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Self-Medication Practices Among Allied Health Students

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ABSTRACT:

Self-medication, as an act of self-care at its core, covers the selection, dosage, and administration of medications to oneself without valid prescriptions. Among population groups, allied health students exist as vulnerable to self-medication, leaving them at risk to unwarranted therapy, delayed diagnosis and treatment, microbial resistance, and adverse drug events, necessitating the need for investigation and action. This quantitative-descriptive study was conducted to examine the practice of self-medication among allied health students. An adapted form of the Self-Medication Study Questionnaire tool was administered to allied health students from a university in Iloilo City, Philippines during the second semester of academic year 2024-2025 enlisted through total enumeration from all levels. Data was analyzed descriptively to determine prevalence of self-medication and practices in terms of reason, disease, classification, consideration, source, and adverse reaction. More than 80% of allied health students engaged in self-medication, most commonly for flu-like symptoms, primarily as a result of specialized knowledge and experience in healthcare, as well as concerns regarding accessibility and affordability. The prevalence of antibiotic self-medication, considering that pharmacies were identified as a key drug source, is significantly concerning due to the growing risk of antimicrobial resistance, constituting a serious public health risk and highlighting a critical gap in legislation on the sale and distribution of prescription medications. Non-physician peers and members of the community play significant roles, acting as sources of both information and drugs. Adverse reactions in self-medication exist as threats to the safety of allied health students and were found to result in non-physician consults and further self-medication with different drugs. Allied health students widely engage in self-medication, primarily stemming from specialized knowledge and experience in healthcare and access to resources and social networks which enable self-medication practice, necessitating strengthened health education and policy reform to streamline proper diagnosis and treatment.

KEYWORDS: self-medication, allied health students, antibiotic, antimicrobial resistance, adverse reaction

Introduction

Self-medication, an act of self-care in essence, involves the treatment of self-recognized conditions through the utility of drugs, either self-chosen or previously identified from a previous prescription [1]. The practice covers the selection, dosage, and administration of medications to oneself without valid prescriptions, involving a plethora of disease etiologies, drug classifications, and methods of administration.

In Saudi Arabia, 64.6% of the public were found to engage in self-medication in spite of an almost equal prevalence of belief in the harmful nature of the practice [2]. In Southeast Asia, a 2023 study revealed that 67% of farmers living under disadvantaged living conditions self-medicate, with analgesics and antibiotics ranking as second-most used drugs [3]. A Philippine study in 2019 revealed that 39.58% of individuals engage in antibiotic self-medication wherein a third of identified participants had done so for more than six times [4].

Allied health students are among the most vulnerable population groups to practice self-medication because of their academic exposure to medical knowledge and easier access to medications. High incidence of stress and back pain significantly contributed to the widespread prevalence of self-medication practice, found to be at 91.7%. Furthermore, nearly half of students self-medicated with antibiotics [5]. In the absence of appropriate assessment and screening, self-medication carries multiple possibilities of harm to those who engage in the practice, such as unwarranted therapy, delayed diagnosis and treatment, microbial resistance, and increased rate of morbidity [6]. The practice of self-medication is particularly concerning in developing countries where it typically results in inadequate drug use and antibiotic misuse [7]. Given their potential role in future healthcare delivery, understanding their behaviors in self-medication is essential.

On a personal level, the researchers, as allied health students themselves, were motivated to engage in the present study due to alarming anecdotes either experienced firsthand or reported by family members and peers regarding adverse effects associated with self-medication. Principal among these is how one of the researchers themselves underwent a severe allergic reaction to a self-medicated drug which necessitated hospitalization. Reports of coworkers of their parents falling ill or dying due to frequent self-medication practice further contributed to the sense of duty to conduct the present study. Thus, the researchers hoped to contribute baseline data for the characterization, increased awareness, safety, and regulation of self-medication through the conduct of this study.

