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RESEARCH ARTICLE

PERCEPTION OF SELF- MEDICATION AMONG TAIBA UNIVERSITY STUDENTS, SAUDI ARABIA

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Abstract

Self-medication refers to the practice of treating oneself with medication without consulting a healthcare professional. This practice can be dangerous to health. This study aimed to assess the practice of self-medications and associated factors among students in Taiba University, Saudi Arabia. Across sectional study was employed to investigate the practice of self-medications among 210 students in Taiba University by using a self-administered questionnaire.Among all respondents, 87.1% practiced self-medication at least one medication in the last year. The most common self-medication was pain killers (80%) and the most common indication of use was headache (75%). Reasons of self-medication practices were previous experience (52.9%) and no serious health symptoms (51.0%). The most common source of information was personal knowledge (51.0%). The prevalence of elf-medication practice was 87.1%. The most common self-medication was pain killers while, the most common indication of self-medication was headache. The most common reason for self-medication practices was previous experience, and the most common source of information was personal knowledge. Males practiced self-medications more than females.

Introduction:-

Self-medication is a globalpublic health issue that is especially prevalent in underdeveloped nations (Faqihiet al., 2021). Self-medication is defined by the World Health Organization (WHO) as "the selection and use of medications by individuals to address self-recognized diseases or symptoms' (WHO, 2002). Over-the-counter

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(OTC) medicine is described by the US Food and Drug Authority as "drugs that are safe and effective for use by the general population without seeking treatment from a health professional" (Faqihiet al., 2021).

The proper use of self-medication may minimize the load on health-care systems by decreasing hospital wait times, travelling time, and the cost of health-care services. (Saeed et al., 2014),

(Dimabayo et al., 2016). Yet, misusing self-medication may result in substantial health-related troubles such as resource waste, increased pathogen resistance, and serious health problems such as adverse reactions and persistent illness. (Saeed et al., 2014),(Dimabayo et al., 2016).

According to previous studies, the percentage of self-medication among university students ranged between 43-90% (AlBasheer et al., 2016),(Gama et al., 2017), (Malak et al., 2019),(Gras et al., 2020).Most common used drugs were analgesics, antipyretics, antihistamines, vitamins, cough syrup, antibiotics, cold and flu preparations, anti-ulcer/acidity drugs, nasal/ear/eye drops, and topical agents (Saeed et al., 2014), (Dimabayo et al., 2016),(AlBasheer et al., 2016),(Alshahraniet al., 2019),(Al Essa et al., 2019),(Williams et al., 2016).The most common indicators for self-medications were headache, body pain, cough & common cold, fever, infection,heart burn/ulcer, skin disorders, gastro-intestinalsymptoms (diarrhea, vomiting, and constipation)(Saeed et al., 2014), (AlBasheer et al., 2016), (Alshahraniet al., 2019).

To the best of our knowledge, there have been few research on self-medication among university students in Saudi Arabia, particularly in Medina. Estimating the incidence of self-medication and identifying the causes behind it would assist policy makers to guarantee safe use of medicine by the public. This study aimed to assess the practice of self-medications and associated factors among students in Taiba University.

Methods:-

Study setting and sample

A cross-sectional and analytical study was conducted among 210 students at Taiba University, Medina, Saudi Arabia, in the period from November to December 2022. All students were eligible for inclusion in this study. Sample size was estimated as follows: ''$n = Z^2(1-\alpha)\ p(1-p)/d^2$'', where n: sample size; Z: the selected level of confidence $(1-\alpha) = 1.96$; P: prevalence of self-medication=0.50; d: precision=0.06. Sample size required was 201 students at a confidence level of 95% and a power of 80%.

Data collection tools/instruments

A validated, structured, self-administered questionnaire was used to collect data electronically from the participants. It included three main sections: The first section included: (a) sociodemographic data, such as age, gender, faculty, year of study, and chronic diseases; (b)self-medication practice that included questions about the practice of self-medication in the last 12 months, type of medications, and reasons for self-medications; (c)sources of knowledge about medications. The questionnaire was piloted in 20 university students to insure understandability and clarity of the questions. The researchers, then distributed the questionnaire electronically to the students.

