OTJHS
Online Turkish Journal of Health Sciences

e-ISSN: 2459-1467

OTSBD
Online Türk Sağlık Bilimleri Dergisi

Online Turkish Journal of Health Sciences 2022;7(1):86-92 *Online Türk Sağlık Bilimleri Dergisi 2022;7(1):86-92*

Karaçi'daki İşletme Öğrencilerinde Kendi Kendine İlaç Uygulamaları

Self-Medication Practices among Business Students in Karachi

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ÖZ

Amaç: Bu çalışmanın amacı, Karaçi'deki işletme öğrencileri arasında kendi kendine ilaç uygulamalarını ve yaygınlığını bulmaktır.

Materyal ve Metot: Bu kesitsel bir çalışmadır ve Aralık 2018 – Aralık 2019 tarihleri arasında yürütülmüştür. Pakistan, Karaçi İşletme Enstitüsü'nden veri elde etmek için uygun örnekleme tekniği kullanılmıştır. Veri analizi ve veri yönetimi SPSS sürüm 16.0 kullanılarak yapıldı.

Bulgular: Kendi kendine ilaç uygulama yaygınlığı %81 olarak elde edildi. Kendi kendine ilaç kullanmanın en yaygın nedeni, geçmişte başarılı bir şekilde ilaç tüketme (%46,2) ve doktora gitme zahmetinden kaçınma (%43,7) idi. Öğrencileri kendi kendine ilaç tedavisine yönelten en yaygın şikayetler ateş (%55,7), öksürük (%49,2) ve ağrı (%46) idi. En sık kullanılan ilaçlar ağrı kesici (%73,4) ve ateş düşürücü ilaçlar (%41,0) idi. Öğrencilerin ilaçları en büyük temin kaynağı serbest eczaneler (%67,6) olmuştur. Cinsiyet ve lisans programı gibi demografik faktörler ile kendi kendine ilaç tedavisi arasında anlamlı bir ilişki yoktu (sırasıyla p=0,061, p=0,747).

Sonuç: Karaçi'deki işletme üniversitesi öğrencileri arasında %81'lik yüksek bir kendi kendine ilaç prevalansı bulundu ve bu, erkekler ve kadınlar arasında önemli bir fark olmaksızın endişe verici derecede yüksekti.

Anahtar Kelimeler: Farkındalık, kendi kendine ilaç tedavisi, öğrenciler, tıp, yaygınlık

ABSTRACT

Objective: The aim of this study is to find out the self-medication practices and its prevalence amongst business students of Karachi.

Materials and Methods: This is a cross-sectional study and was carried out from Dec 2018 – Dec 2019. Convenient sampling technique was used to obtain data from a Business Institute of Karachi, Pakistan. Data analysis and data management was done using SPSS version 16.0.

Results: Prevalence of self-medication practice was obtained to be 81%. The commonest reason for practicing self-medication was past successful consumption of the medicine (46.2%) and avoiding hassle to go to a doctor (43.7%). The commonest complaints that drove students to self-medicate were fever (55.7%), cough (49.2%) and pains (46%). Commonly used medicines were pain killers (73.4%) and fever relieving medicines (41.0%). The major source of obtaining the medicines was community pharmacies (67.6%) by the students. There was no significant association between the demographic factors such as gender and degree program and self-medication (p=0.061, p=0.747 respectively).

Conclusion: An 81% high prevalence of self-medication was found among the business university students in Karachi which is alarmingly high, with no significant difference between males and females.

Keywords: Aware, medicine, prevalence, self-medication, students

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Yayın Bilgisi / Article Info:
Gönderi Tarihi/ Received: 21/11/2021
Kabul Tarihi/ Accepted: 31/01/2022
Online Yayın Tarihi/ Published: 01/03/2022

Atıf / Cited: Tanwir Awan T et al. Self-Medication Practices among Business Students in Karachi. *Online Türk Sağlık Bilimleri Dergisi 2022;7(1):*86-92. doi: 10.26453/otjhs.1026267

INTRODUCTION

Self-medication is being considered as usage of medicines without consultation of qualified medical practitioner to deal with the self-diagnosed symptoms, or disorders, or constant usage of the prescribed medicines for a prolonged/repeated symptoms or disease.[1,2] Also defined as consumption of medications with no prescription, taking the medicines on advice of friends or the relatives, the reutilizing of an old prescription, or consuming the leftover medicines.[3]

