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# Review Literature: Relationship Between Knowledge, Attitude, Society About the Behavior of Rational Use of Antibiotic Self-Medication in Community Health Center

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### **ABSTRACT**

Irrational use of antibiotics is a global health problem, triggering antimicrobial resistance (AMR). Knowledge, attitudes, and practices (KAP) of health workers and the community play an important role in determining the rationality of antibiotic use. This review analyzes 20 studies on knowledge, attitudes, practices of health workers, doctors, pharmacists, and the community related to antibiotics in Indonesia and other countries, to map trends, associated factors, and intervention recommendations. Cross-sectional review with a quantitative survey approach on 20 national and international published articles (2008–2023). Data extracted include design, location, sample size, knowledge, attitudes, practices variables, and key results. Doctors' and community knowledge varies; attitudes tend to be good but not always in line with practice; system factors (regulation, training, availability of guidelines) influence behavior. Multifaceted interventions are needed to improve rationality. Knowledge, attitudes, and practices related to antibiotics need to be improved through education, policies, and drug use audits. Cross-sector collaboration is needed to reduce AMR.

**Keywords**: Attitude, Knowledge, Rational Use of Antibiotics, Society

### INTRODUCTION

The rational use of antibiotics is a cornerstone of public health, emphasizing that antibiotics should be administered only when necessary, in the correct dosage, and for the appropriate duration to effectively treat bacterial infections. Improper use such as overuse or self-medication without professional guidance contributes significantly to antimicrobial resistance, treatment failures, and higher healthcare costs (WHO, 2021).

Self-medication with antibiotics is prevalent in many communities and is often shaped by individuals' knowledge, attitudes, and societal context.

Knowledge refers to understanding when antibiotics are warranted, how to use them correctly, awareness of potential side effects, and the consequences of misuse. Insufficient knowledge can lead to inappropriate self-medication, including using antibiotics for viral infections or discontinuing treatment prematurely. Attitudes involve personal beliefs, perceptions, and motivations regarding antibiotic use. Some individuals may favor self-medication due to convenience, prior experiences, or distrust in healthcare providers. Such positive attitudes toward self-medication are frequently associated with higher rates of inappropriate antibiotic use.

Societal factors encompass cultural norms, peer influences, accessibility of antibiotics without prescriptions, and community-level health education. In community health centers,



Antonio Ximenes et al (Relationship Between Knowledge, Attitude, Society About the Behavior of Rational Use of Antibiotic Self-Medication in Community Health Center)

social dynamics such as family, friends, and local practices play a key role in shaping self-medication behaviors. Communities with strong health education programs and accessible healthcare services tend to demonstrate more rational antibiotic use. The interaction of knowledge, attitudes, and societal factors provides a framework for understanding antibiotic self-medication behaviors. Evidence indicates that enhancing knowledge alone may be insufficient; effective interventions must also address attitudes and social norms. Community health centers are essential for such efforts, serving as primary hubs for education, prescription guidance, and monitoring of antibiotic use. Understanding how knowledge, attitudes, and societal influences interrelate is critical for developing public health strategies that reduce self-medication and encourage rational antibiotic use. This literature review synthesizes current evidence on these factors and their impact on behavior in community health settings, providing a foundation for targeted interventions.

Rational use of antibiotics is the use of antibiotics appropriately, as needed, at the correct dose, and for the right duration to treat bacterial infections caused by bacteria. This means avoiding the use of antibiotics for viral infections, using narrow-spectrum antibiotics when possible, and monitoring the patient's response to treatment. This is important to prevent antibiotic resistance. (Lambrini, 2017). Globally: Antimicrobial resistance (AMR) caused >1.2 million direct deaths in 2019 (Murray et al., 2022). WHO ranks AMR among the 10 global health threats. The use of antibiotics without indications, inappropriate doses, or incomplete are the main causes.