Statistical analysis

The data were analyzed by the Statistical Package of Social Sciences (SPSS, version 26). Descriptive and inferential statistics were employed. The outcome variable was categorized to be multiple self-medications versus none or single medications. Associations between respondents' characteristics and self-medication usage was evaluated by Chi-squarer test.

Logistic regression modeling was employed to determine the important predictors of self-medications among the students. All demographic and source of information variables were introduced to the model as potential predictors of self-medications with step-backward method of variable selection. The significant predictors were presented in a table along with their odds ratios and confidence intervals.

Ethical consideration

The Ethics Committee of the Institutional Review Board in Al-Medina, Ministry of Health, provided ethical approval. The purpose of the study was described in written form, and participants provided signed consent. The participants' confidentiality and privacy were maintained throughout the study.

Results:-

A total of 210 students responded to the questionnaire about self-medications practices. The majority of the respondents (77.1%) were females and about 83% aged 25 years old or less. Only 17.6% of these students were married while more than three quarters were single. Regarding faculty, 40% of the respondents were students in medical colleges. Most of the respondents (90.5%) reported that they are physically fit and free of chronic conditions. Among those who reported presence of chronic conditions, allergy and asthma were the most prevalent conditions with a prevalence of 5.2% and 1%, respectively (Table 1).

Table 2 demonstrates prevalence and patterns of self-medication practices among the respondents. Among all respondents, only 2.9% did not practice self-medication whilst the majority (57.1%) took 1-3 medications without prescription in the last year. However, about 80% of self-medications users took pain killers which is usually available as over-counter medications. Antipyretics ranked the second in the self-taken medications as reported by 41.7% of the users. Cold and flu preparations as well as nutritional or energy supplements were the third most commonly self-taken medications with 28.4% prevalence among self-medications users. Interestingly, 17.6% of the users reported antibiotics as a self-taken medications. Some serious medications, such as beta blockers, insulin and steroids were reported to be self-taken by only one user.

Indications and reasons of self-medication practices were illustrated in Table 3. The most common indication of self-medication practice was headache (75%) followed by common cold and fever as reported by 50.5% and 43.1% of the self-medication users, respectively. Moreover, body pain (27.5%) and menstrual cycle disturbances (26.5%) were moderately common indications of self-medications. Tooth pain and allergy were less common than the above-mentioned indications, as they were reported by less than quarter of the respondents, but more common than other indications such as insomnia and peptic ulcer. Reasons of self-medication practices were mainly previous experience, no serious health symptoms, and saving time of doctor consultations which were reported by approximately half of the users. Economic reasons of self-medications were reported by 17.6% of the users while privacy reasons were mentioned by 6.4%.

Table 4 shows sources of information about self-medication among the users. Personal knowledge and pharmacy staff were the most commonly reported sources of information which were mentioned by approximately a half of the users. Furthermore, relatives and doctor verbal advice were reported by slightly less than a half of the users, while friends was the source of information in 13.7% of the users.

Associations between respondents' characteristics and self-medication usage are presented in table 5. Only being a medical student was significantly associated with self-medications, as 83.3% of medical students took self-medications in comparison with 65.9% of non-medical students

Discussion:-

Our results demonstrated the prevalence and patterns of self-medication practices among students in Taiba university. Among all respondents, 87.1% practice self-medication at least one medication in the last year.

Studies in Saudi Arabia reported that the prevalence rates of self-medication among university students ranged from 43-90% (Faqihiet al., 2021; Saeed et al., 2014; Saeed et al., 2014;AlBasheer et al., 2016;Alshahraniet al., 2019; Al Essa et al., 2019).

In the Arab countries, four studies from Kuwait, Egypt and Jordon found that the prevalence of self-medications among undergraduate students ranged from 55% to 98.4%. (Malak et al., 2019; Al-Hussaini et al., 2014;Helal et al., 2017; El Ezz et al., 2011).

International studies from France, Australia, Brazil, and Turkey reported that the prevalence of self-medication among university students ranged from 61.8% to 91.7% (Williams et al., 2016;Gama et al., 2017; Gras et al., 2020;Ünver et al., 2020).

It is clear that the prevalence of self-medication among university students varies across studies, but the figure reported in our study is among the highest.

