

Research Paper

Prevalence of Self-medication Practices and Their Associated Factors in Puducherry, India: A Cross-sectional Study



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ABSTRACT

Background: Self-medication is the most important health issue in developing countries like India. Even though there is abundant healthcare access, self-medication is still chosen by the patients. The purpose of this study was to estimate the prevalence of self-medication and the factors associated with self-medication practices among the urban fisherman population in Puducherry.

Methods: This cross-sectional study was conducted from July 2021 to December 2021 (6 months) among 18-60 years fisherman population residing in the urban practice areas. The sample was selected by simple random sampling technique using a semi-structured questionnaire after obtaining informed consent from the participants. Data analysis was carried out by chi-square test and proportions.

Results: The majority of participants about 77.8% belonged to the 30-60 years age group; and, 57% were male and 43% were female. The prevalence of self-medication was 67%. Socioeconomic status had a statistically significant relationship with self-medication among other sociodemographic factors including age, gender, education, and occupation. It was found that 82.05% of participants practiced self-medication for their previous similar complaints. The source of information regarding self-medication obtained from the pharmacists is 55.8%. Among the various types of self-medication, allopathy drugs were among the most important reasons because of their easy access. Most self-medication was taken for the symptoms such as cough, cold, flu, headache, and myalgia, and the side effects were found to be 12.1% for self-medication.

Conclusion: The majority of the participants used self-medication for cough, cold, flu, headache, myalgia, etc. in case of emergency to hospitals. Awareness about health hazards, drug resistance in prolonged self-medication practice, and regulation of pharmacies limit self-medication.

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1. Introduction

Self-medication is the most important health issue in developing countries like India. Even though there is abundant healthcare available, self-medication is still chosen by patients. The prevalence of self-medication practices is influenced by various circumstances, including the person's educational background and the lack of access to expert doctors while traveling. Self-medication does indeed have a strong tradition and long before the development of the specialized profession of doctors, human beings had already been treating themselves. It is believed to be a rapid, convenient, and instant source of relief for a person. Unfortunately, it can lead to unfavourable outcomes such as adverse drug responses, drug misuse, and antimicrobial resistance. Self-medication which is not regulated can cause problems not only for the persons but also for the communities. Researchers have discovered that its incidence in India varies significantly, ranging from 31% in 1997 to 53.57% in 2020 [1]. Although the fishermen's community receives free health care, they prefer self-medication since it saves their time and dignity. There has never been a community-based study on the factors that cause self-medication practices and adverse drug reactions among fishermen, and the present study is the first of its type.

Objectives

The followings are the present study's objectives:

- To estimate the prevalence of self-medication practices among the fisherman population in the urban area of Puducherry
- To determine the factors influencing the self-medication practices among the fisherman population in the urban area of Puducherry

2. Methods

Participants, study setting and sample size

A cross-sectional study was performed in the Urban field practice areas of Aarupadai Veedu Medical College and Hospital in Puducherry from July 2021 to December 2021. The sample size was estimated to be 370 using the $4pq/d^2$ formula where P shows a prevalence of 71% and precision of 5% obtained from a previous study by Balamurugan et al. [2] substituting the formula. After considering an anticipated 10% non-response rate, finally, the sample size was considered 370. Our urban

training health center maintains a house list of the fisherman population. Three villages inhabited by a fisherman population were selected through simple random sampling covering a population of about 6204.

Inclusion criteria

The inclusion criteria were fishermen with an age limit above 18 years (both men and women) residing in our study area and their willingness to participate in this study.

Exclusion criteria

The participants with communication problems, severe illness, immobilized patients, psychiatric or mentally challenged patients, and those not consenting to participate in this study.

A semi-structured questionnaire was used to collect data on sociodemographic characteristics such as age, gender, education, occupation, income, and self-medication patterns such as frequency, sources, reasons, side effects, and storage. Institutional Ethical Committee approval was obtained. The questionnaire was incorporated into a google form. After obtaining the informed consent, data was gathered through interviews with the senior members of the households who were present at the time of the visit, following the standard COVID precautions. The data was entered into SPSS software, version 28, and the analysis was carried out using proportions and the chi-square test. Statistical significance was considered $P < 0.05$.

3. Results

The results showed that most of the participants (77.8%) were in the age group of 30-60 years. In total, 57% were male and 43% were female. The prevalence of self-medication was 67%. Among those who were practicing self-medication, 49.39% were male and 50.6% were female. The prevalence was found to be more among men than women. The majority of respondents were graduate or postgraduate (35.4%) followed by high school certificates (32.7%). The lowest number of participants were professionals or middle school certificates (2.7%). The prevalence of self-medication was found more among the graduate or postgraduates (37.6%). Most of the respondents were in the socio-economic status of Class III (39.5%) (modified BG Prasad classification, 2021) followed by class IV (20.3%) with the lowest number of participants in class I (9.5%). The prevalence of self-medication was found more among class III (42.5%).