There are many factors by which the self-medication is influenced, for instance the local legislation and accessibility of the medicines, the advertisements by pharmaceutical groups, education status of an individual, cultural norms, and the total number of family members and their income.[4] The widespread availability of over-the-counter (OTC) medications promotes self-medication as a result of recent development of pharmaceutical industry.[5] Analgesics, antibiotics, cough syrups, antimalarial, antipyretics are the drugs that are prone to self-medication.[6]

Every individual indulged in self-medication must be mindful about the risks and benefits of the product being used for self-medication. Certain dangers may perhaps be connected with self-medication, for example, drug resistance, drug associations, antagonistic medication responses, expanded polypharmacy, inaccurate finding and medication reliance.[7-10] Frequency of self-medication has escalated after 1980 when World Health Organization declared some drugs as safe to use without any prescription as a way to reduce the load on doctors. The patient starts self-medication with whatever suits them by taking information and processing it in his own way.[11]

In Pakistan and many developing countries, selling drugs without a prescription is seen. General populace tries to approach several other portals rather than that of a doctor to try to find aid for an illness due to the insufficiency of a proper fundamental system of health care together with budget issues. Despite this, in Pakistan, certainly no steps have been thought about to look into this difficulty.[3]

The idea behind this study was to educate and create awareness among the students who were unaware about the negative impact of self-medication, and this is the reason we had taken business students as participants. By conducting this study, an estimate of our young adult population that is practicing self-medication would be found as well as the sources from where they might have gotten these OTC drugs. This might be helpful in reducing rate of self-medication, its potential risk and decreasing the rate of drug resistant bacterial infections. Purpose of this study was to inquire the self-medication practices along with its prevalence amongst business students of Karachi.

MATERIALS AND METHODS

Ethical Status of Study: The current study was approved by H.E.J Research Institute, University of Karachi (Date: 12/09/2019, decision no: IAC/ Ex/2019). This study was performed under Helsinki Declaration of Good Clinical Practice.

Study Design and Study Setting: The present study was a cross-sectional and was conducted to assess prevalence and practices of self-medication amongst business students in Karachi. The current study was conducted in a Business institute of Karachi. Target population included all students who were enrolled in undergraduate and master's courses in Karachi University Business School, University of Karachi. All healthcare students and personnel were being excluded from this research.

Sampling Method and Sampling Size: Non-probability sampling technique was implemented for this research. Participants were being informed and instructed regarding objective of this study before questionnaire administration. A sample of 400 business students was taken for this study. Sample size calculation was done by means of Slovin's formula with confidence level of 95%. Students related to healthcare field of academics were excluded from this study.

Method of Data Collection: Paper based questionnaire was used for the data collection. Questionnaire was adapted from research done by Correa da Silva et al, 2012 in Brazil and was modified as per needs of this study by the permission of the authors. The questionnaire had three sections (A, B and C). Self-medication was briefly defined at the start of the questionnaire. Section A contains the demographic variables. Section B assessed the self-medication practices and prevalence. Section C assessed attitude of students regarding the self-medication.

Statistical Analysis: Management of data and data analysis was being carried out by SPSS v.16. The descriptive analysis by calculating means and proportions for discrete and continuous data individually was performed. Moreover, inferential analysis was carried out by utilizing Pearson chi square test for recognizing association among the variables. The p-value <0.05 was being considered as significant in this study.

RESULTS

Response rate of 100% was achieved for data collection. Business university students participated in the current study with many students falling in the age group of 18-23 years old (67.5%). There were 49% (196) male students and 51% (204) female students.

Amongst them 291 were undergraduate students while 109 were postgraduate students, detailed information can be seen in Table 1.

Pain killers (73.4%), Fever relieving meds (41.0%), Anti-allergy (30.2%) and Anti-biotics (26.0%) were the most frequently used drugs as elaborated in Table 2.

Most frequent reasons for self-medication were the past successful use of the medicine (46.2%), avoiding hassle to go to a doctor (43.7%) and saving time (30.6%) highlighted in Fig 1. Table 3. shows that the commonest complaints that drove students to opt for self-medication were fever (55.7%), cough (49.2%) and pains (46%). Majority of students selected the medication by opinion of family members (48.8%), previous doctor's prescription (39%) and their own experience (35%). Majority of students considered the indication of medicine (40.5%) and type of medicine (38%) while selecting a medicine.

