ASSOCIATION OF SOCIODEMOGRAPHIC FACTORS WITH TRENDS OF SELF-MEDICATION PRACTICE AND IT S HAZARD PERCEPTION FOR ORAL HEALTH PROBLEMS AMONG PATIENTS

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ABSTRACT:

OBJECTIVES:

To assess the impact of sociodemographic factors with the trends of self-medication practice and its hazard perception among patients

METHODOLOGY:

A cross sectional descriptive study was conducted on the patients visiting Sharif Medical and Dental College from June 2019 to June 2020. Data was collected using a validated questionnaire from 142 patients. Chi-square and fisher exact tests were used to find the association of trends of self-medication practice and hazard perception with sociodemographic factors.

RESULTS:

The patients in the age range of 18 to 29 years practiced self-medication the most. The triggering factor for use of medication was toothache among all ages. The most commonly used drug was reported to be analgesics. The main reason for self-medication was lack of time to visit the doctor. The females practiced self-medication more than the males. The triggering factor for both the genders was toothache and analgesics were mostly used. The patients with tertiary level education and those who were unemployed practiced self- medication the most. The triggering factor was toothache across all levels of education and employed as well as unemployed patients. Drug resistance was stated the main hazard.

CONCLUSION:

The triggering factor for use of medication was toothache, most commonly used drugs were analgesics and the main reason for self-medication was lack of time across all ages, both the gender, married and unmarried patients, levels of education and employment. Un-employed patients and those with tertiary level of education-practiced self- medicated themselves the most. The highest percentage of patients considered drug resistance to be the biggest hazard.

KEYWORDS: *Self-Medication Practice, Hazards, Sociodemographic Factors*

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INTRODUCTION:

Self-medication is defined as the practice of consuming medicines without the advice of a physician to treat self-diagnosed disorders or surveillance of the treatment[1]. The trend of self-medication is practiced globally where some prescription drugs are sold over-the-counter in order to save time and resources[2]. Self-medication practice is on the rise with exposure to media and Internet facilities with prevalence of 94.5% in Saudi Arabia, 55% in Egypt, 68% in European countries and 31% in India[3,4]. Self-medication is considered of prime public health importance. Reasons behind self-medication can be cultural perception of certain diseases, low socioeconomic status, lack of education, high cost of treatment, inadequate health services, distrust in health professionals and lack of time[5]. Despite some benefits, irrational self-medication has multiple adverse effects. Literature has reported that self-medication can lead to delayed diagnosis, delay in effective treatments, adverse drug interactions, drug toxicity and is one of the reasons for antibiotic resistance[6-9]. Drugs commonly used for self-medication include analgesics, antimicrobial and cough syrups[10]. Studies have reported a significant correlation of socio-demographic factors with self-medication[3]. It is influenced by age, gender, educational status, economic status, family background, cultural or religious beliefs and country specific system (existing regulations, nature of the healthcare system and market policies on medication etc.)[3,11]. Practice of self-medication is more among educated individuals showing that a high level of professional education is considered as a predictive factor for this practice[3,4]. In dentistry, apart from dental anxiety prior to dental appointment, toothache is the most likely common problem for which patients take self-medication[7,12]. Some patients also self-medicate themselves with antibiotics to treat infection without having appropriate knowledge about drug interactions and side-effects[13]. Self-medication is researched extensively in medical patients but there is a dearth of research in trends of dental patients taking self-medication for oral health problems in our region. The rationale of this study was to assess the trends of self-medication. This will contribute to the body of research and will help to spread the awareness among the health care provider authorities. The aim of this study was to assess the impact of sociodemographic factors with the trends of self-medication practice and its hazard perception.