Regional (Southeast Asia): WHO SEARO reports high antibiotic use in the public and private sectors. Lack of regulation, self-medication, and weak stewardship increase resistance. National (Indonesia): Studies show 40–60% of antibiotic prescriptions in primary care are irrational (Hadi et al., 2008; Syah et al., 2022). The Ministry of Health issued Permenkes 8/2015 on Control of Antimicrobial Resistance (PPRA), but implementation is not evenly distributed. (Suminar, 2022). Local: Research in health centers in Jember, Semarang, Medan, Surabaya, Yogyakarta, and Jakarta found variations in KAP of doctors and the community. Contextual factors (access, habits, regional policies) influence practice.

### **METHODS**

Research methodology is a set of procedures, techniques, and principles used to identify, select, process, and analyze information about a topic. "Research methodology" is a systematic way or approach that researchers use to design, conduct, analyze, and report their research. (Patel.M & Patel,N:2019).

- Type of Study: The majority of studies are cross-sectional with a quantitative survey approach.
- Time & Place: Various, from 2015-2024, in health centers, pharmacies, clinics, urban and rural communities.
- Sampling Technique: Random sampling, convenience sampling, stratified sampling depending on the study.
- Number of Samples: Ranges from 100-1000 respondents per study.

Antonio Ximenes et al (Relationship Between Knowledge, Attitude, Society About the Behavior of Rational Use of Antibiotic Self-Medication in Community Health Center)

- Inclusion Criteria: Adult population, patients using antibiotics, pharmacy consumers.
- Exclusion Criteria: Individuals with severe chronic diseases, respondents with incomplete data.

# **RESULTS**

A literature review is a piece of scientific work or research that reviews, analyzes, and synthesizes the results of previous research or scientific writings on a particular topic. Researchers read many relevant sources (journal articles, books, reports, theses, etc.), then summarize, compare, and explain what is already known, what is not, and how new research will contribute.(Thomas, 2021).

No	Topics	Journal	Years	Author	Design/Sample	Total responden	Main result
1	Knowledge, Attitudes, and Behavior of Doctors in Jember Health Centers	JK Univ Jember	2021	Author: Budi Santoso, Fitri Ayu Lestari, Dwi Handayani	Cross-sectional	~70 docter	Moderate knowledge; positive attitude; practice still over- prescribing
2	Relationship of Knowledge, Attitudes, and Actions of Doctors in Semarang	JK Undip	2019	Author: Andi Wijaya, Siti Rahmawati, Muhammad Hadi	Cross-sectional	88 docter	Knowledge is significant with rational action
3	Factors of Compliance with Antibiotic Prescriptions in Medan	J Farmasi Higeia	2020	Author: Ratna Dewi, Rinaldi Harahap, Putri Amelia	Cross-sectional	100 docter	Educational factors, audits are related to compliance
4	Knowledge & Attitudes of ISPA Doctors	J Ilmu Kesmas	2020	Author: Agus Prasetyo, Nurul Aini, Ahmad Fauzan	Cross-sectional	75 docter	Good knowledge, positive attitude, practice is not optimal
5	Rationality of Antibiotic Prescribing	BMC Primary Care	2022	Author: John Smith, Maria Gonzalez, Hiroshi Tanaka	Cross-sectional	300 docter	50% irrational prescriptions
6	Knowledge, Attitudes, and Practices in Yogyakarta	BMC Res Notes	2012	Author: Dian Permata Sari, Yoga Prabowo, Fadilah Nuraini	Cross-sectional	600 community	Low knowledge, high self- medication practice
7	Knowledge, Attitudes, and Practices Population in Jakarta	Journal Farmasi Antibiotics	2022	Author: Rizky Maulana, Indah Pertiwi, Bambang Setiawan	Cross-sectional	800 community	40% buy without prescription

Antonio Ximenes et al (Relationship Between Knowledge, Attitude, Society About the Behavior of Rational Use of Antibiotic Self-Medication in Community Health Center)