The major source of obtaining the medicines was community pharmacies (67.6%) by the students. Only one hundred and seventy-two (52.8%) students said they checked the instructions that come with the packaging of medicine and one hundred and forty (54.1%) students partly understood those instructions. Students knew the dosage of medicine by consulting a doctor (32.6%), by checking the package insert (28.9%) and their own previous experience (26.1%). Moreover, 198 (60.7%) students sometimes changed the dosage of medicine during the course of self-treatment major reason being the improving condition (58%). Two hundred and fifteen (66%) students sometimes switched the medicine during the course of treatment with the major reason being the non-effectiveness of the former medicine (57.5%). Majority of students stopped taking the medicine after the symptoms of their ailment disappeared (44.3%). Two hundred and seventy (83.1%) students never experienced any adverse reaction by self-medicating.

Table 1. Baseline characteristics of participants.

	Demographics	Frequency	Percentage
Age	18-23	270	67.5%
	24-28	95	23.8%
	29-33	19	4.8%
	34-38	10	2.5%
	39-43	6	1.5%
Gender	Male	196	49.0%
	Female	204	51.0%
Degree program	Undergraduate	291	72.8%
	Masters	109	27.2%

Table 2. Most common drugs used to self-medicate.

Drugs	Frequency (%)
Pain killers	240 (73.4%)
Fever relieving meds	134 (41.0%)
Anti-allergy	98 (30.2%)
Anti-biotics	85 (26%)
Vitamins	73 (22.0%)
Pills for indigestion	41 (12.5%)
Sleeping pills	22 (6.7%)
Herbal / homeopathic	40 (12.2%)
Tonics	7 (2.1%)
Birth control pills	3 (.9%)

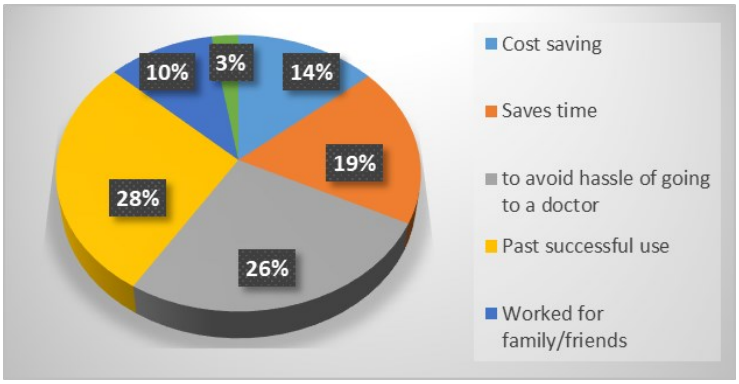

Figure 1. Reasons for self-medication.

Table 3. Practices and attitude towards self-medication.