In our study, the most common self-medication was pain killers (80%) followed by antipyretics (41.7%), then by cold and flu preparations as well as nutritional or energy supplements (28.4%), then by antibiotics (17.6%).

A previous study from Jordon by Malak et al. found that 56.3% of university students used painkillers, followed by antibiotics (43.7%), and herbals (22.9%) (Malak et al., 2019).

Another study from Egypt by El Ezz et al. found that the most common self-medication was analgesics (87.3%), followed by herbals (72.0%), then vitamins (55.7%), and antibiotics (41.0%) (El Ezz et al., 2011). There were some similarities between the findings in our study and the previous two studies, but the use of antibiotics in our study remains the lowest.

Our study found that the most common indication of self-medication practice was headache (75%) followed by common cold and fever (50.5% and 43.1%, respectively). Moreover, body pain (27.5%) and menstrual cycle disturbances (26.5%) were moderately common indications of self-medications. Tooth pain and allergy were less common than the above-mentioned indications, as they were reported by less than quarter of the respondents. Less common indications were insomnia and peptic ulcer.

A previous study from Jordon found that the most common indications for using self-medication were pain (e.g., toothache, headache, joint, muscle, and abdominal pain), cold, cough, and flu(Malak et al., 2019).

In Kuwait, a previous study found that the most common indications for self-medications were headache (90.1%), followed by dermatologic conditions (86.1%), menstruation discomfort (84.7%), diarrhea (71.2%), cough (66.5%), and constipation (60.3%) (Al-Hussaini et al., 2014).Another study from Australia found that pain was reported by 50.0% of the participants, followedby urinary and throat infections (14.8%), and cold (10.1%)(Williams et al., 2016).There was clear discrepancy in the litterateur regarding the indications of self-medications. All the above-mentioned studies agree that pain was the most common indication for self-medication.

In the current study, reasons of self-medication practices were previous experience (52.9%), no serious health symptoms (51.0%), and saving time of doctor consultations (48.0%). Other less common reasons included economic reasons (17.6%), privacy reasons (6.4%), and absence of a nearby hospital (6.9%).

A study from Egypt by Hela et al. found that the most common causes of self-medication were “notnecessary to consult the doctor for a mild condition” followed by “knowledge from prior experience”, and the least was “lack of availability of health services” (Helal et al., 2017).

Another study from Jordon found that the reported reasons for self-medication included prior experience, urgent conditions, minor illness, seeking immediate relief, high expense of healthcare, and avoidance of long time waiting at health facilities (Malak et al., 2019). A clear discrepancy is noticed in the previous studies, that could be attributed to the different cultural and economic status of the countries.

Our study found that the most common sources of information about self-medication among the users were personal knowledge and pharmacy staff, and the less common sources were relatives and friends.

Previous studies reported that the sources of information included pharmacist, neighbors, family, classroom colleagues, old prescription, and the Internet (Williams et al., 2016; Gama et al., 2017; Malak et al., 2019; Gras et al., 2020).

Our study found a significant association between self-medication and being a medical student. Similar to our findings, a previous study found that self-medication was higher among medical students but, the same study found that self-medication was significantly higher among females, young students, students from urban areas, and ever-married students (Al-Hussaini et al., 2014).

Another study found that male students practiced self-medications more than females (Malak et al., 2019).

Limitation

Convenient sample results in limited generalizability of the results. Because this study asked the participants about their practice in the last year, recall bias could be a limitation.

Table (1):- Demographic and health characteristics of the respondents.

Characteristics	Frequency (n=210)	Percent (%)
Gender		
Male	48	22.9
Female	162	77.1
Age		
≤25	175	83.3
>25	35	16.7
Marital status		
Not married	173	82.4
Married	37	17.6
Faculty		
Medical college	84	40.0
Non-Medical college	126	60.0
Presence of chronic conditions		
None	190	90.5
Allergy	11	5.2
Asthma	2	1.0
Depression	1	0.5
Vision problems	1	0.5
Epilepsy	1	0.5
Rheumatoid arthritis	1	0.5
Anemia	1	0.5
Multiple diseases	2	1.0

Table (2):- Prevalence and patterns of self-medication practices among the respondents.

