

S1. Search Criteria

Database	Search Strategy
MEDLINE	((("antimicrobial resistance"[tiab] OR "antibiotic*"[tiab] OR "Anti-Bacterial Agents/therapeutic use*"[Mesh] OR "Drug Resistance, Bacterial*"[Mesh]) AND ("behaviour*"[tiab] OR "use*"[tiab] OR "misuse"[tiab] OR "abuse"[tiab] OR "practice"[tiab] OR "consumption"[tiab] OR "supply"[tiab] OR "prescribing*"[tiab] OR "prescription*"[tiab] OR "prescribe*"[tiab] OR "utilization*"[tiab] OR "Practice Patterns, Physicians*"[Mesh] OR "Health Knowledge, Attitudes, Practice*"[mesh]) AND ("China"[tiab] OR "Hong Kong"[tiab] OR "Macau"[tiab] OR "Taiwan"[tiab]) AND ("1920/09/01"[EDAT] : "2020/05/31"[EDAT]) AND ("1920/09/01"[PDAT] : "2020/05/31"[PDAT]))
EMBASE	('awareness'/exp OR 'attitude to health'/exp OR 'clinical practice'/exp OR 'prescribe*':ab,ti OR 'prescription*':ab,ti OR 'prescribing*':ab,ti OR 'misuse':ab,ti OR 'abuse':ab,ti OR 'utilization*':ab,ti OR 'consumption*':ab,ti OR 'practice*':ab,ti) AND ('antibiotic agent'/exp OR 'antibiotic*':ab,ti) AND ('China':ab,ti OR 'Hong Kong':ab,ti OR 'Macau':ab,ti OR 'Taiwan':ab,ti) AND [1-1-1920]/sd NOT [31-05-2020]/sd NOT [animals]/lim NOT [medline]/lim
PsycINFO	(MA behaviour and behaviour mechanisms OR MA choice behaviour OR MA health knowledge, attitudes, practice* OR MA Practice Patterns, Physicians' OR AB usage OR AB use OR AB consum* OR AB behaviour* OR AB behaviour* OR AB "practice*") (AB AMR OR AB antimicrobial resistance OR AB antibiotic*) NOT ((animal* OR AB surgery OR AB Surgical OR AB dental OR AB cancer* OR AB Chronic obstructive pulmonary disease OR AB COPD OR AB alcohol OR AB tobacco OR AB addiction OR AB depression OR AB disorder* OR AB adherence OR AB diabet* OR MA Inpatients* OR AB inpatient* OR MA Hospitals OR AB tertiary OR AB HIV OR AB tuberculosis OR emergency[ti] OR ED[tiab] OR MA Intensive Care Units OR MA Economics OR AB analgesic* OR MA Hospitalization OR MA Health Care Facilities OR MA Health Care Facilities OR MA Patient Care Management)) NOT PO animal)) AND (AB China OR AB Taiwan OR AB hong kong OR AB macau)
CNKI (China National Knowledge Infrastructure)	(((题名=(抗生素+抗菌素+消炎药)) OR (Title=(抗生素+抗菌素+消炎药))) AND ((题名=(行为+使用)) OR (Title=(行为+使用)))) AND ((((摘要=(抗生素+抗生素滥用+抗生素使用+抗菌素+消炎药)) OR (ABSTRACT=(抗生素+抗生素滥用+抗生素使用+抗菌素+消炎药))) OR ((主题=(抗生素+抗生素滥用+抗生素使用+抗菌素+消炎药)) OR (题名=(抗生素+抗生素滥用+抗生素使用+抗菌素+消炎药)) OR (v_subject=(抗生素+抗生素滥用+抗生素使用+抗菌素+消炎药)))) AND (((摘要=(行为+自我治疗+自我药疗+无处方购买+处方)) OR (ABSTRACT=(行为+自我治疗+自我药疗+无处方购买+处方))) OR ((主题=(行为+自我治疗+自我药疗+无处方购买+处方)) OR (题名=(行为+自我治疗+自我药疗+无处方购买+处方)) OR (v_subject=(行为+自我治疗+自我药疗+无处方购买+处方)))))) 并且 发表时间 between (1900-1-1,2020-05-31) (精确匹配), 专辑导航 : 医药卫生科技, 社会科学II辑, 数据库 : 文献 跨库检索

Google Scholar “antibiotics” and “China”

S2. Inclusion/Exclusion Criteria

	Inclusion Criteria	Exclusion
Language	English and Chinese	Other language
Time period	Inception of databases to June 2020	Everything else
Population	General public, caregivers of children (age < 18 years old), outpatients, adults; family doctors, physicians, clinicians, pharmacists, health care workers	Inpatients, animal only
Study setting	Community (primary care or outpatient setting)	Inpatient setting, Emergency Department
Illness	No restrictions	None
Outcome	Determinants of human antibiotic use behaviours (including self-medication with antibiotics or antibiotic prescribing, etc.)	Results of prescription analysis; antibiotic knowledge or attitudes; determinants of general self-medication, antibiotics not specifically mentioned; for quantitative studies, those not presenting significant association between determinants and antibiotic use behaviours by multiple logistic regression analysis.
Study design	Empirical studies with original data (quantitative, qualitative and mix-methods)	Editorials, commentaries, reviews or literature reviews, descriptive studies, poster abstracts
Others		Low-quality studies with obvious data mistakes (e.g. data in figures or tables were different with it in context); full-text article cannot be downloaded; other non-relevant studies.