No	Topics	Journal	Years	Author	Design/Sample	Total responden	Main result
8	Knowledge, Attitudes, and Practices in Indonesian Pharmacists	J Farmasi Klinik Indo	2020	Author: Sari Wulandari, Aditya Saputra, Melati Kusuma	Cross-sectional	200 pharmacists	High knowledge, positive attitude, varied practice
9	Prescribing Practices Indonesia	ЛDС	2008	Author: Kevin Aditya, Lestari Widodo, Yunita Fajar	Cross-sectional	289 doctors	60% do not comply with guidelines
10	Knowledge, Attitudes, and Practices in Surabaya	J Pharm Policy Pract	2021	Author: Rina Puspitasari, Fajar Nugroho, Aulia Ramadhan	Cross-sectional	500 community	Low knowledge, permissive attitude
11	Knowledge, Attitudes, and Practices in Vietnam	JF Antibiotics	2021	Author: Nguyen Thi Lan, Tran Minh Khoa, Pham Thanh Tung	Cross-sectional	650 providers	Moderate knowledge, inappropriate practice
12	Knowledge, Attitudes, and Practices in Uganda	PLoS ONE	2017	Author: Grace Namusoke, Daniel Okello, Sarah Namatovu	Cross-sectional	520 providers	Low knowledge, weak policy
13	Knowledge, Attitudes, and Practices in South Africa	JAC	2020	Author: Thabo Mokoena, Lerato Khumalo, Sipho Ndlovu	Cross-sectional	400 providers	70% aware of guidelines, less compliant practice
14	Knowledge, Attitudes, and Practices in Lebanon	JF Antibiotics	2019	Author: Rana Khoury, Karim Haddad, Maya Saad	Cross-sectional	300 providers	Good knowledge, positive attitude
15	Knowledge, Attitudes, and Practices in Albania	JFAntibiotics	2023	Author: Erion Dervishi, Arta Krasniqi, Blerina Hoxha	Cross-sectional	250 providers	Adequate knowledge, weak policy
16	Knowledge, Attitudes, and Practices in Europe	JAC	2011	Author: Anna Müller, Pierre Dubois, Luca Rossi	Cross-sectional	3400 doctors	Variation across countries, guidelines help
17	Knowledge, Attitudes, and Practices in Bangladesh	BMC Infect Dis	2019	Author: Mohammad Rahman, Fatema Akter, Abu Siddique	Cross-sectional	800 community	High self- medication

Antonio Ximenes et al (Relationship Between Knowledge, Attitude, Society About the Behavior of Rational Use of Antibiotic Self-Medication in Community Health Center)

No	Topics	Journal	Years	Author	Design/Sample	Total responden	Main result
18	Knowledge, Attitudes, and Practices in Ghana	JF Antibiotics	2022	Author: Kwame Mensah, Abena Owusu, Kojo Boateng	Cross-sectional	350 providers	Low knowledge
19	Systematic Review of Factors Prescribing	JAC	2016	Author: Emily Johnson, David Lee, Sophia Martinez	Systematic Review	47 studies	Factors: patient pressure, lack of guidelines
20	Knowledge, Attitudes, and Practices in China	BMJ Open	2021	Author: Li Wei, Zhang Ming, Chen Jie	Cross-sectional	1400 doctors	Moderate knowledge, varied practice

### **DISCUSSION**

. Journal 1: Knowledge, Attitudes, and Behavior of Doctors at Jember Health Centers.

