Section: Community Medicine

Original Research Article

KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING SELF-MEDICATION OF ANTIBIOTICS IN THE POPULATION OF INDORE DISTRICT: A CROSS-SECTIONAL STUDY

Abhishek Tiwari[1], Veena Yesikar[2], Aman Singh Patel[1], Ravindra Batham[1], Jeevan Kumar[1], Hemlata Patidar[3], Sangam Tembhre[1], Lubna Shaikh[4], Saumya Singh[5], Kasak jaiswal[6]

[1]Resident Doctor, Department of Community Medicine, MGMMC, Indore, Madhya Pradesh, India
[2]Professor, Department of Community Medicine, MGMMC, Indore, Madhya Pradesh, India
[3]Senior Resident, Department of Paediatric, SAIMS, Indore, Madhya Pradesh, India
[4]Assistant Professor, Department of Community Medicine, IMCHRC, Indore, Madhya Pradesh, India
[5]MBBS Student, Department of Community Medicine, MGMMC, Indore, Madhya Pradesh, India
[6]BDS student, Department of Community Dentistry, MDCRC, Indore, Madhya Pradesh, India

Received : 02/10/2025
Received in revised form : 17/11/2025
Accepted : 06/12/2025

Corresponding Author:
Dr. Abhishek Tiwari
Resident Doctor, Department of Community Medicine, MGMMC, Indore, Madhya Pradesh, India
Email: abhishektwr01@gmail.com

DOI: 10.70034/ijmedph.2025.4.499

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2025; 15 (4); 2798-2800

ABSTRACT

Background: Self-medication with antibiotics contributes to antimicrobial resistance. The objective is to assess knowledge, attitude, and practice (KAP) regarding antibiotic self-medication among residents of Indore district.

Materials and Methods: A community-based cross-sectional study was conducted among 422 participants selected from four zones of Indore. A validated semi-structured questionnaire assessed KAP. Data were analysed using descriptive statistics, chi-square tests, and logistic regression.

Results: The prevalence of antibiotic self-medication was 47.9%. Poor knowledge and easy access to pharmacies were significant predictors.

Conclusion: Self-medication with antibiotics is highly prevalent. Community education and strict pharmacy regulation are urgently needed.

Keywords: Antibiotics, Self Medication, AMR, resistance.

INTRODUCTION

Antibiotic resistance is a major public health threat globally. In India, easy over-the-counter availability of antibiotics enables inappropriate use. Self-medication leads to misuse, incomplete treatment, and selection pressure for resistant organisms. Understanding community knowledge, attitude and practice (KAP) is essential. [1-3]

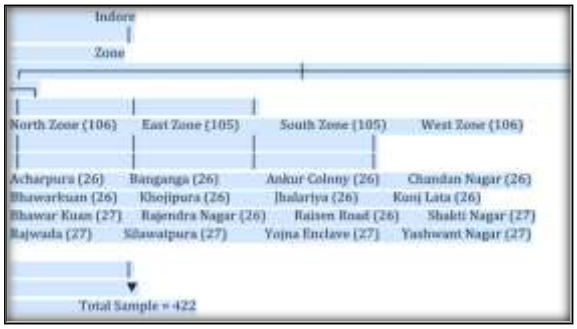
This study was designed to assess KAP related to antibiotic self-medication among population of Indore district.

MATERIALS AND METHODS

Study design & setting: A cross-sectional community survey was conducted in Indore, divided into four zones and from each zone 4 colony were opted randomly.

Sampling: 422 participants were selected using stratified multistage sampling. From each zone, four colonies were selected, and respondents were chosen via systematic sampling.

Confidence level = 95% → Z = 1.96
p = 50% (0.5)
q = 1 – 0.5 = 0.5
d = 5% (0.05)
using Cochran's formula for sample size estimation in these studies:
n=(Z^2·p·q)/d^2 = 384
10% non-response rate included 384+38= 422.