S3.1. Factors associated with self-medication with antibiotics without a prescription (East)

(Chronological order, the list starts with the most recently published studies)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Zhu X, et al. 2016	Outpatient	East	N/A	Quantitative	Having some level of medical education	Prior knowledge of antibiotics	2.26 (1.59-3.22)
					Socio-Contextual (demographic characteristics)	Female gender	1.44 (1.01-2.05)
						Older age	1.25 (1.12-1.38)
Li Y, et al. 2016	Outpatient	East	N/A	Quantitative	Knowledge (combined knowledge score)	Combined knowledge score Squared combined knowledge score	1.257 (1.081-1.461) 0.978 (0.963-0.992)
					Perceived barrier (or access) to antibiotics	Keeping antibiotics at home Never Often	Reference 3.759 (2.759-5.122)
					Perceived Susceptibility	Self-rated health status Poor Good	Reference 0.779 (0.620-0.978)
					Socio-Contextual (demographic characteristics)	Married Not married	Reference 0.600 (0.476-0.757)
Tian L, et al. 2015	Outpatient	East	N/A	Quantitative	Having some level of medical education	Not majoring in medicine	2.746 (1.377-5.474)
					Socio-Contextual (demographic characteristics)	Female	2.542 (1.426-4.532)
						Socio-Contextual (socio-economic status)	Education: Lower grade
					Hometown: Urban		2.186 (1.129-4.231)
Liao R et al. 2013	Outpatient	East	N/A	Quantitative	Having some level of medical education	Having caregivers working in the medical field	1.744 (1.107-2.746)
					Perceived barrier (or access) to antibiotics	Keeping antibiotics at home	1.529 (1.169-2.001)
					Socio-Contextual (demographic characteristics)	Parents' age	0.807 (0.680-0.957)
Yao Z et al. 2013	Outpatient	East	N/A	Quantitative	Perceived barrier (or access) to antibiotics	Keeping antibiotics at home	4.792 (3.541-6.485)
					Socio-Contextual (socio-economic status)	Education: Postgraduate and above Elementary school and below Junior high school High school or secondary school	Reference 5.042 (1.495-17.002) 2.358 (1.150-4.838) 2.104 (1.106-4.003)
Huang Y, et al. 2013	Outpatient	East	N/A	Quantitative	Having some level of medical education	Medical students vs Non-medical students	OR not applicable
Pan H, et al. 2012	Outpatient	East	N/A	Quantitative	Having some level of medical education	Prior knowledge of antibiotics	2.23 (1.74-2.87)
					Socio-Contextual (demographic characteristics)	Age	1.23 (1.16-1.30)
						Socio-Contextual (socio-economic status)	Higher allowance: ≤500 RMB 500 to 1,000 RMB >1000 RMB

S3.2. Factors associated with self-medication with antibiotics without a prescription (Central)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Yu M, et al. 2014	Outpatient	Central	N/A	Quantitative	Perceived barrier (or access) to antibiotics	Once purchased antibiotics without physicians' prescription	6.264 (4.144-9.469)
						Sometimes, often or always stores antibiotics at home	2.792 (1.961-3.975)
					Antibiotic use behaviors	Would follow all the advice from physicians	0.639 (0.451-0.906)
					Socio-Contextual (demographic characteristics)	Raising more than one child	2.174 (1.485-3.183)
						Age of children	1.146 (1.037-1.266)
					Socio-Contextual (socio-economic status)	Education: College or above	Reference
						Primary school	0.191 (0.049-0.754)
	Living in villages	1.643 (1.108-2.436)					

S3.3. Factors associated with self-medication with antibiotics without a prescription (West)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Lv B, et al. 2014.	Outpatient	West	N/A	Quantitative	Having some level of medical education	Medical students	1.612 (1.193–2.178)
					Socio-Contextual (region/location)	From urban areas	1.495 (1.103–2.026)
Lv B, 2013	Outpatient	West	N/A	Quantitative	Having some level of medical education	Majoring in medicine	1.697 (1.229-2.341)
					Socio-Contextual (socio-economic status)	Hometown: Urban	1.527 (1.109-2.203)
Jin Y, et al. 2014	Outpatient	West	N/A	Quantitative	Socio-Contextual (socio-economic status)	Hometown: Rural Urban	Reference 0.71 (0.60-0.84)
					Behaviour: over-the-counter purchase and use of antibiotics according to commercial advertisement	Education: Senior high school and above Junior high school and below	Reference 1.72 (1.45-2.03)
					Socio-Contextual (socio-economic status)	Hometown: Rural Urban	Reference 0.56 (0.49-0.66)
					Behaviour: over-the-counter purchase and use of antibiotics	Education: Senior high school and above Junior high school and below	Reference 0.70 (0.60-0.81)

