

# Prevalence and Awareness of the Risks of Self-Medication Among Secondary School Students in Tafawa Balewa Local Government Area, Bauchi State: A School-Based Cross-Sectional Study

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## Abstract:

### ➤ *Introduction:*

Self-medication represents a worldwide public health issue, contributing notably to antimicrobial resistance and negative health effects. Adolescents are especially susceptible. This research sought to establish the prevalence and evaluate the awareness of the hazards linked to self-medication in secondary school students within Tafawa Balewa LGA, Bauchi State, Nigeria.

### ➤ *Methods:*

A descriptive cross-sectional study was carried out in schools with 300 participants chosen through multi-stage sampling from three public secondary schools. Information was gathered via a semi-structured questionnaire administered by interviewers. SPSS version 24.0 was used for analysis, applying descriptive statistics and chi-square tests.

### ➤ *Results:*

The prevalence of self-medication was notably high at 83%. Although 81% of participants understood the concept of self-medication, awareness of its specific risks was inadequate: 73% did not know about related dangers, 62% were unaware it might result in incorrect diagnosis or treatment, 64% did not recognize its potential to cause drug addiction, 75% were ignorant of possible damage to vital organs, and 57% did not know it could lead to drug resistance. Awareness levels showed no significant variation by age or class but were associated with gender and religious background.

### ➤ *Conclusion:*

A high occurrence of self-medication exists alongside critically insufficient knowledge of its risks among secondary school students in Tafawa Balewa LGA. There is an urgent need for focused school-based health education initiatives to bridge this awareness gap and reduce related dangers.

**Keywords:** Prevalence, Awareness, Self-Medication, Secondary School Students, Bauchi.

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### I. INTRODUCTION

Self-medication, characterized by individuals using drugs to address self-diagnosed health issues without professional consultation, is a common global phenomenon.<sup>1</sup> It presents a serious challenge to public health, fostering antimicrobial resistance, inappropriate treatment, undetected diagnoses, and higher illness rates.<sup>2,3</sup>

Factors leading to self-medication are diverse, encompassing shortcomings in healthcare systems, expensive medical care, personal attitudes, and the wish for personal health control.<sup>4,5</sup> This habit is especially common in developing nations.<sup>6</sup> Adolescents and students frequently participate, sometimes using medications to handle academic pressure or due to peer impact.<sup>7,8</sup>

Earlier research in Nigeria, including the North-Eastern zone, has documented high levels of self-medication.<sup>9,10</sup> However, limited information focuses on understanding its risks among younger secondary school groups. Recognizing this knowledge shortfall is crucial for creating successful interventions. Hence, this study aimed to determine the prevalence and evaluate the awareness of the dangers of self-medication among secondary school students in Tafawa Balewa Local Government Area, Bauchi State.

### II. METHODOLOGY

➤ *Study Design and Area:*

A school-based descriptive cross-sectional study was performed in Tafawa Balewa LGA, situated in southern Bauchi State, Nigeria. The region has many primary and secondary schools, with farming and trading as the main livelihoods.

➤ *Study Population and Sampling:*

The study population included all secondary school students in the LGA. A minimum sample of 300 was determined using a standard formula, based on a 24.7% knowledge prevalence from prior research, a 95% confidence interval, and a 5% margin of error.<sup>11</sup> A multi-stage sampling method was used. First, three secondary schools were chosen at random from 15 registered institutions. Next, one class (SS III) was randomly picked from each school. Finally, students were selected from these classes through simple random sampling after proportionate allocation.

➤ *Data Collection and Analysis:*

Data were obtained using a semi-structured questionnaire administered by interviewers, covering socio-demographic details and knowledge about self-medication. Ethical standards of voluntary involvement, informed consent, and privacy were strictly followed. Data analysis was conducted with SPSS version 24.0. Descriptive statistics (frequencies and percentages) summarized the data, and the Chi-square test examined associations at a 0.05 significance threshold.

### III. RESULTS

➤ *Socio-Demographic Characteristics*

All 300 questionnaires were filled and analyzed. Most respondents (95%) were aged 18 years or older. Females (58%) outnumbered males (42%). All participants were in Senior Secondary (SS) III classes. Islam (46%) and Christianity (39%) were the primary religions (Table 1).

