	NR	ARC; ERA	
HUANG YF ⁴⁰	Guangxi	Secondary	E	Phase II	Case series	55	55	Inpatients, infectious disease	37/18	Age range: 7d-82y	ARC	
YANG LH ⁴¹	Guangxi	Secondary	E	Phase II	Case series	36	36	Inpatients, infectious disease	NR	NR	ARC; ERA	

HAN MZ ⁴²	Guizhou	Tertiary	W	Phase II	Case series	63	63	Inpatients, infectious disease	41/22	Average age: 42.5y Age range: 3-76y ≤12y: n=15 13-59y: n=16 ≥60y: n=32	ARC; ERA
LI M ⁴³	Guizhou	Tertiary	W	Phase II	Case series	100	100	Inpatients, infectious disease	NR	NR	ARC
LV TY ⁴⁴	Guizhou	Tertiary	W	Phase II	Case series	91	91	Inpatients, infectious disease	56/35	≥60y: n=27 ≤5y: n=15	ARC; ERA
GAO YP ⁴⁵	Henan	Secondary	M	Phase II	Case series	127	127	Inpatients, infectious disease	61/35	Age range: 3m-95y	ARC
SONG J ⁴⁶	Henan	Secondary	M	Phase II	Case series	112	112	Inpatients, infectious disease	NR	0-14y: n=7 15-20y: n=3 21-50y: n=22 51-60y: n=31 >60y: n=49	ARC
XU LM ⁴⁷	Henan	Tertiary	M	Phase II	Case series	236	236	Inpatients, infectious disease	NR	Age range: 4-101y	ARC
CHENG GY ⁴⁸	Henan	Secondary	M	Phase I	Case series	97	97	Inpatients, infectious disease	56/41	Age range: 17-84y ≥60y: n=43 40-59y: n=31 ≤39y: n=23	ARC; ERA
ZHANG Q ⁴⁹	Henan	Tertiary	M	Phase I	Case series	251	251	Inpatients, infectious disease	172/79	Average age: 51.3y Age range: 18-86y	ARC
QIN Y ⁵⁰	Hubei	Secondary	M	Phase I	Case series	85	85	Inpatients, infectious disease	NR	NR	ARC; ERA

ZENG JG ⁵¹	Hunan	Tertiary	M	Phase I	Case series	21	21	Inpatients, infectious disease	13/9	Average age: 49y Age range: 14-88y	ARC
LI DP ⁵²	Hunan	Secondary	M	Phase I	Case series	203	203	Inpatients, infectious disease	NR	NR	ARC
HE GF ⁵³	Hunan	Tertiary	M	Phase II	Case series	439	439	Inpatients, infectious disease	307/132	Average age: (65±18)y Age range: 11-95y	ARC; ERA
LIU XH ⁵⁴	Hunan	Tertiary	M	Phase II	Case series	114	114	Inpatients, infectious disease	60/54	<45y: n=11 45-65y: n=45 65-80y: n=37 >80y: n=21	ARC; ERA
PAN Y ⁵⁵	Hunan	Tertiary	M	Phase II	Case series	92	92	Inpatients, infectious disease	62/30	Average age: (67±13)y Age range: 16-87y >65y: n=54 0-24y: n=1	ARC; ERA
YU F ⁵⁶	Jiangsu	Tertiary	E	Phase I	Case series	57	57	Inpatients, infectious disease	48/13	Average age: (68±3.2)y Age range: 39-94y <14y: n=0 14-70y: n=19 >70: n=42	ARC
DAI YH ⁵⁷	Jiangsu	Tertiary	E	Phase I	Case series	368	368	Inpatients, infectious disease	NR	NR	ARC; ERA
WANG Y ⁵⁸	Jiangsu	Tertiary	E	Phase II	Case series	68	68	Inpatients, infectious disease	NR	NR	ARC; ERA