METHODOLOGY:

A cross sectional descriptive study was conducted on the patients visiting the Dental Out Patient Department of College of Dentistry, Sharif Medical and Dental College, (SMDC), Lahore from June 2019 to June 2020 after ethical approval from Sharif Medical Research center (SMRC). Keeping the precision at 5%, 95% confidence level and the prevalence of self-medication practice to be 10%, the sample size was calculated to be 139[14]. Data was collected using non-probability convenient sampling from 142 patients. The questionnaire was validated and a Cronbach alpha value of 0.7 was determined. Demographics like name, age, gender, marital status, level of education and employment were collected. Informed consent was taken from the participants. All the patients irrespective of their age, gender, level of education, employment and marital status were included in the study. Patients who refused to give consent to participate in the study were excluded. Recorded data was coded and entered using SPSS version 23. Numerical data like the age was reported as mean and standard deviation. Nominal data like gender was recorded as frequency and/or percentages. Ordinal data like education was also recorded as frequency and percentages. P value ≤ 0.05 was considered significant. Fisher exact test was used to find the statistical association of the trends of self- medication practice (duration of use, triggering factors, type of medication used, reason for self- medication practice and solution if the problem persists with self-medication) with age and education. The association between trends of self- medication practice (triggering factors, reason for self-medication practice and solution if the problem persists with self-medication) with

employment and gender was also determined using Fisher exact test. The association between trends of self- medication practice (triggering factors, reason for self- medication practice and solution if the problem persists with self-medication) with marital status was determined using Fisher exact test. Chi-square test was used to find the statistical association of duration of practice with gender, marital status and employment and that of the type of medication used with marital status and employment. Fisher exact test was also used to find the statistical association between sociodemographic factors and self-medication hazard perception.

RESULTS:

A study based on the data collected from 142 patients visiting the Dental OPD of College of Dentistry, Sharif Medical and Dental College, Lahore was conducted. The mean age of the participants was 22±9.403 years. The sociodemographic profile of the patients is shown in Table 1.

Table 1: Sociodemographic Profile of Patients

Age	
Below 18	3(2.1%)
18 To 29	108 (76.1%)
30 To 39	14 (9.9%)
40 To 49	9 (6.3%)
50 To 59	6 (4.2%)
60 To 69	2 (1.4%)
70 And Above	Nil
Gender	
Male	**Female**
31 (21.8%)	111 (78.2%)
Marital Status	
Married	**Un Married**
45 (31.7%)	97 (68.3%)
Level Of Education	
Illiterate	2(1.4%)
Primary	6(4.2%)
Secondary	17 (12%)
Tertiary	91 (64.1%)
Quaternanry	26 (18.3%)
Occupation	
Employed	**Unemployed**
59 (41.5%)	83 (58.5%)

It was evident that the patients in the age range of 18 to 29 years practiced self-medication the most. The predominant triggering factor for use of medication was revealed to be toothache. The most commonly used drug was reported to be analgesics. It was also seen that the main reason for self-medication was lack of time to visit the doctor. The association between age and the self-medication practice trends is shown in Table 2

Table 2: Association of Age with the Trends of Self-Medication Practice

Self Medication practice		AGE						
		Below 18	18 - 29	30-39	40-49	50-59	60-69	p value
Duration of use	Few days	0 (0%)	62 (44%)	9 (6.4%)	7 (5%)	1 (0.7%)	2 (1.4%)	0.154
	Few weeks	1 (0.7%)	13 (9.2%)	2(1.4%)	1 (0.7%)	2 (1.4%)	0 (0%)	
	Until condition subside	2 (1.4%)	32 (22.7%)	3 (2.1%)	1 (0.7%)	3 (2.1%)	0 (0%)	
Triggering factor	Tooth ache	2 (1.4%)	72 (50.7%)	12 (8.5%)	9 (6.3%)	5 (3.5%)	2 (1.4%)	0.945
	Gum bleeding	1 (0.7%)	20 (14.1%)	2 (1.4%)	0(0%)	1 (0.7%)	0 (0%)	
	Bad breath	0 (0%)	6 (4.2%)	0 (0%)	0(0%)	0 (0%)	0 (0%)	
	Orofacial swelling	0 (0%)	9 (6.3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
	Tooth mobility	0(0%)	1 (0.7%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
Type of medication	Analgesic	1 (0.7%)	47(33.1%)	9(6.3%)	6 (4.2%)	4 (2.8%)	1 (0.7%)	0.643
	Native herb	0 (0%)	13(9.2%)	2(1.4%)	1(0.7%)	1(0.7%)	0(0%)	
	Antibiotic	0(0%)	15(10.6%)	2(1.4%)	1(0.7%)	1(0.7%)	0(0%)	
	Salt and hot water	2 (1.4%)	33(23.2%)	1(0.7%)	1(0.7%)	0(0%)	1(0.7%)	
Reason for practice	Lack of time	1 (0.7%)	38(26.8%	7(4.9%)	7(4.9%)	3(2.1%)	1(0.7%)	0.752
	Lack of money	0(0%)	1(0.7%)	0(0%)	0(0%)	0(0%)	0(0%)	
	Traditional belief	0(0%)	9(6.3%)	1(0.7%)	0(0%)	0(0%)	0(0%)	
	Minor illness	2(1.4%)	55(38.7%)	6(4.2%)	2(1.4%)	2(1.4%)	1(0.7%)	
	Unavailability of doctor	0(0%)	5(3.5%)	0(0%)	0(0%)	1(0.7%)	0(0%)	
Problem persists	Visit dentist	3(2.1%)	96(67.6%)	12(8.5%)	9(6.3%)	5(3.5%)	2(1.4%)	0.858
	Visit a medical practitioner	0 (0%)	7(4.9%)	1(0.7%)	0(0%)	1(0.7%)	0(0%)	
	Continue self-medication	0(0%)	5(3.5%)	1(0.7%)	0(0%)	0(0%)	0(0%)	