Table 1 Socio-Demographic Profile of Participants (n=300)

Characteristic	Category	Frequency (n)	Percentage (%)
Age	≤17 years	15	5.0
	≥18 years	285	95.0
Gender	Male	126	42.0
	Female	174	58.0
Class Level	SS III A	152	50.7
	SS III B	148	49.3
Religion	Islam	139	46.3
	Christianity	117	39.0
	Traditionalist	32	10.7
	Others	12	4.0

➤ *Prevalence of Self-Medication*

A high prevalence of self-medication was observed, with 83% (n=248) of participants acknowledging they had engaged in it, while only 17% (n=52) had not (Figure 1).

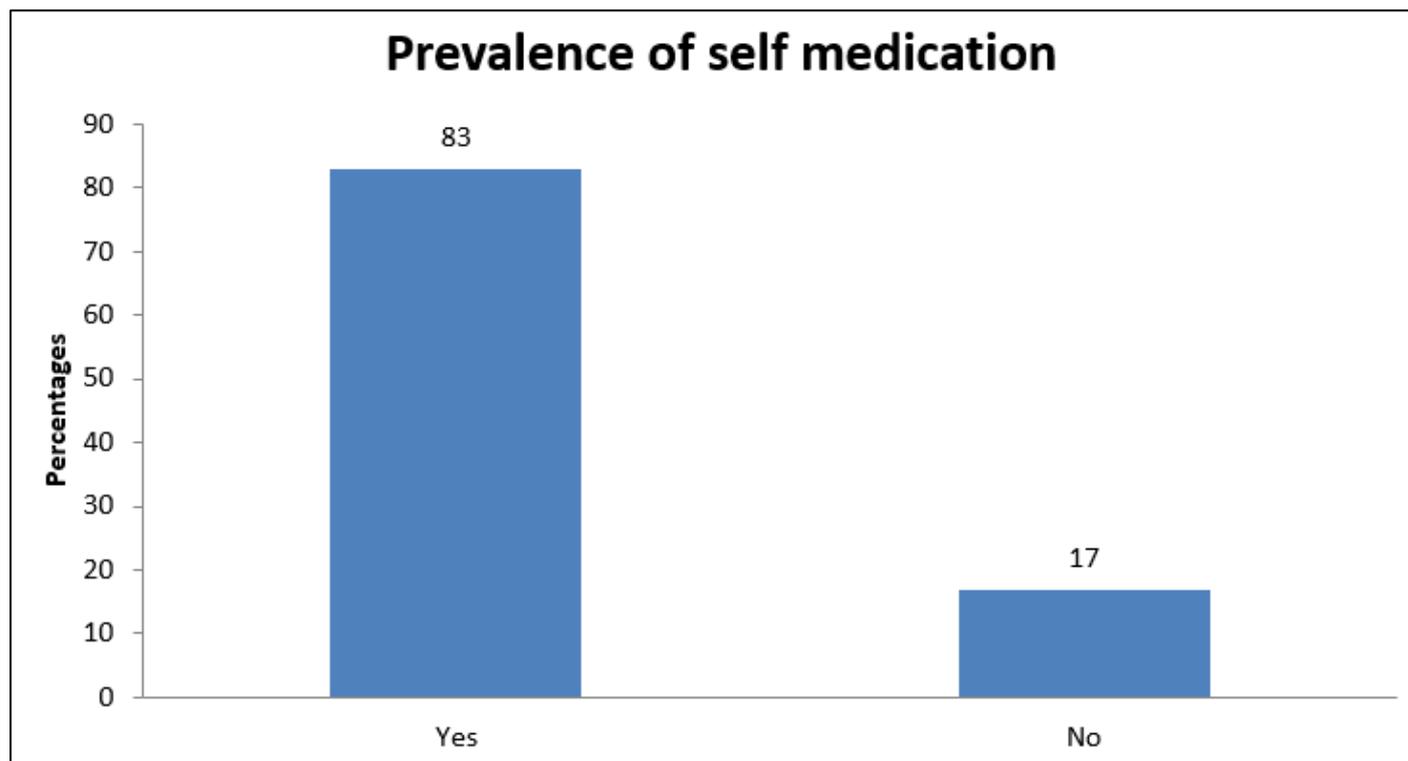


Fig 1 Prevalence of Self-Medication Among Participants

➤ *Awareness of the Dangers of Self-Medication*

While 81% of respondents could define self-medication, detailed knowledge of its risks was very limited. Only 27% were aware of associated dangers. Additionally, 62% did not know it could lead to incorrect diagnosis and

treatment, 64% were unaware of the risk of drug addiction and dependence, 75% did not know it could harm vital organs such as the liver or kidneys, and 57% were unaware it could cause drug resistance (Table 2).

