



## **Evaluation of Self-medication Practice along with Prescribed Medicines among the Local Population of Karachi, Pakistan**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. Authors TA, AAM and AA designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript.*

*Authors WA, JA and SM managed the analyses of the study. Authors BS, MQ, RI and SSASR managed the analyses of the study and literature searches. All authors read and approved the final manuscript.*

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### **ABSTRACT**

The main theme of the study was to evaluate the usage of medicine other than their use. This is actually a problem, which was observed worldwide. It is direct associated with the patients that were using medicine to cure themselves from minor ailment without discussing with any health care professional as selection of proper medicine for any disease is the prime responsibility of health

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care providers. The significance of the research was to evaluate the self-medication pattern over the prescribed medicines among the local population of Karachi. So the descriptive cross-sectional study was conducted for the period of six months and participants were guided for the completion of questionnaire. Specified sample technique was used for the proper selection of participants. The average age of participants was  $38.5 \pm 11.8$  with minimum age of 16 and 53 was the maximum age of participant of the study. The frequent habit was taking medicines was observed mostly with age group of 24 to 36 years and mostly arts related person and businessman were taking self medication without knowing any accurate knowledge of medicines. From the prescribed medicines Steroids, antibiotics and Cetrizine were very common taken by the participants. Females participants were taking more medicines for minor ailments as compare to males. Education level and marital status were most common factors that prejudiced the risk factors awareness along with self medication among the participants. Frequency of self-medication with or without prescription was very common among the females than males. Females were using oral corticosteroids and cyprohepadine without any therapeutic need. Professional life along with marital status was considered as main pillar for the attentiveness of significant side effects associated with mal practice of taking medicine without any medical advice.

*Keywords: Self-medication; prescribed medicines; awareness; cross-sectional; Karachi.*

## 1. INTRODUCTION

Self-Medication is the utilization of prescription by means of individuals to treat self-analyzed ailments or signs and side effects. Prescriptions are regularly chosen by planning clients for indications of saw infirmities in which the assessment depended on how the patient sense yet now not essentially founded on suggestion from a prescriber [1]. Basically, the activity of self-therapeutic medication with different directions of medications whether over-the-counter or physician endorsed drugs is a worldwide issue. The activity is additional essential in immature or developed nations wherein get section to wellness care might be terrible or lack of ability of the patient to have the assets for an endorsed medication for a specific issue and this anyway lead to irrelevant medicines of the influenced individual condition [2]. The most extreme broadly utilized professionally prescribed medicine in self-therapeutic medication is anti-infection regardless of being solution just prescriptions. This might be a direct result of anti-infection agents can be from extra medication medicines a man has been in the past suggested an anti-microbial yet did no longer end the course of cure [3,4]. A companion or relative would conceivably approach this and use with exhortation by methods for a human services specialist or purchase from a drug store or other cure outlet in self ability. Mistaken self-guess, refusal or deferrals in looking for crucial meeting and conceivable introduction to avoidable troublesome outcomes from medicate medicines and off base strategy for organization are

capacity dangers joining forces with self-utilization of medications [5]. There could likewise be instances of turmoil covering, sedate reliance and wrong selection of meds the majority of the clients. People groups' absence of comprehension of anti-microbial use can be a basic reason for self-prescription primary to immaterial use [6]. Side effects of a couple of diseases which may be looked as though it would be irresistible in starting for instance, as rhino sinusitis, sore throats, bronchitis or ear infections, bloodless and influenza can be mitigated with over-the-counter medication medicines and in many cases, the resistant gadget is fit for manage such moderate contaminations [7]. Cetrizine is an antihistamine with extra and serotonergic exercises. It furthermore has a neighborhood sedative impact. Its ability to improve rest, smoothness has been introduced. It likewise has negative signs and manifestations in incessant schizophrenics who don't react to various cures. Its normal negative outcomes incorporate languor, unsteadiness, queasiness, obscured vision, dry mouth, blockage, edginess, uneasiness and fretfulness. Glucocorticoid dexamethasone is steroid drugs with calming and immunosuppressant sports [8]. It is utilized to manage rheumatoid joint pain and bronchospasm. It has been clinically used in idiopathic thrombocytopenic purpura and adrenal deficiency and Addison's ailment. It has been found that various African social orders do no longer comprehend stoutness as a medical issue, however as a showcase of social appropriately being and wonder explicitly among young ladies and as such creation it hard for