Item	Frequency (n=210)	%
Have you ever take a self-medication practice in the last year?		
None	6	2.9
1-3 medications	120	57.1
4-6 medications	66	31.4
>6 medications	18	8.6
Which of the following medications have you used over the past year without a prescription? (n=204)		
Pain killers	164	80.4
Antibiotics	36	17.6
Drugs for fever (antipyretics)	85	41.7
Antihistamines(anti-allergy)	39	19.1
Cough syrups	36	17.6
Cold and flu preparations	58	28.4
Anti-ulcer/acidity drugs	18	8.8
Drugs for constipation	14	6.9
Drugs for diarrhea	11	5.4
Oral contraceptives	10	4.9
Anti-emetics	13	6.4
Appetizers	0	0.0
Nasal/Ear/Eye drops	55	27.0
Topical agents (skin treatment agents)	49	24.0

Nutritional/energy supplements/vitamins	58	28.4
Herbs	39	19.1
Beta blockers	1	0.5
Steroids	1	0.5
Insulin	1	0.5
Hypnotic medications	1	0.5

Table (3):- Indications and reasons of self-medication practices as reported by the participants.

Indications	**Frequency (n=204)**	**%**
Indicationsof self-medication practices		
Headache	153	75.0
Cough and common cold	103	50.5
Fever	88	43.1
Infection	19	9.3
Heart burn/Ulcer	7	3.4
Allergy	39	19.1
Disorder of digestive system	27	13.2
Body pain	56	27.5
Tooth pain	45	22.1
Acne/skin diseases	28	13.7
Menstrual disturbances	54	26.5
Contraception	5	2.5
Insomnia	15	7.4
Hemorrhoids	5	2.5
Asthma	1	0.5
palpitation	1	0.5
Reasonsof self-medication practices		
Save time	98	48.0
Quick relief	85	41.7
Previous experience	108	52.9
Conditions are not worth seeing a doctor	65	31.9
Not serious health symptoms	104	51.0
Economic reasons	36	17.6
Embarrassed to discuss the symptoms	4	2.0
There is no hospital nearby	14	6.9
Privacy	13	6.4
Must book an appointment in advance	3	1.5

Table (4):- Sources of information about self-medication among the users.

Indications	**Frequency (n=204)**	**Percent (%)**
Indicationsof self-medication practices		
Relatives	93	45.6
Friends	28	13.7
Personal knowledge	104	51.0
Mass media	25	12.3
Doctors' advice with out prescription	89	43.6
Advice by pharmacists or by a person working in the pharmacy	100	49.0
My medical knowledge	1	0.5

Table (5):- Association between respondents' characteristics and self-medication usage.

Demographics	Have you taken any medication by yourself without doctor prescription in the last year?		Chi-square	P value
	None or single self-medication	Multiple self-medications		
Gender				
Male	17	31	2.1	0.142
	35.4%	64.6%		
Female	40	122		
	24.7%	75.3%		
Age				
≤25	50	125	1.1	0.295
	28.6%	71.4%		
>25	7	28		
	20.0%	80.0%		
Marital status				
Not married	50	123	1.5	0.215
	28.9%	71.1%		
Married	7	30		
	18.9%	81.1%		
Faculty type				
Medical college	14	70	7.8	0.005*
	16.7%	83.3%		
Non-Medical college	43	83		
	34.1%	65.9%		
Presence of chronic conditions				
No	51	139	0.09	0.763
	26.8%	73.2%		
Yes	6	14		
	30.0%	70.0%		

Conclusion:-

The prevalence of elf-medication practice was 87.1%. The most common self-medications were pain killers and antipyreticswhile, the most common indications of self-medication were headache, common cold and fever. The most common reasons for self-medication practices were previous experience, no serious health symptoms, and saving time of doctor consultations. Our study found that the most common sources of information about self-medication were personal knowledge and pharmacy staff. Males practiced self-medications more than females.

Health educationsuch as, workshops, lectures, campaigns or, elective course, should be offeredto the undergraduate students to create awareness on the hazards of self-medication practices. Furthermore, health care providers such as, physicians, pharmacists, and nurses working in university clinics should take onresponsibility in addressing this issue by counseling students about the proper use, and possible side effects of medications. Further representative study should be conducted.

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