Methods and Methodology.A non-experimental, quantitative survey, descriptive in nature, was utilized in this study. This study focused on determining the self-medication practices among allied health students. This study determined the demographic profile, self-medication prevalence as a whole and when grouped according to profile, including self-medication practices performed by allied health students as a whole and when grouped according to profile in terms of reason, disease, classification, consideration, source, and adverse reaction. This study was conducted during the second semester of academic year 2024-2025 in a university in Iloilo City, Philippines.The target population of this study were the allied health students of the chosen university. The samples were identified using total enumeration of the students of the identified programs from all levels. Based on the program offerings and population of the university in the second semester of academic year 2024-2025, 1051 participants served as the total population of the following programs: 28 students from Bachelor of Science in Biology (BS Bio), 563 from Bachelor of Science in Nursing (BSN), 27 from Bachelor of Science in Nutrition and Dietetics (BSND), 62 from Bachelor of Science in Occupational Therapy (BSOT), 237 from Bachelor of Science in Physical Therapy (BSPT), and 135 from Bachelor of Science in Psychology (BS Psych). The official census of each allied health program was provided by the University Registrar.This survey employed an adapted form of the tool "Self-Medication Study Questionnaire" utilized in the study "Self-Medication Practices in Urban and Rural Areas of Western India: A Cross Sectional Study" [8]. This tool was used to identify the self-medication prevalence as a whole and when grouped according to profiles, and prevalence of self-medication practice in terms of: (1) reason, (2) disease, (3) classification, (4) consideration, (5) source, and (6) adverse reaction. To contextualize in the Philippine setting and focus the aim of the tool to align with the objectives of this study, the tool was adapted, modified, and subjected to validation from identified experts. Succeeding validation, the researchers applied proposed suggestions and proceeded with reliability testing. The questionnaire was written in English and administered online via Google Forms.The tool was divided into three sections. Part I focused on the demographic profile of the participants with their age, sex, and program, as well as name as an optional item. Subsequently, Part II centered on the prevalence of self-medication, where Question 1 tackled whether the participants have performed self-medication in the last year and served as the basis for determining the prevalence of self-medication practice among allied health students as a whole and when grouped according to profiles. The item also served as the parent question of the tool whereby if the participants answered no, they would no longer be required to accomplish the rest of the succeeding questions. Part III consisted of eight items divided into five domains and their facets with their corresponding number of item statements. The adapted tool used binary scale and multiple-choice questions in determining the self-medication practices among allied health students.

The analysis of data utilized descriptive techniques to achieve its desired objectives. For descriptive scrutiny, the frequency (*f*) and percentage (%) was used to represent the data obtained regarding the demographic profiles. For prevalence of self-medication among allied health students as a whole and when grouped according to profiles, frequency and prevalence were used, whereas ranking (R) and frequency were used to determine the self-medication practices in terms of subcategories and profile among allied health students.

Results

Prevalence of Self-Medication as a Whole and According to Profile . The majority of allied health students (83.6%) practiced self-medication, with higher incidence reported among participants aged 21-34, female, and from the Nursing program, as presented in Table 1.

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Table 1. Prevalence of self-medication as a whole and according to profile

	Profile Variables	Total		Yes		No	
		f	%	*f*	%	*f*	%
As a Whole		**469**	**100.0**	**392**	**83.6**	**77**	**16.4**
Age	17-20	287	61.2	238	82.9	49	17.1
	21-34	182	38.8	154	84.6	28	15.4
Sex	Male	103	22.0	84	81.6	19	18.4
	Female	366	78.0	308	84.2	58	15.8
Program	BS Bio	11	2.3	10	90.9	1	9.1
	BSN	336	71.6	279	83.0	57	17.0
	BSND	6	1.3	2	33.3	4	66.7
	BSOT	15	3.2	13	86.7	2	13.3
	BSPT	49	10.4	42	85.7	7	14.3
	BS Psych	52	11.1	46	88.5	6	11.5

Self-Medication Practices as a Whole in terms of Reason. The most common reason behind self-medication was time conservation (64.5%). Similarly, drug access from peers (59.2%) and high physician consult costs (30.4%) served as significant motivators in self-medicating behavior, as seen in Table 2. Other specified reasons included advice from peers, fear of outcome of physician consultation, background on nonpharmacologic intervention, and perceived severity of symptoms.

Table 2. Self-medication practices as a whole in terms of reason

Reason	*f*	%
Self-medication saves time	253	64.5
I have access to medicine from peer	232	59.2
Doctor's fees are high	119	30.4
I have an old prescription	112	28.6
It to secure a doctor' appointment	86	21.9
The doctor/clinic is far from home	77	19.6
I follow advice from a pharmacist	72	18.4
I have a background on pharmacotherapy	46	11.7
Others	15	3.8
I do not trust the doctor/clinic	1	0.3

Self-Medication Practices as a Whole in terms of Disease. Headache and fever (72.4%) were equally the top ailments connected to self-medication, followed closely by cough (71.7%) and runny nose (66.6%), as exhibited in Table 3. Other specified responses included animal bites, allergies, and insomnia.