S3.4. Factors associated with self-medication with antibiotics without a prescription (across regions)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Wang W, et al. 2019	Outpatient	Across regions	N/A	Quantitative	Knowledge (misconceptions)	Having the misconception that antibiotic is a Xiaoyanyao	1.51 (1.21-1.89)
Chang J, et al. 2018	Outpatient	Across regions	N/A	Quantitative	Perceived barrier (or access) to antibiotics	Knowing prescription-only regulation for sales of antibiotics at community pharmacies	0.77 (0.66-0.91)
					Attitudes (accepting attitudes towards SMA)	Caregivers' supportive attitude	2.66 (2.21-3.19)
					Having some level of medical education	Having family member or relatives working in health sector	1.38 (1.14-1.66)
					Perceived barrier (or access) to antibiotics	Keeping antibiotics at home	6.25 (4.73-8.26)
					Perceived Susceptibility	Child's rated health status rated: F -as-fair, poor, or very poor Good or very good	Reference 0.48 (0.40-0.57)
					Socio-Contextual (demographic characteristics)	Caregiver's relationship with children was grandparents	0.68 (0.49-0.94)
						Caregiver's gender: Female	1.25 (1.06-1.47)
					Socio-Contextual (socio-economic status)	Caregivers with senior high school or equivalent	0.75 (0.57-0.98)
					Socio-Contextual (region/location)	Xi'an Shanghai Changsha	Reference 0.34 (0.28-0.42) 0.78 (0.65-0.94)
Perceived barrier (or access) to antibiotics/healthcare	Having children's health insurance	1.30 (1.05-1.61)					
Peng D, et al. 2018	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Parent's having medical background	3.01 (1.66-5.47)
Wang X, et al. 2019	Outpatient	Across regions	N/A	Quantitative	Socio-Contextual (region/location)	Zhejiang Guizhou	Reference 3.00 (1.84-4.90)
					Perceived barrier (or access) to antibiotics (over-the-counter purchase, keeping antibiotics at home, leftover prescriptions)	Keep Antibiotics at Home: No Yes (Previously bought from pharmacies) Yes (Previously prescribed by doctors) Yes (Other)	Reference 5.29 (3.72-7.53) 4.03 (2.68-6.07) 6.06 (3.06-12.02)
					Socio-Contextual (socio-economic status)	Urban	0.65 (0.49-0.88)
Wang X, et al. 2017	Outpatient	Across regions	N/A	Quantitative	Knowledge (combined knowledge score)	0-4 5-9 10-13	Reference 0.53 (0.39-0.72) 0.36 (0.24-0.54)
					Perceived barrier (or access) to antibiotics	Keeping antibiotics at home	5.05 (3.58-7.14)
Li R, et al 2016	Outpatient	Across regions	N/A	Quantitative	Knowledge Socio-Contextual (demographic characteristics)	Guardians having basic health knowledge	0.82 (0.79-0.86)
						Female children	0.92 (0.88-0.96)
						Being raised by parents	0.90 (0.85-0.94)
						Children's age: 1-3 years 4-6 years	1.62 (1.54-1.71) 1.90 (1.77-2.03)
						Higher education of guardians	0.60 (0.55-0.66)
						Western China: Low income Middle income Higher income	Reference 1.63 (1.51-1.78) 1.71 (1.50-1.94)
						Eastern China: Low income Higher income Middle China: Low income Middle income	Reference 0.75 (0.65-0.86) Reference 0.86 (0.77-0.96)
Urban area	0.79 (0.76-0.83)						
Sun C, et al. 2019	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Parents with medical background	0.71 (0.52-0.97)
					Perceived barrier (or access) to antibiotics (over-the-counter purchase, keeping antibiotics at home, leftover prescriptions)	Parents who did not keep antibiotics at home Parents who had leftover antibiotics 1) which came from previous prescriptions 2) which were purchased	Reference 3.80 (2.89-5.00) 6.45 (4.89-8.51)

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						from pharmacies	
						Parents who kept antibiotics at home for children	4.91 (3.84-6.28)
					Socio-Contextual (socio-economic status)	Parents' highest level of education: Middle school and below College and above	Reference 0.72 (0.52-0.99)
						Average household income (RMB, monthly) <3000 (US\$461) 5001–10,000 (US\$770–1538):	Reference 0.65 (0.46-0.91)
					Socio-Contextual (region/location)	Province: Zhejiang Guangxi Shaanxi	Reference 1.91 (1.38-2.65) 2.63 (1.91-3.60)
Xu Y, et al. 2020	Outpatient	Across regions	N/A	Quantitative	Socio-Contextual (region/location)	Province: Zhejiang Shaanxi	Reference 2.82 (2.06-3.86)

S3.5. Factors associated with taking antibiotics as prophylaxis (East)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Dyar O. J., et al. 2018	Outpatient	East	N/A	Quantitative	Perceived benefits and disbenefits (antibiotic efficacy)	Backyard pig farmers who would only use antibiotics when their pigs have signs of disease Backyard pig farmers who think that taking antibiotics can prevent a common cold in humans developing into a more severe disease such as pneumonia Behaviour outcome: always or often adding antibiotics into pig feed	32% 52% p<0.001*

* The authors employed a stratified analysis.

S3.6. Factors associated with taking antibiotics as prophylaxis (across regions)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Wang W, et al. 2019	Outpatient	Across regions	N/A	Quantitative	Knowledge (misconceptions)	Having the misconception that antibiotic is a Xiaoyanyao	1.36 (1.24-1.50)
Hu Y, et al. 2018	Outpatient	Across regions	N/A	Quantitative	Socio-Contextual (socio-economic status)	Hometowns were urban	0.69 (0.50-0.94)
Peng D, et al. 2018	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Majoring in medicine	0.69 (0.55-0.87)
						Parent's having medical background	1.45 (1.08-1.95)
Wang X, et al. 2018	Outpatient	Across regions	N/A	Quantitative	Socio-Contextual (region/location)	Zhejiang	Reference 2.28 (1.89-2.76)
						Guizhou	
					Having some level of medical education	Majoring in medicine	0.52 (0.44-0.60)
						Parent with Medical Background	1.47 (1.26-1.72)
					Perceived barrier (or access) to antibiotics (over-the-counter purchase, keeping antibiotics at home, leftover prescriptions)	Keep Antibiotics at Home:	Reference
No Yes (Previously bought from pharmacies) Yes (Previously prescribed by doctors) Yes (Other)	2.55 (2.22-2.92) 2.62 (2.34-2.93) 2.72 (1.97-3.76)						
Socio-Contextual (socio-economic status)	Household Income:	Reference					
	<3000 (\$461 USD) 3000-10,000 (\$462-\$1538 USD) Hometowns were urban	0.88 (0.79-0.99) 0.80 (0.71-0.90)					
Socio-Contextual (region/location)	Zhejiang University	Reference					
	Lanzhou University Jilin University Guizhou University	1.87 (1.58-2.22) 1.99 (1.69-2.35) 2.18 (1.83-2.58)					
Wang X, et al. 2017	Outpatient	Across regions	N/A	Quantitative	Knowledge (combined knowledge score)	0-4 5-9 10-13	Reference 0.64 (0.57-0.72) 0.35 (0.30-0.41)
Lu J, et al. 2019	Outpatient	Across regions	N/A	Quantitative	Socio-Contextual (socio-economic status)	University students stayed in Eastern China	Reference 1.85 (1.32-2.56)
						University students moved to Western China from Eastern China	
					University students stayed in Western China	University students moved to Eastern China from Western China	Reference 0.57 (0.41-0.81)
						Specialty (among university students from Eastern China or attended Eastern universities): Social Science Science	Reference 1.55 (1.16-2.08)
Specialty (among university students from Western or attended Western universities): Social Science Science	Reference 1.44 (1.16-1.78)						
Sun C, et al. 2019	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Parents with medical background	0.62 (0.52-0.75)
					Perceived barrier (or access) to antibiotics (over-the-counter purchase, keeping antibiotics at home, leftover prescriptions)	Parents who did not keep antibiotics at home Parents who had leftover antibiotics 1) which came from previous prescriptions 2) which were purchased from pharmacies	Reference 2.96 (2.62-3.34) 3.53 (3.07-4.05)