It was further seen that the females tended to practice self-medication more than the males. The predominant triggering factor for both the genders was toothache. The most commonly used medication by both the genders was found to be analgesics. The association between gender, marital status and trends of antibiotic practice has been shown in Table 3.

Table 3: Association of gender and marital status with the trends of self-medication practice

Self-Medication Practice		Gender			Marital Status		
		Male	Female	P value	Married	Un married	P value
Duration of use	Few days	12 (8.5%)	69 (48.9%)	0.063	24 (17%)	57 (40.4%)	0.544
	Few weeks	7(5%)	12 (8.5%)		8 (5.7%)	11 (7.8%)	
	Until condition subside	11(7.8%)	30 (21.3%)		12 (8.5%)	29 (20.6%)	
Triggering factor	Toothache	20 (14.1%)	82 (57.7%)	0.216	37 (26.1%)	65 (45.8%)	0.208
	Gum bleeding	7 (4.9%)	17 (12%)		7 (4.9%)	17 (12%)	
	Bad breath	0 (0%)	6(4.2%)		0(0%)	6(4.2%)	
	Orofacial swelling	4 (2.8%)	5 (3.5%)		1(0.7%)	8(5.6%)	
	Tooth mobility	0(0%)	1 (0.7%)		0(0%)	1(0.7%)	
Type of medication	Analgesic	18 (12.7%)	50(35.2%)	0.408	27 (19%)	41(28.9%)	0.118
	Native herb	3(2.1%)	14(9.9%)		4 (2.8%)	13(9.2%)	
	Antibiotic	5(3.5%)	14(9.9%)		7(4.9%)	12(8.5%)	
	Salt and hot water	5(3.5%)	33(23.2%)		7(4.9%)	31(21.8%)	
Reason for practice	Lack of time	12(8.5%)	45(31.7%)	0.176	23(16.2%)	34(23.9%)	0.197
	Lack of money	0(0%)	1(0.7%)		0(0%)	1(0.7%)	
	Traditional belief	0(0%)	10(7%)		3 (2.1%)	7(4.9%)	
	Minor illness	16(11.3%)	52 (36.6%)		16(11.3%)	52(36.6%)	
	Unavailability of doctor	3(2.1%)	3 (2.1%)		3(2.1%)	3(2.1%)	
Problem persists	Visit dentist	25(17.6%)	102(71.8%)	0.141	40(28.2%)	87(61.3%)	1.000
	Visit a medical practitioner	4(2.8%)	5(3.5%)		3(2.1%)	6(4.2%)	
	Continue self medication	2(1.4%)	4(2.8%)		2(1.4%)	4(2.8%)	

It was further seen that the patients with tertiary level education and those who were un employed practiced self- medication the most. The predominant triggering factor was tooth ache across all the levels of education and employed as well as un-employed patients. The association between the level of education and status of employment with the trends of self-medication practice is shown in table 4.