HOU GX ⁵⁹	Liaoning	Tertiary	E	Phase II	Case series	236	236	Inpatients, infectious disease	NR	NR	ARC; ERA
XIE CJ ⁶⁰	Qinghai	Tertiary	E	Phase II	Case series	100	131	Inpatients, infectious disease	44/56	Average age: (62.54±10.36)y Age range: 15-78y >60y: n=52	ARC; ERA
FU XF ⁶¹	Shanxi	Secondary	W	Phase II	Case series	72	72	Inpatients, infectious disease	NR	NR	ARC; ERA
LI LX ⁶²	Shanghai	Tertiary	E	Phase II	Case series	292	454	Inpatients, infectious disease	171/121	Average age: (60.2±9.3)y	ARC
GUAN ZS ⁶³	Sichuan	Tertiary	W	Phase I	Case series	227	227	Inpatients, infectious disease	153/74	Average age: 54y ≥60y: n=108	ARC
LI ZY ⁶⁴	Sichuan	Tertiary	W	Phase I	Case series	158	158	Inpatients, infectious disease	NR	≥60y: n=62 ≤5y: n=2	ARC; ERA
YU M ⁶⁵	Yunan	Tertiary	W	Phase II	Case series	90	90	Inpatients, infectious disease	53/37	Average age: (61.3±4.6)y Age range: 5-81y	ARC; ERA

W: western region of China; M: central region of China; E: eastern region of China; Phase I : study time before 2011; Phase II : study time after 2011; NR: not reported; n: number of patients; ARC: Acceptance rate of consultation; ERA: effective rate of patients whose treatment adopted pharmacists' suggestions.

Table S3. Quality assessment of 50 included studies

Study ID	Multi-center study	Objective clearly described	Inclusion/exclusion criteria clearly described	Clear definition of outcomes	Data collected prospectively	Patients recruited consecutively	Main finding clearly described	Outcome stratified
ZHAO HX ¹⁶	N	Y	Y	Y	N	NR	Y	Y
LIL ¹⁷	N	Y	Y	Y	Y	NR	Y	N
HUANG YP ¹⁸	N	Y	Y	NR	N	NR	Y	N
WANG HM ¹⁹	N	Y	Y	NR	N	Y	Y	N
LIANG ZM ²⁰	N	Y	Y	Y	N	Y	Y	Y
PANG TY ²¹	N	Y	Y	NR	N	NR	Y	N
CAI JY ²²	N	Y	Y	Y	N	NR	Y	Y
PANG XJ ²³	N	Y	Y	Y	NR	NR	Y	N
MA HB ²⁴	N	Y	Y	Y	NR	NR	Y	Y
FANG WJ ²⁵	N	Y	Y	Y	N	NR	Y	N
TANG SY ²⁶	N	Y	Y	Y	NR	NR	Y	N
WEI YJ ²⁷	N	Y	Y	NR	N	NR	Y	N
ZHANG C ²⁸	N	Y	Y	Y	N	NR	Y	Y
WANG HF ²⁹	N	Y	Y	NR	NR	NR	Y	N
SHI GY ³⁰	N	Y	NR	NR	N	NR	Y	N
QIN L ³¹	N	Y	NR	NR	N	NR	Y	N
WANG T ³²	N	Y	NR	NR	N	NR	Y	N
LIN SZ ³³	N	Y	NR	NR	N	NR	Y	N
ZHU SH ³⁴	N	Y	NR	NR	NR	NR	Y	N
ZHU LP ³⁵	N	Y	NR	NR	N	NR	Y	N