					Parents who kept antibiotics at home for children	3.16 (2.83-3.53)	
				Socio-Contextual (demographic characteristics)	Sex of caregiver: Male Female	Reference 0.83 (0.74-0.94)	
				Socio-Contextual (socio-economic status)	Parents' highest level of education: Middle school and below College and above	Reference 0.85 (0.73-0.99)	
				Socio-Contextual (region/location)	Province: Zhejiang Shaanxi	Reference 1.59 (1.38-1.84)	
Xu Y, et al. 2020	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Parents' medical background: No Yes	Reference 0.62 (0.50-0.77)
					Socio-Contextual (demographic characteristics)	Age of child	1.02 (1.01-1.04)
					Socio-Contextual (region/location)	Province: Zhejiang Shaanxi	Reference 1.82 (1.58-2.10)

S3.7. Factors associated with over-the-counter purchase of antibiotics (East)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Dyar O. J., et al. 2018	Outpatient	East	N/A	Quantitative	Perceived barriers/access to antibiotics (over-the-counter-purchase)	Backyard pig farmers reported that they hadn't bought antibiotics for their pigs without first speaking with a vet in the previous year Backyard pig farmers reported that they had bought antibiotics for their pigs without first speaking with a vet in the previous year	25% 49% p<0.001*

* The authors employed a stratified analysis.

S3.8. Factors associated with over-the-counter purchase of antibiotics (Central)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Wang J, et al. 2017	Outpatient	Central	N/A	Quantitative	Prior experience	Whether been prescribed antibiotics by doctors or not	$\beta = 0.239^*$
					Socio-Contextual (demographic characteristics)	Age of child	$\beta = -0.074^*$
					Socio-Contextual (socio-economic status)	Parents' education level	$\beta = 0.090^*$

* The authors employed linear regression analyses.

S3.9. Factors associated with over-the-counter purchase of antibiotics (West)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Jin Y, et al. 2014	Outpatient	West	N/A	Quantitative	Socio-Contextual (socio-economic status) Behaviour: over-the-counter purchase and use of antibiotics	Hometown: Rural Urban	Reference 0.56 (0.49-0.66)
						Education: Senior high school and above Junior high school and below	Reference 0.70 (0.60-0.81)
					Socio-Contextual (socio-economic status) Behaviour: over-the-counter purchase and use of antibiotics according to commercial advertisements	Hometown: Rural Urban	Reference 0.71 (0.60-0.84)
						Education: Senior high school and above Junior high school and below	Reference 1.72 (1.45-2.03)

S3.10. Factors associated with over-the-counter purchase of antibiotics (across regions)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Peng D, et al. 2018	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Parent's having medical background	0.62 (0.43-0.89)
					Socio-Contextual (socio-economic status)	Education: Undergraduate Graduate	Reference 1.94 (1.35,2.80)
					Socio-Contextual (region/location)	Zhejiang Guizhou	Reference 1.71(1.36,2.15)

S3.11. Factors associated with over-the-counter purchase of antibiotics (Hong Kong and Taiwan)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Lam TP, et al. 2015	Outpatient	Hong Kong	N/A	Mixed-methods (qualitative + quantitative)	Socio-Contextual (socio-economic status)	Local-born New immigrants All immigrants	Reference 2.205 (1.230- 3.953) 0.601 (0.436-0.829)
Wun YT, et al. 2015	Outpatient	Hong Kong	N/A	Mixed-methods (qualitative + quantitative)	Socio-Contextual (socio-economic status)	Local-born Recent-immigrants	Reference 2.37 (1.28-4.15)
Wun YT, et al. 2013	Outpatient	Hong Kong	N/A	Mixed-methods (qualitative + quantitative)	Socio-Contextual (demographic characteristics)	Age	Not reported
					Risk perception/Perceived severity	Those who agreed with the potential harm of such practice	0.47 (0.341-0.654)

S3.12. Factors associated with storing antibiotics at home (East)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Dyar O. J., et al. 2018	Outpatient	East	N/A	Quantitative	Attitudes (ok to store/self-medicate with antibiotics)	Backyard pig farmers who did not think it was good to store leftover antibiotics for their pigs Backyard pig farmers who thought it was good to store leftover antibiotics for their pigs Behaviour outcome: have stored antibiotics for pigs	20% 41% p<0.001 (stratified analysis)
						Backyard pig farmers who did not think it was good to store leftover antibiotics for their pigs Backyard pig farmers who thought it was good to store leftover antibiotics for their pigs Behaviour outcome: have stored antibiotics for humans	32% 47% p<0.001 (stratified analysis)

S3.13. Factors associated with storing antibiotics at home (West)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Jin Y, et al. 2014	Outpatient	West	N/A	Quantitative	Socio-Contextual (socio-economic status)	Hometown: Rural Urban	Reference 1.30 (1.06-1.58)
						Education: Senior high school and above Junior high school and below	Reference 1.31 (1.11-1.55)
						Household income (per month): ≥2000 RMB <1000 RMB 1000-1999 RMB	Reference 0.46 (0.36-0.60) 0.69 (0.55-0.88)