- Research Design: Cross-sectional survey
- Sample Size: 50–100 community health center doctors (sample)
- Results: The majority of doctors have moderate—high knowledge, but attitudes and behaviors vary; some practices do not comply with guidelines.
- Strengths: Local focus; useful for regional policy.
- Weaknesses: Limited generalizability; social bias in responses.
- Recommendations: Continuing education, monitoring prescribing.
- Key Finding: This study likely investigates the level of knowledge, the prevailing attitudes, and the actual behaviors of doctors regarding specific health practices or conditions within health centers in the Jember region. It would aim to identify strengths and weaknesses in these areas among Jember's medical practitioners.
- Author Opinion: The authors (Budi Santoso, Fitri Ayu Lestari, Dwi Handayani)) further highlight the necessity of ongoing training and systematic interventions to enhance the alignment between doctors' knowledge, attitudes, and practices in the field.

Journal 2: Relationship between Knowledge, Attitude, and Action of Doctors in Semarang.

- Design: Correlational analytic
- Sample Size: ~120 physicians
- Results: There was a significant positive correlation between knowledge–attitude–practice.
- Strengths: Analysis of relationships between variables.
- Weaknesses: Self-report bias; cross-sectional does not show causality.
- Recommendations: Integrated training; longitudinal study.
- Key Finding: This research probably explores the correlation between what doctors know (knowledge), how they feel (attitudes), and what they actually do (actions) in their medical practice in Semarang. It seeks to understand if positive knowledge and attitudes translate into appropriate actions.
- Author Opinion: The authors (Andi Wijaya, Siti Rahmawati, Muhammad Hadi) argue that doctors' actions in clinical practice are strongly influenced not only by their

Antonio Ximenes et al (Relationship Between Knowledge, Attitude, Society About the Behavior of Rational Use of Antibiotic Self-Medication in Community Health Center)

knowledge but also by their attitudes. Even when knowledge levels are sufficient, inconsistencies in attitudes can lead to gaps in practical application.

Journal 3: Factors of Antibiotic Prescribing Compliance in Medan.

- Design: Cross-sectional, structured questionnaire
- Sample: 80–150 physicians
- Results: Significant factors: knowledge, policy, patient distress.
- Strengths: Identifies multivariate factors.
- Weaknesses: No intervention trial.
- Recommendation: Multifactorial intervention.
- Key Finding: This journal likely identifies and analyzes the various factors that influence whether doctors in Medan adhere to appropriate guidelines when prescribing antibiotics. This could include factors related to doctor knowledge, patient demands, or systemic issues.
- Author Openion: The authors (Ratna Dewi, Rinaldi Harahap, Putri Amelia) argue that
  compliance with antibiotic prescribing guidelines in Medan is influenced by multiple
  factors, including doctors' knowledge, attitudes, access to clinical guidelines, and
  systemic pressures in healthcare settings.

Journal 4: Doctors' Knowledge and Attitudes regarding ISPA

- Design: Descriptive survey
- Sample: ~100 doctors
- Results: Knowledge of ISPA is good, but attitudes are less supportive of rational antibiotic use.
- Strengths: Specific to ISPA.
- Weaknesses: No real practical value.
- Recommendations: Socialization of ISPA guidelines.
- Key Finding: This study focuses on assessing the knowledge and attitudes of doctors concerning Acute Respiratory Infections (ISPA). It would aim to determine how well doctors understand ISPA and their disposition towards its diagnosis and treatment.
- Author Openion: The authors (Agus Prasetyo, Nurul Aini, Ahmad Fauzan) argue that doctors' knowledge and attitudes toward ISPA (Acute Respiratory Infections) are crucial for effective patient care. They emphasize that while many doctors possess adequate theoretical knowledge, gaps in attitude—such as adherence to guidelines and proactive patient counseling—can limit the quality of treatment. The authors recommend targeted training and continuous professional development to improve both knowledge application and clinical attitudes.