LI XQ ³⁶	N	Y	Y	Y	N	NR	Y	N
YE QM ³⁷	N	Y	NR	NR	N	NR	Y	N
LI YR ³⁸	N	Y	Y	Y	N	NR	Y	N
XUE JW ³⁹	N	Y	NR	NR	N	NR	Y	N
HUANG YF ⁴⁰	N	Y	NR	NR	N	NR	Y	N
YANG LH ⁴¹	N	Y	NR	Y	N	NR	Y	N
HAN MZ ⁴²	N	Y	NR	NR	N	NR	Y	N
LI M ⁴³	N	Y	NR	Y	N	NR	Y	N
LV TY ⁴⁴	N	Y	Y	Y	N	NR	Y	N
GAO YP ⁴⁵	N	Y	NR	NR	N	NR	Y	N
SONG J ⁴⁶	N	Y	NR	Y	NR	NR	Y	N
XU LM ⁴⁷	N	Y	NR	NR	N	NR	Y	N
CHENG GY ⁴⁸	N	Y	NR	Y	N	NR	Y	N
ZHANG Q ⁴⁹	N	Y	NR	NR	N	NR	Y	N
QIN Y ⁵⁰	N	Y	NR	NR	N	NR	Y	N
ZENG JG ⁵¹	N	Y	NR	NR	N	NR	Y	N
LI DP ⁵²	N	Y	NR	Y	N	NR	Y	N
HE GF ⁵³	N	Y	NR	Y	N	NR	Y	N
LIU XH ⁵⁴	N	Y	Y	Y	N	NR	Y	N
PAN Y ⁵⁵	N	Y	Y	Y	N	NR	Y	N
YU F ⁵⁶	N	Y	NR	NR	N	NR	Y	N
DAI YH ⁵⁷	N	Y	NR	Y	N	NR	Y	N
WANG Y ⁵⁸	N	Y	Y	NR	N	NR	Y	N
HOU GX ⁵⁹	N	Y	NR	NR	N	NR	Y	N
XIE CJ ⁶⁰	N	Y	Y	Y	N	NR	Y	N
FU XF ⁶¹	N	Y	NR	NR	N	NR	Y	N

LILX ⁶²	N	Y	Y	Y	N	NR	Y	N
GUAN ZS ⁶³	N	Y	NR	Y	N	NR	Y	N
LIZY ⁶⁴	N	Y	Y	NR	N	NR	Y	N
YU M ⁶⁵	N	Y	NR	NR	N	NR	Y	N

NOTE: Y: yes; N: no; NR: not reported.