Table 4: Association of Education and Employment with the Trends of Self-Medication Practice

Self-Medication practice		Education						Employment		
		Illiterate	Primary	Secondary	Tertiary	Quaternary	P value	Employed	Un employed	P value
Duration of use	Few days	2(1.4%)	2(1.4%)	6 (4.3%)	51(36.2%)	20(14.2%)	0.083	37(26.2%)	44(31.2%)	0.022
	Few weeks	0(0%)	2(1.4%)	3 (2.1%)	13(9.2%)	1(0.7%)		11(7.8%)	8(5.7%)	
	Until condition subside	0(0%)	2(1.4%)	8 (5.7%)	27(19.1%)	4(2.8%)		10(7.1%)	31(22%)	
Triggering factor	Tooth ache	2(1.4%)	5 (3.5%)	12 (8.5%)	64(45.1%)	19(13.4%)	0.802	50(35.2%)	52(36.6%)	0.011
	Gum bleeding	0(0%)	1(0.7%)	4(2.8%)	15(10.6%)	4(2.8%)		4(2.8%)	20(14.1%)	
	Bad breath	0(0%)	0(0%)	0(0%)	4(2.8%)	2(1.4%)		2(1.4%)	4(2.8%)	
	Orofacial swelling	0(0%)	0(0%)	1(0.7%)	8(5.6%)	0(0%)		2(1.4%)	7(4.9%)	
	Tooth mobility	0(0%)	0(0%)	0(0%)	0(0%)	1(0.7%)		1(0.7%)	0(0%)	
Type of medication	Analgesic	1(0.7%)	5 (3.5%)	10(7%)	44(31%)	8(5.6%)	0.177	33(23.2%)	35(24.6%)	0.356
	Native herb	1(0.7%)	0(0%)	1(0.7%)	13(9.2%)	2(1.4%)		5(3.5%)	12(8.5%)	
	Antibiotic	0(0%)	0(0%)	1(0.7%)	15 (10.6%)	3(2.1%)		6(4.2%)	13(9.2%)	
	Salt and hot water	0(0%)	1(0.7%)	5 (3.5%)	19 (13.4%)	13(9.2%)		15(10.6%)	23(16.2%)	
Reason for practice	Lack of time	2(1.4%)	1(0.7%)	10(7%)	32(22.5%)	12 (8.5%)	0.217	28(19.7%)	29(20.4%)	0.041
	Lack of money	0(0%)	0(0%)	0(0%)	1 (0.7%)	0(0%)		0(0%)	1(0.7%)	
	Traditional belief	0(0%)	0(0%)	0(0%)	8 (5.6%)	2(1.4%)		2(1.4%)	8(5.6%)	
	Minor illness	0(0%)	4(2.8%)	5(3.5%)	48(33.8%)	11 (7.7%)		24(16.9%)	44(31%)	
	Unavailability of doctor	0(0%)	1(0.7%)	2(1.4%)	2 (1.4%)	1(0.7%)		5(3.5%)	1(0.7%)	
Problem persists	Visit dentist	2(1.4%)	6(4.2%)	14(9.9%)	81(57%)	24(16.9%)	0.684	52(36.6%)	75(52.8%)	0.694
	Visit a medical practitioner	0(0%)	0(0%)	3 (2.1%)	5(3.5%)	1(0.7%)		5(3.5%)	4(2.8%)	
	Continue self medication	0(0%)	0(0%)	0(0%)	5(3.5%)	1(0.7%)		2(1.4%)	4(2.8%)	

It was seen that the majority of the patients considered there to be no hazard of self-medication practice. Among the hazards of self-medication practice the highest percentage of patients considered drug resistance to be a negative effect of this practice as shown in Figure 1. The association between hazard perception and age (p=0.488), gender (p=0.646), marital status (p=0.668) and occupation (p=0.553) was found to be non-significant.