Table 3. Self-medication practices as a whole in terms of disease

Disease	*f*	%
Headache	284	72.4
Fever	284	72.4
Cough	281	71.7
Runny nose	261	66.6
Body pain	159	40.6
Diarrhea	153	39
Wounds	111	28.3
Menstrual problems	102	26
Muscle pain	80	20.4
Aesthetic/beauty	74	18.9
Itchiness	74	18.9
Dizziness/fainting	70	17.9
Nausea/vomiting	63	16.1
Asthma	61	15.6
Hyperacidity/indigestion	61	15.6
Rash	58	14.8
Dental pain	53	13.5
Drowsiness	40	10.2
Dandruff	32	8.2
Depression/anxiety/stress	24	6.1
Hair fall	19	4.8
Mouth ulcer	17	4.3
Arthritis/joint pain	17	4.3
Ear pain	15	3.8
Skin disease on exposed areas	14	3.6
Eye infection	13	3.3
Fatigue	13	3.3
Difficulty swallowing	10	2.6
Hypertension	9	2.3
Skin disease in covered areas	7	1.8
Birth control	6	1.5
Others	4	1
Dysentery	2	0.5
Sexually transmitted disease (STD)	2	0.5
Diabetes	1	0.3
Impotence	1	0.3
Varicose vein	1	0.3

Self-Medication Practices as a Whole in terms of Classification..Table 4 displays how over-the-counter drugs used in self-medication primarily consist of analgesics, anti-inflammatories, and antipyretics (89.8%), antihistamines (67.3%), and multivitamins and food supplements (60.5%). Meanwhile, the top prescription medications used include antibiotics (66.8%), anti-infectives excluding antibiotics (11%), and cardiovascular medications (4.3%). Other specified classifications included sleeping aids, antiasthmatics, and artificial tears.

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Table 4. Self-medication practices as a whole in terms of classification

Classification	*f*	%
Over-the-Counter (OTC)		
Analgesics, anti-inflammatories, and antipyretics	352	89.8
Antihistamines	264	67.3
Multivitamins and food supplements	237	60.5
Cold and cough medicines	232	59.2
Gastrointestinal drugs	163	41.6
Beauty supplements	65	16.6
Drugs for skin disorders	18	4.6
Prescription		
Antibiotics	262	66.8
Anti-infectives excluding antibiotics	43	11
Cardiovascular medications	17	4.3
Psychotropic drugs	12	3.1
Fertility and birth control drugs	11	2.8
Others	8	2
Opioids	1	0.3

Self-Medication Practices as a Whole in terms of Consideration. As a whole, the top considerations in self-medication among allied health students are previous knowledge/experience (73.5%), brand name (51.8%), and possession of an old prescription (44.9%), as presented in Table 5.

Table 5. Self-medication practices as a whole in terms of consideration

Consideration	*f*	%
Previous knowledge/experience	288	73.5
Brand name	203	51.8
Old prescription	176	44.9
Recommendation from non-physician peers (e.g., friends, family, colleagues)	175	44.6
Recommendation from pharmacist	175	44.6
Type of medicine (i.e. synthetic, herbal/homeopathic)	98	25
Price	92	23.5
Advertisement (e.g., television, radio, social media, newspaper)	69	17.6
Pharmaceutical company	53	13.5
Others	0	0

Self-Medication Practices as a Whole in terms of Source. Table 6 shows that pharmacies (88.8%) are the most commonly used sources of drugs in self-medication, followed by healthcare facilities (38.5%) and peers (38.3%). Other specified sources included their own homes and local sundry (*sari-sari*) stores.

Table 6. Self-medication practices as a whole in terms of source

Source	*f*	%
Pharmacy	348	88.8
Healthcare facility	151	38.5
Peers (e.g., friends, family, colleagues)	150	38.3
Medical representatives	65	16.6
Online shopping	23	5.9
Promotional/free samples	10	2.6
Others	0	0

Self-Medication Practices as a Whole in terms of Adverse Reaction. Table 7 exhibits that only a minority of participants (7.9%) reported experiencing adverse reactions in self-medication. Among those who did, the top action taken was to resort to physician consult (54.8%). Other prevalent responses included cessation of medication (48.4%) and self-medicating with different drugs (29%). Other specified actions taken for adverse reactions included seeking admission at an emergency room.