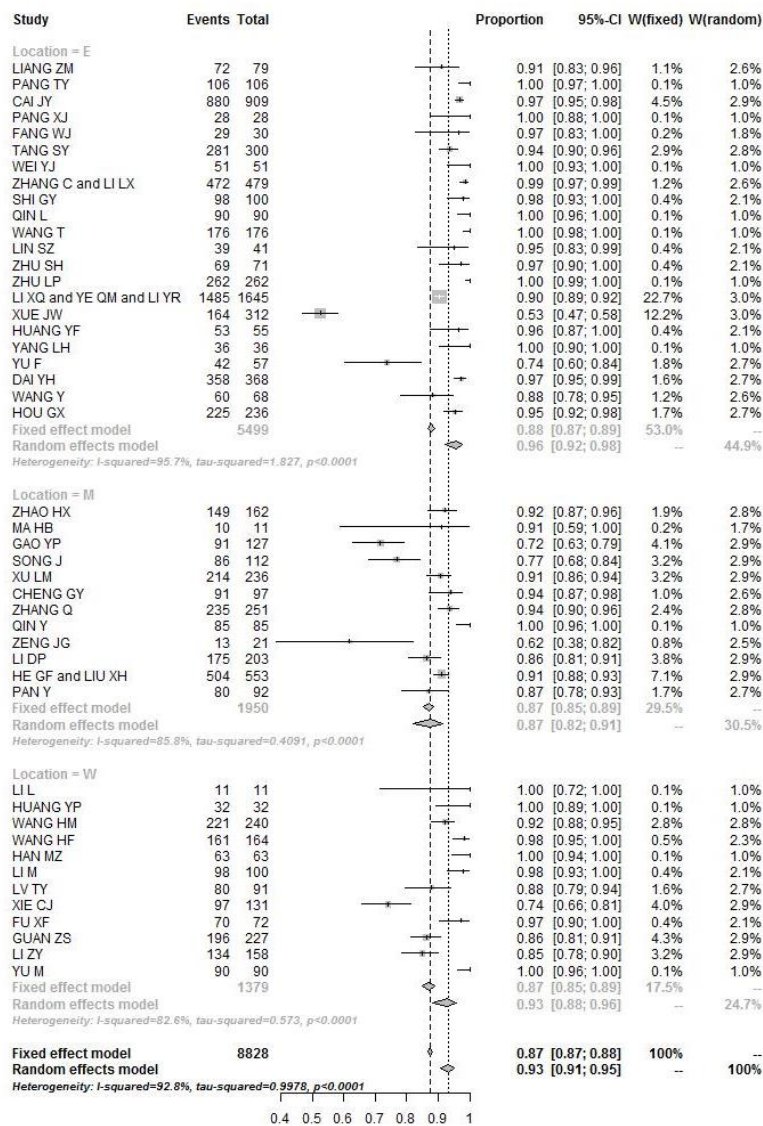


Figure S1. The forest graph of acceptance rate of consultation by location of the research institutions. W: western region of China; M: central region of China; E: eastern region of China.

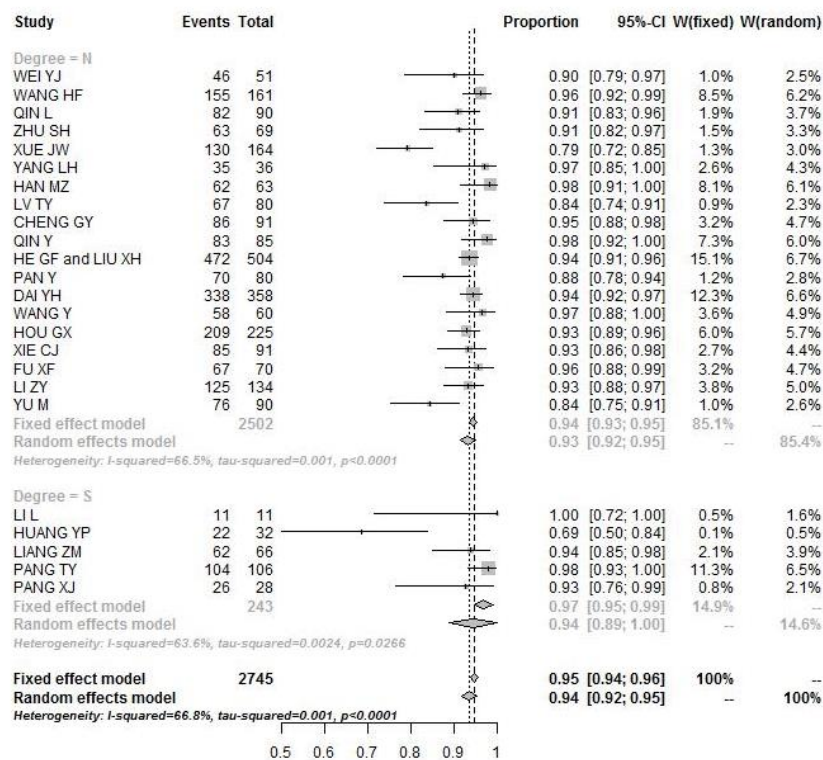


Figure S2. The forest graph of effective rate of patients whose treatment adopted pharmacists' suggestions by risk of infection. **N:** non-resistant bacteria infection; **S:** resistant bacteria infection.