S3.14. Factors associated with storing antibiotics at home (across regions)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Hu Y et al. 2018	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Mothers with medical backgrounds: Yes No	Reference 0.53 (0.32-0.88)
					Socio-Contextual (demographic characteristics)	Female students	1.20 (1.04-1.56)
					Socio-Contextual (socio-economic status)	Fathers had a higher educational level Hometowns were urban	1.60 (1.10-2.30) 1.60 (1.20-1.90)
Peng D, et al. 2018	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Parent's having medical background	1.68 (1.24-2.27)
					Socio-Contextual (demographic characteristics)	Males	0.70 (0.61-0.80)
					Socio-Contextual (socio-economic status)	Education level of parents: Illiteracy/primary school Junior high school Senior high school University/above	Reference 1.33 (1.07-1.66) 1.70 (1.32-2.17) 2.03 (1.53-2.69)
						Household income per month: < 3000 RMB 3000-10,000 RMB Hometowns were rural	Reference 1.30 (1.10-1.53) 0.64 (0.54-0.76)
Wang X, et al. 2018	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Parent with Medical Background	1.56 (1.33-1.84)
					Socio-Contextual (demographic characteristics)	Females	1.47 (1.35-1.59)
						Age	1.02 (1.00-1.04)
					Socio-Contextual (socio-economic status)	Household Income: <3000 (\$461 USD) 3000-10,000 (\$462-\$1538 USD)	Reference 1.15 (1.04-1.27)
						Education level of parents: Illiteracy/primary school Junior high school Senior high school University/above Hometowns were urban	Reference 1.27 (1.09-1.47) 1.54 (1.32-1.81) 1.79 (1.51-2.13) 1.50 (1.35-1.66)
Socio-Contextual (region/location)	Zhejiang University Wuhan University	Reference 0.83 (0.72-0.96)					
Wang X, et al. 2017	Outpatient	Across regions	N/A	Quantitative	Knowledge (combined knowledge score)	0-4 5-9	Reference 1.29 (1.15-1.45)
Sun C, et al. 2019	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Respondents with medical backgrounds	1.54 (1.35-1.75)
					Socio-Contextual (demographic characteristics)	Fathers Mothers Age of child	Reference 1.17 (1.06-1.29) 1.05 (1.04-1.07)
						Higher education levels Middle school and below High school College and above	Reference 1.34 (1.20-1.51) 1.50 (1.33-1.70)
					Socio-Contextual (socio-economic status)	Average household income (RMB, monthly) <3000 (US\$461) 3000-5000 (US\$462-769) 5001-10 000 (US\$770-1538) >10 000 (US\$1538)	Reference 1.22 (1.08-1.38) 1.17 (1.02-1.33) 1.36 (1.16-1.60)
						Socio-Contextual (region/location)	Province: Zhejiang Shaanxi
Xu Y, et al. 2020	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Parent's medical background	1.60 (1.37-1.88)
					Socio-Contextual (demographic characteristics)	Age of the child Gender of the parent: Male Female	1.05 (1.03-1.06) Reference 1.22 (1.08-1.39)
						Socio-Contextual (socio-economic status)	Parents' highest level of education: Middle school or below High school College or above Residential location: Urban Rural
					Socio-Contextual (region/location)		Province: Zhejiang Shaanxi

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S3.15. Factors associated with storing antibiotics at home (Hong Kong and Taiwan)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Lam TP, et al. 2015	Outpatient	Hong Kong	N/A	Mixed-methods (qualitative + quantitative)	Socio-Contextual (socio-economic status)	Local-born New immigrants	Reference 2.490 (1.385-4.477)
Wun YT, et al. 2015	Outpatient	Hong Kong	N/A	Mixed-methods (qualitative + quantitative)	Socio-Contextual (socio-economic status)	Local-born Recent-immigrants	Reference 2.37 (1.29-4.15)
Wun YT et al. 2013	Outpatient	Hong Kong	N/A	Mixed-methods (qualitative + quantitative)	Socio-Contextual (demographic characteristics)	Age	Not reported
					Socio-Contextual (socio-economic status)	Income	Not reported

S3.16. Factors associated with asking/pressuring doctors for antibiotics (East)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Huang Y, et al, 2013	Outpatient	East	N/A	Quantitative	Having some level of medical education	Medical students vs Non-medical students	OR not applicable

S3.17. Factors associated with asking/pressuring doctors for antibiotics (West)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Jin Y, et al. 2014	Outpatient	West	N/A	Quantitative	Socio-Contextual (socio-economic status) Behaviour: asking doctors for antibiotics	Hometown: Rural Urban	Reference 0.73 (0.63-0.85)
						Education: Senior high school and above Junior high school and below	Reference 1.18 (1.01-1.37)
					Socio-Contextual (socio-economic status) Behaviour: asking doctors for antibiotics via intravenous injection	Hometown: Rural Urban	Reference 0.78 (0.67-0.91)

S3.18. Factors associated with asking/pressuring doctors for antibiotics (across regions)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Wang W, et al. 2019	Outpatient	Across regions	N/A	Quantitative	Knowledge (misconceptions)	Having the misconception that antibiotic is a Xiaoyanyao	1.34 (1.21-1.48)
Hu Y et al. 2018	Outpatient	Across regions	N/A	Quantitative	Socio-Contextual (demographic characteristics)	Aged between 16 and 20 years old Aged between 21 and 30 years old	Reference 1.50 (1.00-2.20)
Peng D, et al. 2018	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Majoring in medicine	0.71 (0.56-0.90)
					Socio-Contextual (demographic characteristics)	Age	1.05 (1.00-1.11)
					Socio-Contextual (socio-economic status)	Education level of parents: Illiteracy/primary school Senior high school	Reference 1.39 (1.01-1.91)
					Socio-Contextual (region/location)	Zhejiang Guizhou	Reference 1.48 (1.22-1.80)
Wang X, et al. 2017	Outpatient	Across regions	N/A	Quantitative	Knowledge (combined knowledge score)	0-4 5-9 10-13	Reference 0.71 (0.62-0.80) 0.50 (0.42-0.59)
Lu J, et al. 2019	Outpatient	Across regions	N/A	Quantitative	Socio-Contextual (socio-economic status)	University students stayed in Eastern China University students moved to Western China from Eastern China	Reference 2.13 (1.54-3.03)
						University students stayed in Western China University students moved to Eastern China from Western China	Reference 0.56 (0.37-0.83)
						Specialty (among university students from Eastern China or attended Eastern universities): Social Science Science	Reference 1.49 (1.09-2.04)
						Parent's education level (among university students from Western China or attended Western universities): Middle School or Below College or Above	Reference 0.70 (0.49-0.99)
						Age of the child	1.08 (1.02-1.14)
Xu Y, et al. 2020	Outpatient	Across regions	N/A	Quantitative	Socio-Contextual (demographic characteristics)	Age of the child	1.08 (1.02-1.14)
					Socio-Contextual (socio-economic status)	Parents' highest level of education Middle school or below High school College or above	Reference 0.50 (0.29-0.86) 0.46 (0.27-0.78)