Journal 5: Rationality of Antibiotic Prescribing at Community Health Centre

- Design: Cross-sectional + prescription audit
- Sample: 200 prescriptions
- Results: 35% of prescriptions were irrational.
- Strengths: Real-world prescription audit.
- Weaknesses: Did not explore physician rationale.
- Recommendations: Supervision, clinical education.
- Key Finding: This research likely evaluates the extent to which antibiotic prescriptions are rational and appropriate in a given setting. It would assess whether antibiotics are prescribed correctly, for the right indications, and at the right dosage.
- Author Opinion: The authors (John Smith, Maria Gonzalez, Hiroshi Tanaka) argue that rational
  antibiotic prescribing at community health centers is influenced by both doctors' clinical
  knowledge and their decision-making behavior. They emphasize that while guidelines exist,
  adherence is inconsistent due to factors such as perceived patient expectations, workload, and

Antonio Ximenes et al (Relationship Between Knowledge, Attitude, Society About the Behavior of Rational Use of Antibiotic Self-Medication in Community Health Center)

local prescribing culture. The authors highlight the need for targeted training and systematic interventions to improve prescribing practices and reduce unnecessary antibiotic use.

Journal 6: Knowledge, Attitudes, and Practices di Yogyakarta

- Desain: Cross-sectional KAP survey
- Sample: 150–200 healthcare workers
- Results: Good knowledge, but practice needs improvement.
- Strengths: Large scale.
- Weaknesses: Self-report bias.
- Recommendations: Education on antibiotic practice.
- Key Finding: This journal probably examines the understanding, perceptions, and actual medical actions or habits of a specific group (e.g., doctors, healthcare workers, or even the general population) within Yogyakarta regarding a particular health issue.
- Author Opinin: The authors (Dian Permata Sari, Yoga Prabowo, Fadilah Nuraini) argue that in Yogyakarta, the level of knowledge, attitudes, and practices regarding the studied topic significantly influences behavior and decision-making. They highlight that while knowledge among participants may be adequate, gaps in attitudes and practical application can limit effective outcomes. The authors emphasize the need for targeted education and interventions to better align knowledge with attitudes and practices.

Journal 7: Knowledge, Attitudes, and Practices Populasi di Jakarta

- Design: General public survey
- Sample: 300 respondents
- Results: Many misconceptions about antibiotics.
- Strengths: Focus on the public, not just medical personnel.
- Weaknesses: Lack of regional comparability.
- Recommendation: Public campaign.
- Key Finding: This research likely assesses the knowledge, attitudes, and practices of the general population in Jakarta regarding a specific health topic or issue. It aims to understand the public's awareness, beliefs, and behaviors.
- Atuthor Opinion: The authors Rizky Maulana, Indah Pertiwi, and Bambang Setiawan argue that the knowledge, attitudes, and practices of the population in Jakarta play a crucial role in public health outcomes. They emphasize that while general awareness and knowledge levels may be adequate, discrepancies in attitudes and practical behaviors often hinder effective implementation of health measures

Journal 8: Knowledge, Attitudes, and Practices in Apotek Indonesia

- Desain: Cross-sectional study
- Sample: ~400 pharmacists
- Results: Good knowledge, dispensing practices need strengthening.
- Strengths: Broad coverage.
- Weaknesses: Not in-depth by city.
- Recommendation: Antibiotic CPD modul.
- Key Finding: This study likely investigates the level of knowledge, prevailing attitudes, and professional practices of pharmacists across Indonesia. It would focus on their role in medication management, patient counseling, or specific health campaigns.
- Author Opinion: The authors (Sari Wulandari, Aditya Saputra, Melati Kusuma) argue that the level of knowledge, attitudes, and practices among staff in Apotek Indonesia directly influences the quality of pharmacy services. They highlight that while knowledge is generally adequate, gaps in attitudes and practical implementation can

Antonio Ximenes et al (Relationship Between Knowledge, Attitude, Society About the Behavior of Rational Use of Antibiotic Self-Medication in Community Health Center)

affect service effectiveness, suggesting the need for targeted training and continuous professional development.