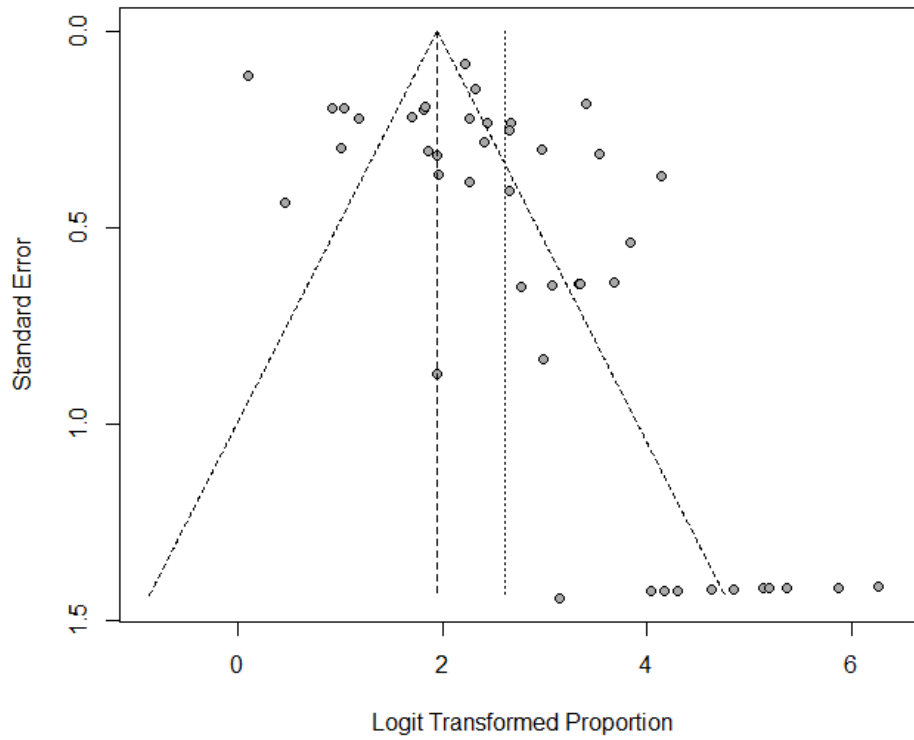


Figure S3. The funnel graph of the 46 study samples reporting acceptance rate of consultation.

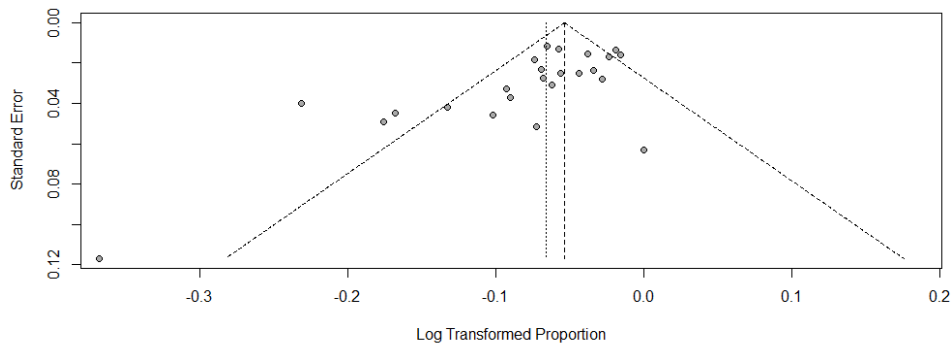


Figure S4. The funnel graph of the 24 study samples reporting effective rate of patients whose treatment adopted pharmacists' suggestion.