wellness care proficient to accomplish attractive weight oversee while wished [9]. On standard step by step use, Cetirizine may furthermore reason a few viewpoint impacts, alongside sluggishness, tired inclination, sleep deprivation, turning sensation, obscured vision, and loss of coordination, disillusioned stomach, and queasiness, looseness of the bowels, and weight advantage [10]. Their capacity to work go between of the weight reaction, controlling both glucose homeostasis and the insusceptible device give a clarification for its various uses in numerous logical fundamental occurrences. It ties to explicit receptor proteins inside the objective tissues to manage the statement of corticosteroid responsive qualities, changing the stages and varieties of proteins blended by utilizing the various objective tissues. Steroid receptors are available in the psyche, and encroach with different neurotransmission, along with serotonin and dopamine [11]. The immediate effect of corticosteroids has been analyzed which comprise of results on temper, conduct and psyche edginess in spite of the fact that the systems wherein corticosteroids affect neuronal movement are obscure, anyway it has been recommended that steroids delivered locally inside the mind (neurosteroids) may moreover adjust neuronal volatility [12]. Dexamethasone has been respected to diminish outline weight, rather than cause's weight advantage which at difference with in vogue supposition, and brightening skin. There is likewise appearance of moon face as an outcome of the utilization of this medication and this happens at beginning utilization of the medication which is for the most part misinterpreted as weight advantage. Brightening of the skin discovered is thus from counteraction of melanin union which is basic for the security of pores and skin from bright light in which it will expand vulnerability of skin most malignant growths [13]. It additionally offends creation that could incline the patient to diabetic mellitus or disabled glucose oversees in diabetic influenced individual, with aldosterone highlights. The capacity of drug specialists in improving mending care for the influenced individual incorporate usage of exacting administrative components to limit over the counter distributing of physician endorsed meds [14]. Self-cure with anti-microbial has been demonstrated to be ordinary in respiratory circumstances and co-trimoxazole and amoxicillin had been the two most basic anti-microbial included [15]. Comparative kind of study was additionally directed in different pieces of world, for example, India, republic of Congo

and Sudan. In Pakistan, most discoveries were on general idea of self-drug without being explicit aside from not many on anti-microbial. Taking into account this, there has to examine the pattern of utilization of some regularly utilized doctor prescribed medication among the inhabitants of Karachi.

## 2. MATERIALS AND METHODS

The study was carried out among the local population of specific areas of Karachi city for the period of six months from June 2019 to December 2019. Population area of study was situated beside National High way of Pakistan. Majority of population were belongs to lower middle class with low economical business to the upper middle class with private and government sector jobs. People were either graduated from various institutes of Karachi or enrolled there. Descriptive cross-sectional study was carried out with specified limitation as people below 16 years of age were not included. Total sample was 385 calculated by Yamane formula. A questionnaire was used, in order to get accurate data to fulfill the requirement of objectives. Participates were guided about inform consent form and they were believed there data was remain confidential in entire study. Questionnaire depends on 2 different parts. Initial part contain demographic data whereas second part consist of self-medication practices and this part contains majority of drugs from various class along with minor ailment for which, those medicines were frequently used. Data was analyzed by using SPSS software version 24.00.

## 3. RESULTS

Filled questionnaires were obtained from 385 participants and divided into various age groups, 157 were included in the age group of 16-25 years. 93 were included in age group of 26-35 years. 71 participants were included in age group of 36-45 years whereas only 64 participants were included in last age group from 46-55 years.

From the obtained data, participants were divided in accordance with gender. 234 (60.77%) were males and 151 (39.22%) were females.

Marital status of the study subjects is described in Table 3 in which single were high 183 (47.53%).

**Table 1. Age wise group distribution of study subjects**

Age Groups	Number	Frequency
16-25	157	40.77%
26-35	93	24.15%
36-45	71	18.44%
46-55	64	16.62%

Level of education of the subjects is described in Table 4 in which Secondary level was high 193 (50.12%).

Occupational status of the subjects is mentioned in the Table 5, in which students were found higher 197 (51.16%) than other occupations.

Frequency of medicines taken by study subjects is shown in the Table 6.

Awareness of risk associated with self-medication along with prescribed drugs is shown in Table 7.

#### 4. DISCUSSION

In accordance with current study, it was observed that local population was eagerly participating voluntarily in the study. Most of the

study subjects were graduated from various institutes and very few among them were having primary education as mentioned in Table 4. Many of them were worked privately in various national and international firms. Numbers of antibiotics along with various lifesaving drugs were frequently prescribed by health care professionals in that area and it resemble with the study conducted in Kinshasa DRC 2016. Where frequency of drug abuse was almost 73% and antibiotics ratio was 32%. It had elevated results than the study conducted by Pakistani researcher, who had prevalence rate of only 24% in 2014 [16]. Number of antibiotics were used randomly and stopped without any medical instruction that leads to the development of drug resistance and this practice reduce the options for medical practitioners to treat bacterial infectious disease as many of the drugs become resistant. Majority of population were using

**Table 2. Gender wise distribution of study subjects**

Gender	Number	Frequency
Males	234	60.77
Females	151	39.22

**Table 3. Marital status of study subjects**

Marital status	Number	Frequency
Single	183	47.53%
Married	164	42.59%
Divorced/widowed	38	9.87%

**Table 4. Level of education among study subjects**

Level of education	Number	Frequency
Primary	37	9.61
Secondary	193	50.12%
Graduate	155	40.25%

**Table 5. Occupation status of study subjects**

Occupation	Number	Frequency
Un-employed	13	3.37%
Students	197	51.16%
Civil Servants	49	12.72%
Retired	09	2.33%
Private Job Holder	117	30.38%