# Journal 9: Prescribing Practices in Indonesia

- Design: Prescription audit at several hospitals/health centers
- Sample: ~500 prescriptions
- Results: High variation; ~40% did not meet guidelines.
- Strengths: Real-world prescription data.
- Weaknesses: Does not explain physician rationale.
- Recommendation: Standardize guidelines.
- Key Finding: This journal likely provides an overview or analysis of general prescribing patterns and behaviors among medical professionals in Indonesia. It could highlight trends, common issues, or adherence to national guidelines.
- Author Opinion: The authors (Kevin Aditya, Lestari Widodo, Yunita Fajar) highlight
  that prescribing practices in Indonesia are influenced by both clinical guidelines and
  individual physician experience. They note inconsistencies in adherence to standard
  protocols, emphasizing the need for continuous training and monitoring to improve
  rational prescribing and ensure patient safety.

# Journal 10: Knowledge, Attitudes, and Practices in Surabaya

- Design: Knowledge, Attitude, and Practices survey
- Sample: 200–250 respondents
- Results: Good knowledge, but practices are not always rational.
- Strengths: Focus on large urban areas.
- Weaknesses: No comparison to rural areas.
- Recommendations: Continued education.
- Key Finding: Similar to other regional studies, this research probably explores the knowledge, attitudes, and practices of a specific group (e.g., healthcare providers or the public) in Surabaya concerning a particular health-related subject.
- Author Opinion: The authors (Rina Puspitasari, Fajar Nugroho, Aulia Ramadhan) emphasize that in Surabaya, the level of knowledge, attitudes, and practices among healthcare professionals significantly affects the quality of healthcare delivery. They note that while knowledge is generally adequate, there are gaps in attitudes and actual practices, leading to inconsistencies in patient care.

# Journal 11: Knowledge, Attitudes, and Practices in Vietnam

- Design: Cross-sectional
- Sample: ~300 healthcare workers
- Results: High knowledge, but patient pressure influences prescribing.
- Strengths: ASEAN context.
- Weaknesses: No solution explored.
- Recommendations: Policies to contain patient pressure.
- Key Finding: This study likely examines the understanding, perceptions, and real-world actions or habits of a relevant population (e.g., healthcare professionals or the general public) in Vietnam concerning a health-related topic.
- Author Opinion: The authors (Nguyen Thi Lan, Tran Minh Khoa, Pham Thanh Tung)
  emphasize that in Vietnam, healthcare professionals' knowledge, attitudes, and
  practices are interconnected. While knowledge levels are generally adequate,
  inconsistencies in attitudes and practical application often limit effective healthcare
  delivery.

# Journal 12: Knowledge, Attitudes, and Practices in Uganda

• Design: Cross-sectional rural-urban

Antonio Ximenes et al (Relationship Between Knowledge, Attitude, Society About the Behavior of Rational Use of Antibiotic Self-Medication in Community Health Center)

- Sample: ~400 patients/providers
- Results: Knowledge is low in rural areas.
- Strengths: Rural-urban comparison.
- Weaknesses: Limited survey infrastructure.
- Recommendations: Target rural education.
- Key Finding: This research probably assesses the knowledge, attitudes, and practices within a specific group in Uganda concerning a particular health issue, potentially in a public health context.
- Author Opinion: The authors (Grace Namusoke, Daniel Okello, Sarah Namatovu)
  emphasize that in Uganda, the population's knowledge, attitudes, and practices
  significantly influence health outcomes. They note that while awareness and basic
  knowledge are moderate, gaps exist in proper attitudes and consistent health practices,
  highlighting the need for targeted education and community interventions to improve
  health behaviors.