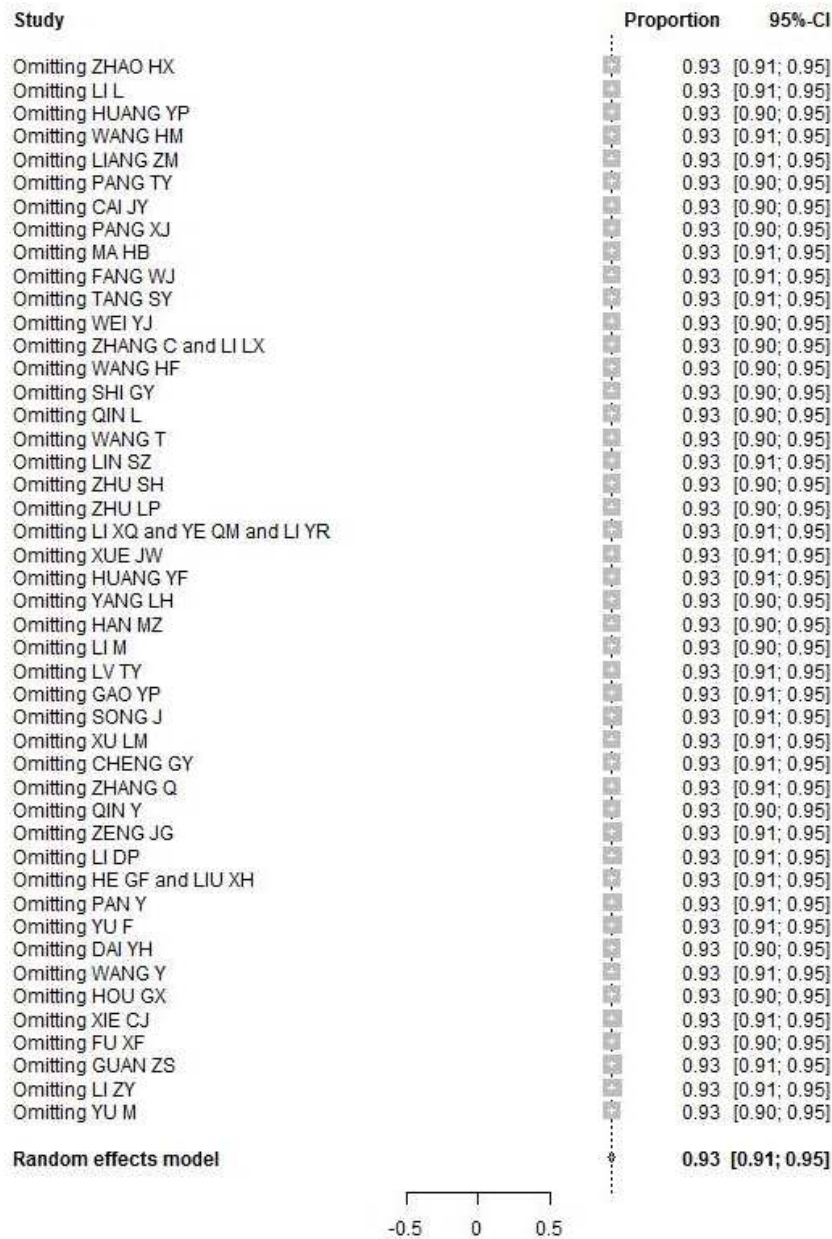


Figure S5. The graph of acceptance rate of consultation for sensitivity analysis.

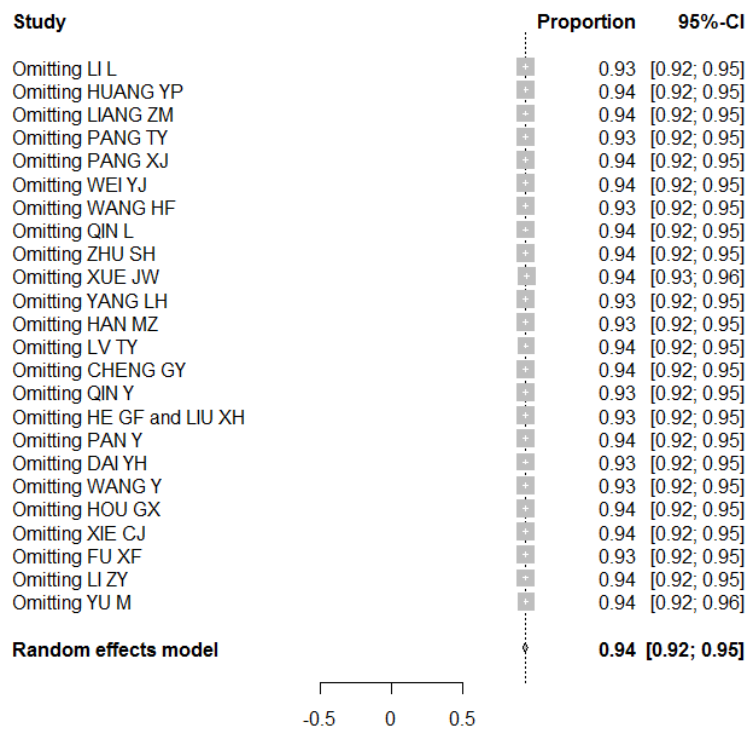


Figure S6. The graph of effective rate of patients whose treatment adopted pharmacists' suggestions for sensitivity analysis.