Survey Questions	Feedback from participants	*(n)*	%
Most common complaints for self-medication	Runny nose	20	6.7%
	Nasal congestion	5	6%
	Cough	61	9.2%
	Sore throat	4	8.7%
	Fever	82	5.7%
	Aches and pains	50	6%
	Vomiting	5	6.8%
	Diarrhoea	6	0.2%
	Skin wounds	7	1.3%
Selection of medicine	Recommended by community pharmacist	2	5.1%
	Opinion of family members	59	8.8%
	Opinion of friends	9	8.1%
	Own experience	14	5%
	Recommended by net citizen	5	0.6%
	Previous doctor's prescription	27	9%
	Advertisement	5	0.6%
Characteristic of medicine	Type of medicine	24	8%
	Brand of medicine	8	3.1%
	Price of medicine	6	7.2%
	Indication for use	32	0.5%
	Adverse reaction	3	6.3%
Source for obtaining medicine	Community pharmacies	19	7.6%
	From a friend or relative	1	1.8%
	Leftovers from previous prescription	5	6.2%
	Online / e-shopping	1	0.5%
Checking instructions	Yes, always	9	4.2%
	Yes, sometimes	72	2.8%
	Never	5	3.0%
Understanding instructions	Fully understood	2	9.4%
	Partly understood	40	4.1%
	Did not understand at all	7	0.6%
Dosage of medicine	By checking package insert	3	8.9%
	By consulting a doctor	5	2.6%
	By consulting a pharmacist	2	2.4%
	By consulting a family member/ friend	9	7.6%
	By newspaper, books, magazines or tv	2	0.7%
	From internet	7	0.3%
	From my own previous experience	4	6.1%
	By guessing the dose myself	3	0.1%
Changing dosage	Yes, always	5	0.7%
	Yes, sometimes	98	0.7%
	Never	3	1.6%
Reason for changing dosage	Improving condition	30	8%
	Worsening condition	1	2.8%
	To reduce adverse reactions	1	3.8%
	Drug insufficient for complete treatment	3	4.7%
Switching medicines	Yes, always	8	0.6%
	Yes, sometimes	15	6.0%
	Never	2	5.2%
Reason for switching medicine	Former med did not work	42	7.5%
	Former med ran out	8	7.5%
	Latter one was cheaper	5	8.2%
	To reduce adverse reactions	9	1.7%
Reason for stopping medicine	After few days regardless of outcome	7	6.8%
	After symptoms disappear	44	4.3%
	A few days after recovery	8	7.1%
	After the medicine ran out	7	0.3%
	At completion of the course	3	3.2%
	After consulting the doctor	7	0.3%
Adverse reaction due to self-medication	No	70	3.1%
	Yes	5	6.9%
Practice of self-medication	Good practice	01	5.2%
	Acceptable practice	12	3.0%
	Not acceptable practice	7	1.8%
Treating common diseases yourself	Yes, i can	72	3.0%
	Not sure	77	4.2%
	No, i cannot	1	2.8%
Attitude towards self-medication	I encourage friends and family to self-medicate	94	8.5%
	Discourage friends and family to self-medicate	5	1.2%

Majority of students thought that self-medication is an acceptable practice (53%). One hundred and seventy-seven (43%) students thought that they can treat common diseases by self-medication whereas 172 (44.2%) students were not sure about it. 205 (51.2%) students responded that they would discourage while 194 (48.5%) would encourage friends and family for the self-medication.

Prevalence of the self-medication among study population was found to be 81% (N=327). There was no significant association between age and self-medication (p=0.059), gender and self-medication practices (p=0.061), degree program and the self-medication practices (p=0.747) were found out as shown in Table 4.

DISCUSSION AND CONCLUSION

Prevalence of the self-medication practice in business students in current research was 81%. There were many studies that showed consistency with the current research regarding prevalence rate, for instance 88% in Croatia,[12] 78% in Lahore,[13] 76% Karachi.[3] Several studies gave opposing frequency rate in comparison like 47.6% in Islamabad [5] and 45% in Turkey.[14] There was no significant association between the demographic factors such as gender and degree program with the self-medication. This result is in correspondence to a research performed in Karachi in which there was not much difference found between either gender or study year to be practicing self-medication more than the other.[3] There were several other studies done in Palestine, Iraq, and Bangladesh that reported no difference regarding self-medication practice in either gender.[15-17] A Kuwaiti study, on the other hand, indicated that girls self-medicate much more than the males (mainly because of painkillers for menstrual pain relief); the significant differences were also reported for age and grade in that study.[18]

The commonest purpose of self-medication should have been 'urgency of the problem' because it is the only justifiable rationale, but among our study participants it was not found to be the most prevalent reason. Instead 'past successful use of medicine' (46.2%) and 'avoiding the hassle to go to a doctor' (43.7%) were found to be the commonest reason of self-medication in our study. Angamo and Wabe in year 2012 also found quick relief as the reason for self-medication.[19] This is practically identical with the study led on Pakistani mothers, which showed that 61.3% participants had great previous experience with drug which was fundamental purpose behind self-medication.[20] Such approaches show that even our knowledgeable youth is oblivious of the threats that can be caused by such practices, and this certainly is an alarming situation.

Although the reality of the matter is that the self-medication could treat minor illness that did not require curative discussion and consequently decrease the weight on medicinal administrations especially in the underprivileged nations with restricted human services means, accessibility of complex drugs, for example, anti-biotics without prescription is a well-spring of incredible concern.[14] A disturbing rate, 26%, of undergraduates had taken anti-biotics without legitimate clinical assessment. These outcomes are in congruent to research studies led in Karachi, Southern Spain and on undergraduates in Croatia where 35.6%, 41%, 38% individuals consumed anti-biotics without counseling a specialist respectively.[3,21,14] A major issue connected with this is of anti-biotic resistance creating after some time with such unpredictable use.[22] Furthermore, the complaints that were frequent among students due to which they took medications were fever (55.7%), cough (49.2%) and pains (46%). In line with our results, the same complaints were in great numbers in research conducted in Bangladesh.[17] Painkillers (73.4%) was the most common drug that was used by students without any prior prescription. Analgesics were the drug

Table 4. Relationship between demographic variables and prevalence of self-medication among business students in Karachi.