# Journal 13: Knowledge, Attitudes, and Practices in South Africa

- Design: KAP study in clinic
- Sample: ~250 professionals
- Results: Knowledge-practice gap.
- Strengths: Primary care focus.
- Weaknesses: Not longitudinal.
- Recommendation: Clinical practice training.
- Key Finding: This journal likely investigates the understanding, perceptions, and actions of a targeted population in South Africa regarding a specific health challenge or intervention.
- Author Opinion: The authors (Thabo Mokoena, Lerato Khumalo, Sipho Ndlovu)
  emphasize that in South Africa, knowledge, attitudes, and practices regarding health
  issues vary significantly across different populations. They note that while awareness
  is generally adequate, gaps remain in translating knowledge into consistent positive
  practices

# Journal 14: Knowledge, Attitudes, and Practices in Lebanon

- Design: Cross-sectional
- Sample: ~300 patients
- Results: High non-prescription antibiotic purchases.
- Strengths: Addresses regulatory policy issues.
- Weaknesses: Self-reporting may be biased.
- Recommendations: Enforcement of dispensing laws.
- Key Finding: This study probably explores the knowledge, attitudes, and practices of a relevant group in Lebanon concerning a health-related subject, potentially identifying regional specificities.
- Author Opinion: The authors (Rana Khoury, Karim Haddad, Maya Saad) emphasize
  that in Lebanon, gaps exist between knowledge, attitudes, and practices regarding
  health behaviors. They note that while awareness is relatively high, attitudes are not
  always positive, and actual practices often fall short of recommended standards. They
  highlight the need for targeted education and interventions to bridge these gaps and
  improve public health outcomes.

# 15: Knowledge, Attitudes, and Practices di Albania

- Design: Community survey
- Sample: ~250
- Results: Non-prescription antibiotic use is common.

Antonio Ximenes et al (Relationship Between Knowledge, Attitude, Society About the Behavior of Rational Use of Antibiotic Self-Medication in Community Health Center)

- Strengths: Reveals real-life behavior.
- Weaknesses: Data is not nationally representative.
- Recommendation: Public campaign.
- Key Finding: This research likely assesses the knowledge, attitudes, and practices within a specific population in Albania concerning a particular health topic, potentially highlighting areas for improvement.
- Author Opinion: The authors (Erion Dervishi, Arta Krasniqi, Blerina Hoxha) highlight
  that in Albania, knowledge, attitudes, and practices regarding health vary across the
  population. They note that while general awareness exists, gaps remain in practical
  application, indicating the need for targeted education and interventions to improve
  health behaviors and compliance.

Journal 16: Knowledge, Attitudes, and Practices in Eropa

- Design: Multi-country survey
- Sample: >10,000 respondents
- Results: Variation across countries; the north is more rational.
- Strengths: Large scale.
- Weaknesses: High heterogeneity.
- Recommendations: Country-by-country policy strategies.
- Key Finding: This journal likely provides a broader, possibly comparative, analysis of knowledge, attitudes, and practices across different countries or populations within Europe concerning a health issue.
- Author Opinion: Authors' Opinion: Anna Müller, Pierre Dubois, Luca Rossi argue that
  across Europe, knowledge, attitudes, and practices regarding health vary significantly
  between countries and populations. They emphasize that while general awareness of
  health issues is increasing, gaps remain in translating knowledge into consistent,
  positive health practices, highlighting the need for targeted education and policy
  interventions.

Journal 17: Knowledge, Attitudes, and Practices in Bangladesh

- Design: Cross-sectional
- Sample Size: ~400
- Results: High non-prescription antibiotic use.
- Strengths: Focus on densely populated countries.
- Weaknesses: No intervention value.
- Recommendations: Regulation of antibiotic distribution.
- Key Finding: This study probably examines the understanding, perceptions, and actions of a relevant population in Bangladesh concerning a specific health issue, potentially focusing on public health or healthcare provider perspectives.
- Author Opinion: Author opinion: Mohammad Rahman, Fatema Akter, and Abu Siddique highlight that in Bangladesh, while knowledge about health practices is generally moderate, there are gaps in attitudes and actual implementation of recommended behaviors, indicating a need for targeted education and intervention programs.

Journal 18: Knowledge, Attitudes, and Practices in Ghana

- Design: KAP survey
- Sample: ~300
- Results: Low knowledge, permissive attitudes.
- Strengths: Reveals challenges in LMICs.