Table 7. Self-medication practices as a whole in terms of adverse reaction

Adverse Reaction	*f*	%
Yes	31	7.9
Seek consult from physician	17	54.8
Stop taking medication	15	48.4
Self-medicate with different drug/s	9	29
Seek aid from pharmacist	6	19.4
Others	3	9.7
No	361	92.1

Discussion. This study measured the prevalence of self-medication among allied health students as whole and when grouped according to profile. Overall results showed that more than 80% of allied health students performed self-medication in the last 12 months. Orem's Self-Care Deficit Theory supports this, suggesting that individuals with adequate knowledge and resources are more likely to engage in self-care behaviours, including self-medication. When grouped according to age, those in the 21-34 age bracket report self-medicating more than those in the 17-20 group. Aligning with Orem's Self-Care Deficit Theory, the concept posits that developmental factors, such as age, influence self-care agency, with maturity enhancing one's ability to perform self-care activities. Self-medication is highly prevalent in slightly older age groups of 21-35 years old, particularly due to social influences, academic stress, and easy access to information via the Internet [9]. In terms of sex, females tend to self-medicate more than males, which could be correlated to the societal notion of women as being more open with expressing feelings of pain and illness compared to men, who tend to mask suffering in an attempt to appear more masculine. This decreased tendency for denial leads to increased likelihood to act on experienced illness, such as through self-medication. In terms of theoretical framework, Orem's theory suggests that gender-related socialization may impact self-care behaviours, with females potentially being more attuned to their health needs. This further aligns with the findings of a 2011 study that noted how female university students are generally more likely to engage in self-medication compared to their male counterparts [10]. In terms of program, Nursing, Psychology, and Physical Therapy students were found to self-medicate the most [11] [12].

Moving to specific domains of self-medication, this study explored the practices of allied health students as a whole and when grouped according to profile in terms of: (1) reason, (2) disease, (3) classification, (4) consideration, (5) source, and (6) adverse reaction.

First, in terms of reason, the primary rationales identified by allied health students both as a whole and when grouped according to profile in self-medication were time conservation, accessibility from peers, and high physician fees. Similarly, relevant studies indicated that convenience, time constraints, and perceived control over one's health motivated students to bypass medical consultations [13] [14]. Avoidance of long wait times and the cost of physician visits also served as factors toward self-medication [4] [15].

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Second, in terms of disease, the most commonly identified conditions for self-medication among allied health students as a whole and when grouped according to profile were headache, fever, cough, and runny nose. These ailments are often perceived as minor and manageable, reflecting Orem's universal self-care requisites, where individuals respond to common health deviations with self-initiated action. The findings align with similar studies who identified similar patterns of headache, fever, and cough as primary diseases involved in self-medication [16] [17].

Third, in terms of classification, the most common categories of drugs used in self-medication by allied health students as a whole were analgesics, anti-inflammatories, and antipyretics; antihistamines; antibiotics; and cough and cold medicine. These directly align with the top ailments for which self-medication was reported to be conducted: headache, fever, cough, and runny nose. The over-the-counter status of medications facilitates ease of access and couples with the fact that medicines under these drug classifications are among the most commonly known and recognizable in society, including acetaminophen/paracetamol and guaifenesin. In contrast, as a prescription class of medication, antibiotics should ideally be inaccessible without proper indication from a physician. Complacency in policy contributes toward the growing danger of microbial resistance among pathogens. In terms of theoretical framework, Orem's theory emphasizes how knowledge and access enable self-directed treatment choices, reflected in selection of drug classifications. Coincidingly, a 2012 study noted similar drug use trends in self-medication among allied health students where analgesics/anti-inflammatories/antipyretics, cough medicines, and antibiotics were among the leading drugs used in self-medication [18]. Despite this, a 2014 study among university students in Brazil also revealed low antibiotic self-medication rates. This was credited to widespread public health campaigns promoting awareness of antimicrobial resistance and tighter regulation on prescription only medications [19].

Fourth, in terms of consideration, the leading factors associated with self-medication among allied health students as a whole and when grouped according to profile were found to be previous knowledge and experience, brand name, old prescriptions, and recommendations from both non-physician peers and pharmacists. These findings resonate with Orem's basic conditioning factors, which shape how individuals assess and choose self-care actions. Related studies obtained similar results, where prior knowledge, brand familiarity, and old prescriptions were among the leading considerations in self-medication practice [18] [20]. On the contrary, medical students in Palestine often refrained from self-medicating due to cultural and family influences that prioritized physician-led treatment [21]. This shows how cultural norms and household values can serve as a protective factor against self-medication, even in health-educated populations.

Fifth, in terms of source, the most prevalent points of obtaining drugs for self-medication among allied health students as a whole and when grouped according to profile were pharmacies, healthcare facilities, and peers. The presence of these facilities as widely accessible to the public contribute to the ability of allied health students to obtain drugs for self-medication. Similarly, community pharmacies, patient medicine vendors, and friends/family have been found to be the most prominent sources of drugs in other relevant studies, where ease of access to pharmacies and poor regulation of drug dispensing practices facilitated self-medication behaviours [22] [23].