Table 2 Awareness of the Dangers of Self-Medication (n=300)

Knowledge Question	Response	Frequency (n)	Percentage (%)
Knows what self-medication is	Yes	243	81.0
	No	57	19.0
Knows there are associated dangers	Yes	81	27.0
	No	219	73.0
Can lead to wrong diagnosis/treatment	Yes	115	38.3
	No	185	61.7
Can lead to drug addiction/dependence	Yes	107	35.7
	No	193	64.3
Can damage vital organs (liver/kidney)	Yes	76	25.3
	No	224	74.7
Can lead to drug resistance	Yes	130	43.3
	No	170	56.7

➤ *Relationship Between Awareness and Demographic Factors*

Chi-square analysis indicated that awareness of the dangers of self-medication did not vary significantly by age ( $\chi^2_{cal} = 2.01 < \chi^2_{tab} = 7.81$ ) or class level. However, significant associations were found with gender ( $\chi^2_{cal} = 7.89 > \chi^2_{tab} = 3.84$ ) and religious affiliation.

**IV. DISCUSSION**

This study uncovers a major public health issue: a high prevalence of self-medication (83%) coexists with a substantial lack of awareness about its risks among secondary school students in Tafawa Balewa LGA. This prevalence exceeds rates of 41.5% reported among dental patients in North-Eastern Nigeria<sup>9</sup> and 41% among medical

students in Bauchi,<sup>10</sup> indicating that the practice is widespread even among adolescents without medical education.

The observation that 81% of students could describe self-medication but far fewer grasped its consequences points to a surface-level awareness lacking depth. This is consistent with views that medication education is not a central part of the secondary school health syllabus.<sup>12</sup> The low awareness concerning antibiotic resistance (57% unaware), organ damage (75% unaware), and addiction risks (64% unaware) is especially concerning, as it exposes students to serious long-term health effects.

The impact of gender and religion on awareness levels points to socio-cultural aspects of health literacy that require deeper exploration. The absence of a link with age and class suggests that the awareness gap is widespread among final-year students, pointing to a systemic educational shortfall rather than a matter of maturity or academic advancement.

The results emphasize a notable disconnect between knowing about a practice and comprehending its risks. This gap may be fueled by elements such as peer influence, easy access to over-the-counter drugs, and the impact of family and media, as highlighted in the study's aims.

## V. LIMITATIONS

This research has several limitations. Its cross-sectional nature does not allow for causal inferences. Self-reported data may be influenced by recall and social desirability biases. Additionally, the study was limited to public schools in one LGA, which may affect how broadly the findings can be applied to private schools or other areas.

## VI. CONCLUSION AND RECOMMENDATIONS

In summary, secondary school students in Tafawa Balewa LGA commonly practice self-medication but have alarmingly poor awareness of its associated health risks. This knowledge gap is linked to gender and religion but is prevalent across ages and class levels.

➤ *Based on these Results, the Following Suggestions are Made:*

- The Bauchi State Ministry of Education, together with the Primary Health Care Development Agency, should incorporate detailed, age-suitable lessons on responsible medication use, the risks of self-medication, and antimicrobial resistance into the secondary school health education curriculum.
- School health initiatives should conduct regular awareness campaigns, including health professionals, to inform students about proper healthcare-seeking pathways.
- Community education programs aimed at parents and guardians should be introduced, as family influence was

found to be significant, to discourage informal sharing of prescription medications at home.

- Regulatory bodies should enhance the enforcement of policies limiting the over-the-counter sale of prescription-only medications, especially antibiotics, to minors.
- Additional research should investigate the specific socio-cultural and economic factors promoting self-medication among adolescents in this region to guide more focused interventions.

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