S3.19. Factors associated with antibiotic prescriptions (Central)**Outcome: likelihood of being prescribed with antibiotics**

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Chai J et al. 2019	Outpatient	Central	N/A	Quantitative	Knowledge (combined knowledge score)	Zero ≥3 scores Outcome: being prescribed oral/intravenous antimicrobials	reference 0.32 (0.13-0.78)
					Socio-Contextual (demographic characteristics)	Age Outcome: being prescribed oral antimicrobial use	0.81 (0.71-0.93)
						Age Outcome: being prescribed intravenous antimicrobial use	1.21 (1.10-1.33)

S3.20. Factors associated with antibiotic prescriptions (West)**Reasons for antibiotic prescription to children with upper respiratory tract infections**

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Ye D, et al. 20	Outpatient	West	N/A	Quantitative	Perceived barriers/access to antibiotics (asking/pressuring doctors for antibiotics)	Always, n (%) Often, n (%) Sometimes, n (%) Seldom, n (%) Never, n (%)	7 (1.5) 50 (10.6) 138 (29.2) 154 (32.6) 123 (26.1)

S3.21. Factors associated with antibiotic prescriptions (across regions)**Outcome: likelihood of being prescribed with antibiotics**

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Peng D et al, 2018	Outpatient	Across regions	N/A	Quantitative	Having some level of medical education	Majoring in medicine	0.49 (0.26-0.93)
					Socio-Contextual (socio-economic status)	Hometown were rural	2.01 (1.05-3.84)
					Socio-Contextual (region/location)	Province: Zhejiang Guizhou	Reference 2.95 (1.68-5.18)
Wang X, et al. 2017	Outpatient	Across regions	N/A	Quantitative	Knowledge (combined knowledge score)	0-4 5-9 10-13	Reference 0.58 (0.39-0.87) 0.46 (0.27-0.76)
Xu Y, et al. 2020	Outpatient	Across regions	N/A	Quantitative	Socio-Contextual (socio-economic status)	Residential location: Urban Rural	Reference 0.67 (0.54-0.82)
					Socio-Contextual (region/location)	Province Zhejiang Shaanxi	Reference 1.46 (1.16-1.84)

S3.22. Factors associated with antibiotic prescriptions (Hong Kong and Taiwan)

Reference	Setting	Region	Last year of data collection	Study design	Non-biomedical factors	Description of the factor influencing outpatient and/or community antibiotic use	ORs
Wun YT et al. 2014	Outpatient	Hong Kong	N/A	Quantitative	Health care seeking behaviors	TCM (Traditional Chinese medicine)-attenders	0.38 (0.25-0.60) for accepting antibiotics when offered
					Health care seeking behaviors		0.49 (0.27-0.81) for being treated with antibiotics in last URTI