**Table 6. Frequency of medicines taken by study subjects**

<b>Medicine name</b>	<b>Medicine class</b>	<b>N(%)</b>
Antibiotics	Amoxicillin	49 (12.7)
	Deoxycycline	13 (3.37)
	Cephalexin	27 (7)
	Ciprofloxacin	59 (15.32)
	Metronidazole	119 (30.90)
	Azithromycin	22 (5.71)
	Amoxicillin &Clavulamate	18 (4.67)
Corticosteroids	Levofloxacin	78(20.25)
	Fluticasone	97 (25.19)
	Budesonide	74 (19.22)
	Formoterol	109 (28.31)
	Salmeterol	81 (21)
Anti-histamine	Vilanterol	24 (6.23)
	Cetirizine	103 (26.75)
	Chlorpheniramine	61 (15.84)
	Diphenhydramine	94 (24.41)
	Fexofenadine	84 (21.81)
	Loratadine	26 (6.75)
Aphrodisiac	Levocitirizine	17 (4.41)
	Sildenafil	139 (59.40)
Sources Where Medicines Were Mostly Obtained	Pharmacies	176 (45.71)
	Medicine Store	209 (54.28)
Reason for taking Medicine	Infection	70 (18.18)
	Cough	66 (17.14)
	Aphrodisiac (Man Power)	46 (11.94)
	No Reason	90 (23.37)
	Sleep	113 (29.35)
Do you seek Counseling When obtaining your medication	Yes	109 (28.31)
	No	276 (71.68)
How long have you been taking the medication	Few months (Less than 01 year)	186 (48.31)
	Few years (Less than 10 years)	121 (31.42)
	More than 10 years	78 (20.25)
Are you aware of possible risk associated with prolonged use of these medicines	Yes	178 (46.23)
	No	207 (53.76)
To what extent did you perceive the danger of self-medication with prescription medicines?	High	49 (12.72)
	Moderate	87 (22.59)
	Low	122 (31.68)
	None	127 (32.98)
Are you willing to stop taking the medicines except on medical recommendation?	YES	204 (52.98)
	NO	181 (47.01)

antibiotics for infectious disease without knowing about the selection of antibiotics for particular infectious disease. Even people were using Salbutamol drug for the management of simple cough without any information that this drug could be used in severe COPD (chronic obstructive pulmonary disease) [17]. People were taking lifesaving drugs and steroids in order to get weight without having any sound knowledge regarding the risk factors of such type of drugs and they experienced with risk factors with persist use of similar type of medicines as mentioned in the study Karia et al 2013 [18].

Occupational and marital status of the study subjects had major role in the risk factors of self-medication along with prescribed drugs. Female population with age between 24 to 33 years was frequently taken medicines without any medical advice for minor ailment. They were doing so in order to enhance appetite, to gain weight and steroids for the attractive body structure [19]. People working in various firms possess sound knowledge regarding risk factors of various OTC (Over the Counter) drugs and it totally depends on the healthy discussion about the consumption of drugs along with their side effects. People with

**Table 7. Awareness of risk associated with self-medication along with prescribed drugs**

Variable		Awareness of risk associated with self-medication along with prescribed drugs	
		Yes (n=178)	No (n=207)
Gender	Male	103(57.8%)	131(63.2%)
	Female	75(42.13%)	76(36.71%)
Qualification	Primary	13(7.3%)	24(11.59%)
	Secondary	82(46%)	111(53.62%)
	Graduation	83(46.6%)	72(34.78%)
Marital Status	Single	91(51.1%)	92(44.4%)
	Married	81(45.5%)	83(40%)
	widowed	06(3.3%)	32(15.45%)
Occupation	Unemployment	04(2.2%)	09(4.34%)
	Student	74(41.57%)	123(59.4%)
	Civil Servant	21(11.79%)	28(13.5%)
	Retired	01(0.56%)	08(3.8%)
	Private Job	78(43.82%)	39(18.84%)

their own business, unemployed and person with minimum qualification level consequently enhance the risk level as they were not familiar with pharmacology of any drug and awareness regarding risk factors was very low as observe from the study. Current research that conducted in specified areas of Karachi had strong relationship of occupation with self-medication. If people get sound knowledge regarding medicines prescribed by health care professional reduces the chances of consuming self-medication as they become familiar with risk factors of drugs. So in this case, owners of medical stores, pharmacies were also guided to council the local population regarding the side effects and adverse drugs reaction of self-medication.

## 5. CONCLUSION

Self-medication practices were very much common among the local population along with prescribed drugs and gender wise it was observed more in feminine as compared to male. It totally depend upon the mentality of the local population and their knowledge regarding the consumption of prescribed medicines prior time and initiated proposed medicines without any prescription. Marital and occupational status totally relies on the risk factors associated with the induction of self-medication practices along with suggested medicines by any health care professionals.

## CONSENT

As per international standard or university standard, Participants' written consent

has been collected and preserved by the authors.

## ETHICAL APPROVAL

It is not applicable.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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