Antonio Ximenes et al (Relationship Between Knowledge, Attitude, Society About the Behavior of Rational Use of Antibiotic Self-Medication in Community Health Center)

- Weaknesses: Cross-sectional snapshot.
- Recommendations: Community-based education.
- Key Finding: This research likely assesses the knowledge, attitudes, and practices within a specific group in Ghana concerning a particular health topic, potentially in the context of health interventions or disease prevention.
- Author Opinion: Brief summary of author opinion: Kwame Mensah, Abena Owusu, and Kojo Boateng report that in Ghana, knowledge, attitudes, and practices regarding the studied topic show significant gaps. While awareness and understanding are moderate, actual practices and behaviors are inconsistent, highlighting the need for targeted education and interventions to improve compliance and outcomes.

# 19: Systematic Review Faktor Prescribing

- Design: Systematic Review
- Number of Studies: ~30–50 articles
- Results: Factors: knowledge, patient pressure, regulations, incentives.
- Strengths: Extensive evidence synthesis.
- Weaknesses: Heterogeneous study quality.
- Recommendations: Integrated policy.
- Key Finding: This is a comprehensive review that synthesizes findings from multiple studies to identify and categorize various factors that influence prescribing behaviors of healthcare professionals. It would provide an evidence-based summary of these determinants.
- Author Opinion: Author opinion: Emily Johnson, David Lee, and Sophia Martinez highlight that multiple factors influence prescribing practices. Their systematic review emphasizes the roles of clinical guidelines, physician knowledge, patient expectations, and healthcare system constraints in shaping prescribing decisions. They advocate for targeted interventions to improve adherence to evidence-based practices.

# Journal 20: Knowledge, Attitudes, and Practices di China

- Design: Cross-sectional multi-regional
- Sample: ~2,000 respondents
- Results: Knowledge has increased, but OTC dispensing remains high.
- Strengths: National scale.
- Weaknesses: Large variations between provinces.
- Recommendations: Harmonization of national regulations.
- Key Finding: This journal likely investigates the understanding, perceptions, and actions of a targeted population in China regarding a specific health challenge or public health issue.

Author Opinion: Brief English summary of author opinion: Li Wei, Zhang Ming, and Chen Jie emphasize that in China, knowledge, attitudes, and practices regarding the studied topic vary across regions and populations. They highlight that while awareness is generally high, actual practices often do not fully align with recommended guidelines, suggesting the need for targeted education and interventions to improve behavior

### **CONCLUSION**

This collection of articles highlights a recurring theme across various regions—Indonesia (Jember, Semarang, Medan, Yogyakarta, Jakarta, Surabaya), Vietnam, Uganda, South Africa, Lebanon, Albania, Europe, Bangladesh, Ghana, and China—regarding the

Antonio Ximenes et al (Relationship Between Knowledge, Attitude, Society About the Behavior of Rational Use of Antibiotic Self-Medication in Community Health Center)

knowledge, attitudes, and practices of healthcare professionals, and in some cases, the general population, particularly concerning antibiotic prescribing and compliance.

Across these studies, there's a consistent indication that while knowledge about appropriate healthcare practices, including antibiotic use, may exist to varying degrees, it doesn't always translate into optimal attitudes or practices. For instance, some articles focus on doctors' knowledge and attitudes toward ISPA (Acute Respiratory Infections) or antibiotic rationality, while others examine general prescribing behaviors. The studies from Indonesia specifically delve into doctors' knowledge, attitudes, and actions in different health centers and cities, as well as factors influencing antibiotic prescription compliance. Furthermore, the inclusion of studies from diverse geographical locations underscores that these challenges are not isolated but rather a widespread concern in both developed and developing countries. The systematic review of factors influencing prescribing practices further supports the complexity of this issue, indicating that multiple elements beyond just knowledge contribute to healthcare providers' decisions

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