S4. Appraisal – quantitative

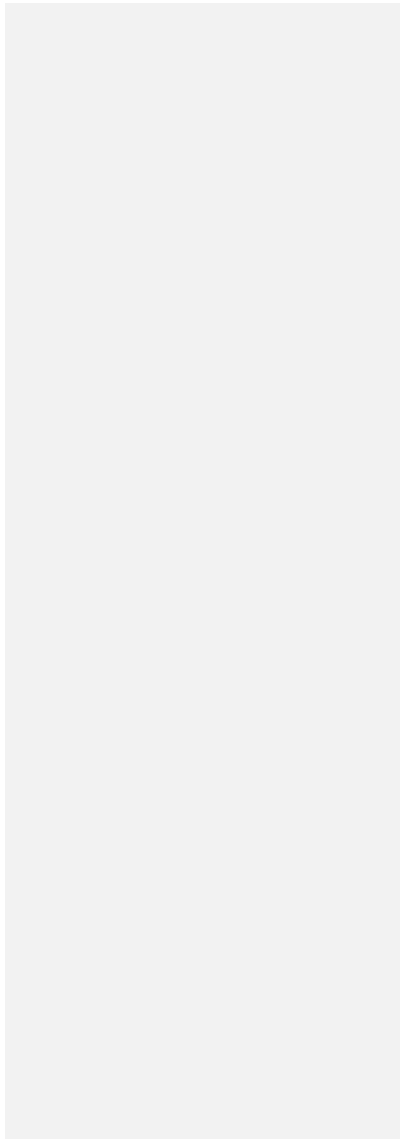
Author	Region of China	Study design	Data collection method	Target population	Eligibility criteria (yes/no)	Sample size	Response rate (%)	Clarity of the questions/statements (yes/no)	Ethical considerations (yes/no)	Clarity of data (including numerators, denominators, and missing values) (yes/no)	Consistency between the research question and data reported (yes/no)
Chan, Y. H., 2012	Hong Kong	Cross-sectional	Survey	General public	Yes	369	Not reported	Yes	Yes	Yes	Yes
Chang, J., 2018	Across regions	Cross-sectional	Survey	Caregivers of children under 7 years	Yes	3358	87.4	Yes	Yes	Yes	Yes
Gu, J., 2015	Central	Cross-sectional	Survey	Rural and urban residents	Yes	3631	Not reported	Yes	No	Yes	Yes
Hu, Y., 2018	Across regions	Cross-sectional	Survey	Medical students	Yes	1819	Not reported	Yes	Yes	Yes	Yes
Li, R., 2016	Across regions	Cross-sectional	Survey	Guardians of children aged 0–6 years	Yes	53665	87.6	Yes	Yes	Yes	Yes
Lv, B., 2014	Western	Cross-sectional	Survey	Undergraduate students	Yes	731	73.1	Yes	Yes	Yes	Yes
Pan, H., 2012	Eastern	Cross-sectional	Survey	Shantou University (STU) students	Yes	1300	47.7 (1300/2724)	Yes	Yes	Yes	Yes
Peng, D., 2018	Across regions	Cross-sectional	Survey	University students in western and eastern China (Guizhou University and Zhejiang University)	Yes	3995	Not reported	Yes	Yes	No	Yes
Wang, X., 2018	Across regions	Cross-sectional	Survey	University students	Yes	11192	Not reported	Yes	No	Yes	Yes
Wang, X., 2017	Across regions	Cross-sectional	Survey	University students	Yes	11192	Not reported	Yes	Yes	Yes	Yes
You, J. H., 2008	Hong Kong	Cross-sectional	Survey, interview	People aged 18 or older who were uninstitutionalized Hong Kong residents	Yes	1002	14	Yes	Yes	Yes	Yes
Yu, M., 2014	Central	Cross-sectional	Survey	Primary caregivers	Yes	854	92	Yes	Yes	Yes	Yes
Zhu, X., 2016	Eastern	Cross-sectional	Survey	Jiangsu university students	Yes	660	41.6	Yes	Yes	Yes	Yes
Jiang, H., 2017	Eastern	Cross-sectional	Survey	Community residents in Hangzhou City	No	449	92.84	Yes	No	Yes	Yes
Jin, Y., 2014	Western	Cross-sectional	Survey	Middle-aged community residents	Yes	2556	98.69	Yes	No	Yes	Yes
Li, Y., 2016	Eastern	Cross-sectional	Survey	Community residents	Yes	1589	93.47	No	No	No	Yes
Liao, R., 2012	Eastern	Cross-sectional	Survey	Primary school student's parents	Yes	509	94.43	Yes	No	Yes	Yes
Lu, T., 2016	Eastern	Cross-sectional	Survey	University students	Yes	600	97.1 (600/618)	Yes	No	Yes	Yes
Lv, B., 2013	Western	Cross-sectional	Survey	University students	Yes	731	73.1	Yes	No	Yes	Yes
Tian, L., 2015	Eastern	Cross-sectional	Survey	University students	Yes	377	94.25	No	No	No	Yes
Wang, J., 2017	Central	Cross-sectional	Survey	Child parents	Yes	310	88.57	No	No	No	Yes
Yao, Z., 2013	Eastern	Cross-sectional	Survey	Child parents	Yes	1295	86.3	No	No	No	Yes
Zhong, M., 2018	Eastern	Cross-sectional	Survey	Residents	Yes	1096	90.01	No	No	No	Yes
Dyar, O. J., 2018	Eastern	Cross-sectional	Survey	Residents of villages	Yes	769	Not reported	Yes	Yes	Yes	Yes
Huang, Y., 2013	Eastern	Cross-sectional	Survey	University students	Yes	2088	83.5	Yes	No	Yes	Yes
Lam, T. P., 2015 (BMC Pharmacol Toxicol)	Hong Kong	Cross-sectional	Survey	Adult residents	Yes	2471	68.3	Yes	Yes	Yes	Yes
Liao, C. C., 2006	Taiwan	Cross-sectional	Survey	Adults over 20 years old all over Taiwan	Yes	1507	86.7 [1507/(1771-32)]	Yes	No	Yes	Yes
Wun, Y. T., 2014	Hong Kong	Cross-sectional	Survey	Adult residents	Yes	2471	68.3	Yes	Yes	Yes	Yes
Chai, J., 2019	Central	Cross-sectional	Survey, interview	Rural residents of Anhui province	Yes	2611	95	Yes	Yes	Yes	Yes
Wang, W., 2019	Across regions	Cross-sectional	Survey	University students	Yes	11192	Not reported	Yes	Yes	Yes	Yes
Lam, T. P., 2003 (J Clin Pharm Ther)	Hong Kong	Cross-sectional	Survey	Family doctors (fellows, members and	Yes	801	65.0	Yes	No	Yes	Yes

Lam, T. P., 2003 (Int J Clin Pract)	Hong Kong	Cross-sectional	Survey	associate members normally residing in Hong Kong) Family doctors (fellows, members and associate members normally residing in Hong Kong)	Yes	801	65.0	Yes	No	Yes	Yes
Guan, X., 2019	Across regions	Cross-sectional	Survey	Physicians	Yes	344 questionnaires 58512 valid medical records	95.6	Yes	Yes	Yes	Yes
Liu, C., 2019	Central	Cross-sectional	Survey	Primary care physicians	Yes	503	71	Yes	Yes	Yes	Yes
Lam, T. P., 2015 (Hong Kong Med J)	Hong Kong	Cross-sectional	Survey, interview, focus group	General public	Yes	2471	68.3	Yes	No	Yes	Yes
Wun, Y. T., 2015	Hong Kong	Cross-sectional	Survey, interview, focus group	General public	Yes	2471	68.3	Yes	Yes	Yes	Yes
Wun, Y. T., 2013	Hong Kong	Cross-sectional	Survey, interview	Adult residents	Yes	2471	68.3	Yes	Yes	No	Yes
Lu, J., 2019	Across regions	Cross-sectional	Survey	University students	Yes	2714	Not reported	Yes	Yes	Yes	Yes
Sun, C., 2019	Across regions	Cross-sectional	Survey	Parents of children aged 4–13 years (who acted as the main caregiver and health decision-maker)	Yes	9526	88.7	Yes	Yes	Yes	Yes
Xu, Y., 2020	Across regions	Cross-sectional	Survey	Parents with children under 13 years old	Yes	6279	Not reported	Yes	Yes	Yes	Yes
Ye, D., 2020	Across regions	Cross-sectional	Survey	Pediatricians	Yes	472	26.0	Yes	Yes	Yes	Yes
Yin, J., 2019	Across regions	Cross-sectional	Survey	Village doctors, township hospital directors	Yes	23	95.8	Yes	Yes	Yes	Yes