Table 1. Association between sociodemographic factors and self-medication

Sociodemographic Factors	No. (%)			P	
	Total	Self-medication			
		Yes	No		
Age (y)	<30	46(12.4)	38(15.4)	8(6.5)	0.001*
	30-60	288(77.8)	193(78.1)	95(77.2)	
	>60	36(9.7)	16(6.5)	20(16.3)	
Gender	Male	211(57)	122(49.4)	89(72.4)	0.00001*
	Female	159(43)	125(50.6)	34(27.6)	
Education	Profession	10(2.7)	9(3.6)	1(0.8)	0.00001*
	Graduate or postgraduate	131(35.4)	93(37.6)	38(30.8)	
	Intermediate or post-high school diploma	21(5.6)	8(3.2)	13(10.5)	
	High school	121(32.7)	68(27.5)	53(43.08)	
	Middle school	10(2.7)	10(4.04)	0(0)	
	Primary school	16(4.32)	16(6.4)	0(0)	
	Illiterate	61(16.4)	43(17.4)	18(14.6)	
	Profession	8(2.2)	4(1.6)	4(3.2)	
Occupation	Semi-profession	20(5.4)	12(4.8)	8(6.5)	0.00001*
	The clerical, shop owner, farmer	20(5.4)	4(1.6)	16(13)	
	Skilled worker	82(22.2)	51(20.6)	31(25.2)	
	Semi-skilled worker	12(3.2)	8(3.2)	4(3.2)	
	Unskilled worker	70(18.9)	50(20.2)	20(16.2)	
	Unemployed	158(42.7)	118(47.7)	40(32.5)	
	Upper	35(9.5)	16(6.5)	19(15.4)	
Socioeconomic status	Upper middle	68(18.4)	38(15.4)	30(24.4)	0.00001*
	Lower middle	146(39.5)	105(42.5)	41(33.3)	
	Upper lower	75(20.3)	61(24.7)	14(11.4)	
	Lower	46(12.4)	27(10.9)	19(15.4)	
Medical facility	Government hospital	236(63.8)	158(64)	78(63.4)	0.994
	Private hospital	122(33)	81(32.8)	41(33.3)	
	Private clinic	12(3.2)	8(3.2)	4(3.3)	

*P was tested by chi square test. **P was tested by the fisher exact test. P<0.005 is considered significant.



Table 2. Factors influencing self-medication

Parameters	Categories	No. (%)
Frequency	Regularly	17(6.8)
	Occasionally	26(10.5)
	Only at times when there are similar complaints	204(82.5)
Sources	Pharmacists	138(55.8)
	Old prescription of doctor	70(28.3)
	Friends	12(4.8)
	Family members	27(10.9)
Type of medicine	Allopathy	209(84.6)
	Ayurveda	3(1.2)
	Homeopathy	24(9.7)
	Allopathy and Ayurveda	11(4.4)
Reasons	Easy availability	156(63.1)
	Time-saving	63(25.5)
	Finance constraint	16(6.4)
	Poor service quality	8(3.2)
	Unavailability of doctors	4(1.6)
Knowledge of medicine	Dose and duration	42(17)
	Side effects	10(4.04)
	Drug interaction	7(2.8)
	Expiry date	106(42.9)
	No knowledge	82(33.1)
Common condition	Cough, Cold, Flu	79(31.9)
	Fever	33(13.3)
	Throat pain	4(1.6)
	Headache	79(31.9)
	Myalgia	52(21.05)
Side effects due to self-medication practices	Side effect	30(12.1)
	No side effect	217(87.8)



Most of the respondents were unemployed (42.7%) followed by skilled workers (22.2%). The prevalence of self-medication was found more among the unemployed fishermen (47.7%). The majority of study participants preferred government hospitals for their health ailments followed by private hospitals and clinics, but their rela-

tionship with self-medication practice was not statistically significant ($P=0.994$) (Table 1). The relationship between sociodemographic factors and self-medication practices was statistically significant ($P<0.05$).

Table 2 shows that allopathic drugs were the most common mode of self-medication (84.6%). The main source of information for self-medication was pharmacists (55.8%). The most common reason for self-medication was the easy availability of medicines in medical stores (63.1%) followed by saving time (25.5%). The most common conditions for self-medication practices were cough, cold, flu, and headache (31.9%) followed by myalgia (21.05%), fever (13.3%), and sore throat (1.6%). The majority of the population (82.5%) took self-medication only when there were similar complaints as in the past, while 6.8% indulged in regular self-medication practice. Only 17% of the respondents knew the dose and duration, 4.04% of the participants knew about the knowledge of side effects of self-medication practice, 42.9% checked the expiry date of the drug before usage and only 2.8% knew about the various drugs interactions they were using as self-medication, while 33.1% of the respondents did not know at all. About 12.1% of the study participants reported various side effects due to self-medication practice. Respondent's knowledge of the above parameters was triggered by asking direct questions or indirectly enquiring about drug use in sub-therapeutic dosages for an inadequate period, overuse of drugs, use of drugs with the potential to aggravate the existing pathology or concomitant drug use with potential interactions.