Study tool: A pre-tested structured KAP questionnaire with Cronbach's alpha acceptable for internal consistency.

Data collection: Face-to-face interviews.

Statistical analysis: Descriptive statistics, chi-square tests, t-tests, and multivariable logistic regression. Significance at $p<0.05$.

Inclusion criteria

1. Resident of the selected colony for ≥ 6 months.
2. Age ≥ 18 years (adults).

(Legal capacity to give informed consent and report personal medication behaviour.)

3. Able and willing to provide written informed consent to participate in a ~15–30-minute interview.

Exclusion Criteria

1. Persons unable to communicate adequately (severe hearing impairment without interpreter, severe cognitive impairment, acute medical emergency).
2. Visitors or temporary residents (lived in colony < 6 months).
3. Refusal or inability to provide informed consent.

RESULTS

Sociodemographic characteristics: The sample included adults of varied age groups, education levels, and genders.

Prevalence: Self-medication with antibiotics was 47.9%.

Associations: Lower education level, poor knowledge scores, and greater access to pharmacies were significantly associated with self-medication.

Predictors: Logistic regression identified poor knowledge and OTC availability as independent predictors.

Table 1: Socio-demographic Characteristics of Study Participants (N = 422)

Age (years)	**Mean ± SD**	**34.2 ± 11.8**	**%**
Gender	Male	230	54.5%
Gender	Female	192	45.5%
Educational Status	Graduate	160	38%
Educational Status	Secondary	177	42%
Educational Status	Primary / Illiterate	85	20%
Occupational Status	Students	118	28%
Occupational Status	Service (Employed)	101	24%
Occupational Status	Business	85	20%
Occupational Status	Homemakers	76	18%
Occupational Status	Others	42	10%

Table 2: Prevalence of Self-Medication

Variable	**No.**	**Percentage (%)**
Ever used without prescription	202	47.9%
Used in past 6 months	133	31.5%
Not used (approx.)	87	20.6%
Total	422	100%

Table 3: practice

Practice	**Percentage (%)**
Used without prescription (past 6 months)	21%
Did not complete full course	20%
Shared antibiotics within family	17%
Pharmacies	33%
Leftovers (previously administered)	5%
Friends	2%
Online	2%
Total	100%

DISCUSSION

This study demonstrates a high prevalence of antibiotic self-medication in Indore. Similar to other Indian studies, household stockpiling, prior prescriptions, and pharmacy access were key drivers. Poor knowledge significantly contributed to inappropriate antibiotic use. [4,5]

Public health implications include the need for stricter regulation of OTC antibiotic sales and community-based awareness programs.

CONCLUSION

1. Self-medication with antibiotics remains common.
2. Improving public knowledge and enforcing sales regulation can reduce misuse and combat antimicrobial resistance.
3. Nearly half (47.9%) of respondents reported antibiotic self-medication.
4. Misconceptions & risky practices persist.
5. Poor knowledge, prior exposure, easy access to pharmacies.

Recommendation

1. Public Awareness Campaigns need to be done
2. Pharmacy-Based Interventions with strict H1 schedule
3. Strengthening Policies and specially their execution
4. Community & School Programs

REFERENCES

1. World Health Organization. Antimicrobial Resistance Global Report on surveillance 2014 Geneva: WHO;2014
2. Indian Council of Medical Research. AMR Surveillance Report. New Delhi; ICMR 2022
3. Laxminarayan R et al. Antibiotic use in India: trends and implications. Indian J med Res.2016;144(2):277-279.
4. Knowledge and attitude towards antimicrobial self-medication usage: a cross-sectional study among medical and nursing students (Faridkot, Punjab, India): int j community med public health. 2020;7(4)
5. Multifaceted Analysis of Self-Medication with Antibiotics in South-East Delhi: A Mixed-Method Study Among Adults (2023–2024); j public health Res.2024.