Variable	Have you ever self-medicated		Total	P-value
	Yes n=387 (81.8%)	No n=73 (18.2%)		
Age				
18-23	229 (84.8%)	41 (15.2%)	270	0.059
24-28	68 (71.6%)	27 (28.4%)	95	
29-33	17 (89.5%)	2 (10.5%)	19	
34-38	8 (80%)	2 (20%)	10	
39-43	5 (83.3%)	1 (16.7%)	6	
Gender				
Male	153 (78.1%)	43 (21.9%)	196	0.061
Female	174 (85.3%)	30 (14.7%)	204	
Degree program				
Undergraduate	239 (82.1%)	52 (17.9%)	291	0.747
Masters	88 (80.7%)	21 (19.3%)	109	

of choice for the self-medication as seen in previous research.[23] High pervasiveness of the students regarding the self-medication with painkillers highlights the requirement for strategical and administrative mediations.[15]

The major source where the medicines were obtained were community pharmacies (67.6%) by the students while the leftover medicines were ranked second (26.2%). This was consistent with research done in Karachi that too on university students.[24] The latter source can be associated with the risk of consuming expired medicines, drugs that have indications for some other conditions and medicines that are actually meant for someone else.[3,14] This raises a concern as to why community pharmacies provide such easy access to medications, and this might be a strong reason in recording of high prevalence rate of self-medication. Students would never have received medications if community pharmacies declined to sell them without a prescription, which raises questions about pharmacy profession regulation enforcement.[25] Students should be educated about medication safety in a classroom setting. Strict measures could be implemented to govern the acquisition of pharmaceuticals and ban them from being purchased without a prior prescription by encouraging the pharmacists to allot these medications under strict supervision. There should be a proper check and balance system and medicine which do not lie in the category of over-the-counter medicines should never be provided without a prescription so that this problem can be prevented from escalating.[26] Despite the fact that it was not examined in this research, past studies have shown that advertising specifically influences young people to self-medicate.[27] In addition, the act of self-medication regularly has numerous antagonistic impacts and can prompt to numerous issues, including the worldwide development of Multi-Drug Resistant pathogens, medicate reliance and addiction, drug interactions, tragedies identifying with the reaction profile of particular drugs, danger of misdiagnosing and issues identifying with over and under dosing.[19,28-30].

In conclusion, prevalence of the self-medication (81%) was high among business students of Karachi which is alarmingly elevated, with no significant difference found between either males or females. Pattern towards expanded self-care and, with it, self-medication with ever more powerful medications appear to be relentless. The potential advantages of this practice, with the expanding strengthening of patients, are numerous. Though advancements in self -medication should be precisely overseen whether the advantages are to be amplified while potential dangers are kept to a minimum. Rigorous actions are required to screen notices of medications in printed electronic media.

Ethics Committee Approval: The study was approved by H.E.J Research Institute, University of Karachi (Date: 12/09/2019, decision no: IAC/Ex/2019). This study was performed under Helsinki Declaration of Good Clinical Practice.

Conflict of Interest: No conflict of interest was declared by the authors.

Author Contributions: Concept- TTA, MAZ; Supervision- TTA, FK; Materials- TTA, MAZ; Data collection and processing- TTA, MAZ; Analysis and Interpretation- TTA; Writing- TTA, FK, TTA.

Peer-review: Externally peer-reviewed.

Acknowledgement: The completion of this research "Self-medication practices among business students in Karachi", would have been impossible without the support and assistance of many people. We want to state our gratefulness to Farah Khalid for her guidance in supporting us throughout this project. We are gratified for the prayers our parents gave us. We are thankful to Sir. Waqas Farooqi and Marilia Garcez Correa da Silva for supporting and guiding us. We are obliged to everyone for their cooperation and facilitation in this study. Contribution of the authors of "Self-medication in university students from the city of Rio Grande, Brazil" published in 2012 was our driving force behind this project. We hope that this study aids to better knowledge in the academic field and be beneficial for future studies.

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