S5. Appraisal – qualitative (CASP)

Article	Section A: Are the results of the trial valid? (Yes/Can't Tell/No)					Section B: What are the results? (Yes/Can't Tell/No)			Section C: Will the results help locally? (Yes/Can't Tell/No)	
	1. Was there a clear statement of the aims of the research?	2. Is a qualitative methodology appropriate?	3. Was the research design appropriate to address the aims of the research?	4. Was the recruitment strategy appropriate to the aims of the research?	5. Was the data collected in a way that addressed the research issue?	6. Has the relationship between researcher and participants been adequately considered?	7. Have ethical issues been taken into consideration?	8. Was the data analysis sufficiently rigorous?	9. Is there a clear statement of findings?	10. How valuable is the research?
Jin, C., 2011	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Reynolds, L., 2009	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes
Zhang, Z., 2016	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Zhu, X., 2018	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Lam, T. P., 2015 (Hong Kong Med J)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Wun, Y. T., 2015	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes
Wun, Y. T., 2013	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes
Wang, X., 2020	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Wei, X., 2020	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes

Yin, J., 2019	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
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S6. Appraisal – mixed-methods (MMAT)

Screening Questions			1. Qualitative					4. Quantitative descriptive					5. Mixed methods				
S1. Are there clear research questions?	S2. Do the collected data allow to address the research questions?		1.1. Is the qualitative approach appropriate to answer the research question?	1.2. Are the qualitative data collection methods adequate to address the research question?	1.3. Are the findings adequately derived from the data?	1.4. Is the interpretation of results sufficiently substantiated by data?	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?	4.1. Is the sampling strategy relevant to address the research question?	4.2. Is the sample representative of the target population?	4.3. Are the measurements appropriate?	4.4. Is the risk of nonresponse bias low?	4.5. Is the statistical analysis appropriate to answer the research question?	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?	5.2. Are the different components of the study effectively integrated to answer the research question?	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?
Lam, T. P., 2015 (Hong Kong Med J)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Wun, Y. T., 2015	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Wun, Y. T., 2013	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Wang, X., 2020	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Yin, J., 2019	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Chang, J., 2017	Yes	Yes			N/A			Yes	Yes	Yes	Yes	Yes			N/A		
Cuurie, J., 2014	Yes	Yes			N/A			Yes	Yes	Yes	Yes	Yes			N/A		
Cuurie, J., 2011	Yes	Yes			N/A			Yes	Yes	Yes	Yes	Yes			N/A		
Xue, H., 2019	Yes	Yes			N/A			Yes	Yes	Yes	Yes	Yes			N/A		
Chang, J., 2019	Yes	Yes			N/A			Yes	Yes	Yes	Yes	Yes			N/A		
Chen, J., 2020	Yes	Yes			N/A			Yes	Yes	Yes	Yes	Yes			N/A		

Note: Items under Q2. (quantitative randomized controlled trials) and Q3 (quantitative non-randomized) were not applicable.

S7. Included Studies

Health care users (Patients and caregivers)

1. Chai J, Coope C, Cheng J, et al. Cross-sectional study of the use of antimicrobials following common infections by rural residents in Anhui, China. *BMJ Open* 2019; 9(4): e024856.
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5. Gu J, Zhao J, Huang Y, et al. Use of antibiotics by urban and rural residents in Heilongjiang Province, China: cross-sectional study. *Trop Med Int Health* 2015; 20(12): 1815-22.
6. Hu Y, Wang X, Tucker JD, et al. Knowledge, Attitude, and Practice with Respect to Antibiotic Use among Chinese Medical Students: A Multicentre Cross-Sectional Study. *Int J Environ Res Public Health* 2018; 15(6).
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15. Liao CC, Chang YK, Chen HH, Lu CY, Huang LY, Sung FC. Knowledge and use of antibiotics among people in Taiwan. *Taiwan Journal of Public Health* 2006; 25(2): 135-42.
16. Liao R. Investigation on the Impact of Parents' Cognitive Level of Antibiotics on Self-directed Use of Antibiotics in Pupils [in Chinese]. *Practical Preventive Medicine* 2013; 20(01): 42-5.
17. Lu J, Wang X, Lin L, Xuan Z, Hu YJ, Zhou X. The Association between Changes in External Environment Caused by Migration and Inappropriate Antibiotic Use Behaviors among Chinese University Students: A Cross-Sectional Study. *Antibiotics (Basel)* 2019; 8(4).
18. Lu T, Li X. A Study on the Knowledge, Attitude and Behavior of Antibiotic Use among Students in Five Universities in Nanjing [in Chinese]. *ACTA UNIVERSITATIS MEDICINALIS NANJING (Social Sciences)* 2016; 16(04): 274-80.
19. Lv B, Yang D, Fang Y, et al. Studying on the Behaviors and Influencing Factors of Self-Medication with Antibiotics among University Students in China [in Chinese]. 2013 Annual Meeting of Pharmacy Management Professional Committee of Chinese Pharmaceutical Association and Academic Forum on "Medicine Safety and Scientific Development"; 2013 2013/08/01; Beijing, China; 2013. p. 6.
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Healthcare providers

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