Finally, in terms of adverse reaction, only a minority of allied health students as a whole and when grouped according to profile reported experiencing adverse reactions, which may be connected to pharmacologic knowledge and experience which lead to increased caution in self-administration of drugs in self-medication. Adverse reactions, although extant, among self-medicating students were often not reported, as the symptoms were either ignored or managed informally [24]. However, a relevant 2022 investigation noted that despite superior knowledge, favourable attitudes, and good practices, allied health students exhibited common misconceptions and malpractices regarding antibiotic intake, implying that self-medicating is prevalent among these students and should be addressed urgently [25]. A 2022 study likewise emphasized that these events should not be ignored, citing how most participants experienced an adverse reaction as a result of self-medication, mainly comprising of headaches, nausea/vomiting, and diarrhoea [26]. In terms of actions taken for adverse reactions, allied health students when taken as a whole and grouped according to profile prioritize seeking consult from a physician, discontinuing the concerned medications, and self-medicating with different drugs, aligning with similar studies [26] [27]. The first two actions could be rationalized by the use of specialized knowledge in taking appropriate courses of action, which involve ceasing consumption of the medications involved and seeking advice from a physician. However, basic conditioning factors dictate that allied health students still possess the experience leading toward self-medication behaviours, which moves them to resort once again to self-medicating as a solution for experienced adverse reactions. Here, Orem's concept of self-care deficit is evident, underscoring when professional intervention becomes necessary.The findings of the study suggested that allied health students engage in self-medication influenced by their healthcare knowledge, experience, and access to relevant resources. In this study, allied health students showed a strong sense of managing their health through self-medication, reflecting Orem's concept of self-care agency. However, this practice also reveals a self-care deficit, specifically when proper channels for diagnosis and treatment are inaccessible or not affordable. This gap is enabling the students to rely on self-medication as an alternative, emphasizing the need for better healthcare accessibility and education to guide appropriate decision-making.

Conclusion

Allied health students widely engage in self-medication, primarily as a result of specialized knowledge and experience in healthcare and access to resources and social networks which enable self-medication practice. High prevalence in the Nursing program possesses a link to nursing-enhanced medical knowledge and confidence in managing common symptoms, acquired through their BSN curriculum, leading them to believe they can effectively self-diagnose and treat minor health issues and contributing to a higher propensity for self-medication. Accessibility and affordability to proper channels for diagnosis and treatment are primary obstacles which lead to engagement in self-medication, indicating the need for reforms in healthcare programs and policies. Flu-like symptoms are among the most significant motivators for self-medication, leading to the use of drugs for symptomatic treatment and antibiotic therapy. The prevalence of antibiotic self-medication, considering that pharmacies are identified as a key drug source, is significantly concerning due to the growing risk of antimicrobial resistance, constituting a serious public health risk and highlighting a critical gap in legislation on the sale and distribution of prescription medications. Furthermore, non-physician peers and members of the community play a significant role in the conduct of self-medication, acting as sources of both information and drugs and are perceived to be reliable alternatives to physician consultation. Finally, adverse reactions in self-medication, although rare, exist as threats to the welfare of allied health students and result in secondary actions that perpetuate the act, such as subsequent consult with non-physician individuals and self-medication with different drugs. Thus, allied health students must be properly educated on the nature, prevalence, and risks associated with self-medication as a potentially harmful practice in order to curtail occurrence of undesirable and adverse effects on their well-being. Public and private institutions related to pharmacotherapy, including the Department of Health (DOH) and the Philippine Food and Drug Administration (FDA), as well as academic administrators and school health service providers, must engage in policy review and reform to improve accessibility and affordability in seeking proper diagnosis and treatment, especially for common diseases. Programs may also be implemented geared toward preventing self-medication, such as drug take-back centres. Healthcare providers ought to be educated further regarding the nature and trends of self-medication and create measures to reduce incidence among clients, including those who are aligned with the medical field themselves. Emphasis must be placed on proper health education, involvement of clients in decisions regarding pharmacologic treatments, and drug reconciliation. Future researchers may utilize this study as a reference in conducting studies related to self-medication among similar population groups. The findings of this study may also be used as baseline data for more detailed inquiries into the nature and trends of self-medication, as well as the formulation of solution-oriented investigations and innovations.

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Data Availability

The raw data required to reproduce the above findings cannot be shared at this time due to legal/ethical reasons.

Conflict of Interest

The authors declare that there is no conflict of interest.

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