DISCUSSION:

Self-medication can be defined as consuming medications without physician‟s advice. Various factors are known to be associated with the cause of self-medication practice among patients[7,15]. Sociodemographic factors have been known to impact the trends of self-medication practice[16].
Our study reported that self-medication was practiced the longest as well as the shortest by the age group 18 to 29 years (22.7% and 44% respectively). It was also seen that more women self-medicated themselves in comparison to the males. Another study reported that the age group practicing self-medication the most was 55 years and above (72 out of 722) while the least was seen in 18 to 24 years (32 out of 722)[17]. One more study regarding the association of sociodemographic factors with self-medication practice demonstrated that the participants above 40 years of age reported the highest percentage of self-medication (87.5%) while the least was seen in the age group below 30 years (67.9%)[16]. According to our study a higher percentage of women used medications for a few days (48.9%), few weeks (8.5%) and till the condition subsided (21.5%) in comparison to the males 8.5%, 5% and 7.8% respectively. According to one study females were found to practice self-medication

more (153 out 722) as compared to males (106 out of 722)[17]. Another study that reported the association of sociodemographic factors with self-medication practice showed that a higher percentage of males (76.6%) practiced self-medication as compared to females (65.1%)[16].
Regarding marital status it was seen in the study above that the married participants practiced more self-medication (140 out of 722) in comparison to unmarried (42 out of 722)[17]. Some contrary results were seen in another study where married participants were reported to practice less self-medication (69.7%) as compared to the unmarried ones (76.8%)[16]. With regards to education, our study reported that Self-medication was the highest in participants with tertiary level of education i.e. few days (36.2%), few weeks (9.2%) and until condition subsides (19.1%). Contrary results were found among participants of another study, where it was seen that the highest prevalence of self-medication practice was at quaternary level (93.3%)[16]. The triggering factor for self-medication in our study across all age and education groups, both the genders, married and unmarried and employed or unemployed participants was toothache. One such study on the use of self-medication for oral problems reported similar results where it was seen that 52.6% patients used self-medication to relieve toothache[7,18]. Other triggering factors for self-medication common between our study and the study cited above were gum bleeding, orofacial swelling, bad breath and tooth mobility. Our study also reported that the main reason for patients to self-medicate was predominantly lack of time followed by minor illness. Some contrary results were seen in another study where it was reported the patients practiced self-medication mainly because of minor illness (36.6%) followed by lack of time (24%)[7]. In our study the predominant drugs used for self-medication were analgesics across all age groups, education levels, marital status (married/unmarried), employment (employed/unemployed) and gender (male/female). These results are very similar to the above study where 48% patients reported using analgesics as self-medication drugs[7]. Patients in our study reported that they resorted to a dentist if their oral health issue continued even after self-medication, which is very similar to another study, which reported 84.6% respondents with the same answer[7]. According to our study 39.4% participants reported that there are no hazards of self-medication, 20.4% said it damages organs, 9.2% reported addiction as a hazard while drug resistance, poisoning and death were reported as hazards by 26.8%, 3.5% and 0.7% participants. Another study regarding the hazards of self-medication practice reported that 65.2% considered self-medication a hazard, 82.2% were of the view that it caused drug dependency, 89.7% said it causes drug resistance, 88.8% said it caused adverse drug reactions and 75.7% reported that it worsens the condition[16]. This study describes the importance of awareness regarding oral health maintenance and accessibility of dental health care facilities to minimize the self-medication practice. Dental service should be made more economical to every civilian. Education and awareness of the public regarding the health risks due to self-medication should be provided.

CONCLUSION:

The highest percentage of patients considered drug resistance to be the biggest hazard. Un-employed patients and those with tertiary level of education-practiced self-medicated themselves the most. The main triggering factor for use of medication was toothache, most commonly used drugs were analgesics and the main reason for self-medication was lack of time across all ages, both the gender, married and unmarried patients, levels of education and employment.

LIMITATIONS:

A larger sample size could have unraveled more findings regarding self-medication practice.

RECOMMENDATIONS:

Dental service should be made more economical to every civilian. Education and awareness of the public regarding the health risks due to self-medication should be provided.

CONFLICT OF INTEREST: None

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