4. Discussion

We found that about 67% of the participants followed self-medication practices which is very high despite the various healthcare facilities and access to healthcare facilities compared to the study done by Selvaraj et al. [3] who showed the prevalence of self-medication for 11.9% in Puducherry's urban field practice. Our study found that women have a greater prevalence rate than men, which is similar to the previous study done in Puducherry by Priyan [4]. Our study reported a high prevalence of self-medication among graduate or postgraduates and unemployed people which is similar to a previous study by Priyan et al. [4]. Various studies have indicated that the respondent's education and occupation are the most important factors influencing their self-medication behaviour. This study showed a higher prevalence rate in the lower middle socioeconomic class. This could be due to high OPD consultation fees. In our study, the most common type of self-medication was allopathic medications (84.6%).

Similar findings were found in a study conducted among the elderly in Amravati by Jawarkar et al. [5] where allopathic medications were used among 95% of the participants. These variations in the prevalence of

self-medication from our study to other studies might be due to differences in methodology, socioeconomic, and demographic characteristics among regions, despite the consistent patterns of drug use and factors influencing self-medication. The most important source of information in our study was pharmacists who identified about 55.8%. Similarly, the study by Jawarkar et al. [5], Varadarajan et al. [6], and Taklikar et al. [7] reported this information source for 89%, 58%, and 59% respectively and stated that every consumer who approaches a pharmacy purchases medications without a prescription. Whereas, in a study conducted in a rural area by Kumar et al. [8] friends, family, and neighbours composed 32% of sources of information regarding self-medication practices. Self-medication was chosen mostly due to the nature of mild sickness, cost savings, as well as a lack of time.

Over the last two decades, the pharmacists' position has evolved and they are no longer merely providers of medicines or discoverers of pharmaceutical drugs. They are now a part of a healthcare team, whether in clinics, local pharmacies, laboratories, industrial, or educational establishments. The most common reason for self-medication in our study was the easy availability of medication in medical stores (63.1%), followed by time savings (25.5%) with financial constraints as the least reason (6.4%). Similar to a study by Jawarkar et al. [5], easy access to drugs from medical pharmacies was the most common reason for self-medication (45.75%), and also the study by Varadarajan et al. [6] that indicated financial limitations as the most common factor for self-medication (40.8%). In this study, the most common condition of self-medication was coughing, cold, flu, and headache accounting for 31.9% followed by myalgia for 21.05%, and sore throat for 1.6%. Similar to studies by Taklikar et al. [7], Jawarkar et al. [5], Varadarajan et al. [6], Kumar et al. [8], the most common conditions of self-medication were coughing, common cold, myalgia, and fever. In our study, 12.01% of side effects of self-medication were observed, which is lower than the 21.13% found in a study conducted in Pune by Keche et al. [9]. Patients' selections on allopathic medicine and supplementary pharmaceuticals used for self-medication are essential to know because easily accessible drugs are risks to the people. Self-medication has become a scary thing due to the availability of potentially dangerous medications for the majority of people uninformed of the dangers of taking painkillers and other medications at the same time. As a result, all healthcare professionals must step up their efforts to educate and counsel people on how to use medications safely and appropriately.

5. Conclusion

Self-medication practice was prevalent among 67% of urban fishermen in Puducherry. Majority of the people use self-medication for acute illness, in case of seeking emergency hospital services. The awareness of health hazards, drug resistance in prolonged self-medication practice, and regulation of pharmacies limit self-medication.

Limitations

Our study was conducted on a fishermen population in the urban area of Puducherry. Our findings, however, are not generalizable to other states in India and other countries due to differences in socioeconomics, health-seeking behaviours, and pharmacy sales procedures.

Recommendations

Puducherry's governing agencies are required to classify medications regularly according to their safety to implement stricter rules. Consumers should have access to information about each drug and be informed of the risks associated with self-medication practices. Self-medication must be addressed by the Ministry of Health and Family Welfare to make the expenses of a private doctor's consultation affordable and acceptable to the public. To achieve universal health coverage, efforts should be taken to expand health insurance services.

Ethical Considerations

Compliance with ethical guidelines

The research was started after obtaining Institute Ethics Committee clearance (Code: AV/IEC/2021/015) and written informed consent was obtained before collecting information from the participants. The privacy and confidentiality of our study participants were secured (Research Code: RR-015).

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Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declare no conflict of interest.

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