

Prevalence Of Self - Medication Practices And Its Associated Factors In An Urban Area Of Kancheepuram District, Tamilnadu

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ABSTRACT

Self-medication is defined as procuring and utilizing drugs for diagnosing, treating or preventing disease or for promoting health. It can also be defined as the consumption of non- prescription drugs on the user's own initiative. If practiced appropriately, self-medication (SM) has a lot of advantages. However indiscriminate use of these drugs leads to risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interactions and polypharmacy owing to a dearth of knowledge about the right dose, adverse effects and interaction with other drugs or components of food, all of which will have serious implications for the individuals consuming them. Self-medication is associated with increased resistance to pathogens. Self-medication is identified to be one of the most important cause of antibiotic resistance.

METHODOLOGY:

A cross sectional descriptive study was carried out in the field practice area of Urban Health training centre of Sree Balaji Medical College and Hospital by interview using a structured questionnaire among 440 consenting individuals aged 18 years and above selected using simple random sampling method.

RESULTS:

56.6% reported to have used medications without reaching out to a health care provider. Out 19.3%) knew what type of medicine they were taking, 33.3% knew about the medication but were unsure. 4% of participants were completely unaware of the medicines they took. Significant association was found among socio demographic characteristics with higher prevalence seen among employed participants, married participants, participants from joint family and lower socioeconomic status.

INTRODUCTION:

Self-medication is defined as procuring and utilising drugs for diagnosing, treating or preventing disease or for promoting health. It can also be defined as the consumption of non-

prescription drugs on the user's own initiative.¹ If practiced appropriately, self-medication (SM) has a lot of advantages. The drugs that are meant to be treating the patients become more accessible to them and also lets the patient play a dynamic part in taking care of his/her own health. The most important benefit though is the reduction of strain on the already overburdened governmental healthcare systems and reduction in health expenditure towards treatment of minor ailments.² Even WHO, in fact promotes the practice of self-medication for quick relief and reduced pressure on the health care system and resources that can in turn spare more for management of other grave health problems. But even with all these benefits, self-medication practices if unregulated can lead to a whole plethora of problems. Over the counter drugs are proven to be safe and efficacious for use as a self-medication. However indiscriminate use of these drugs carries its own oodles of risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interactions and polypharmacy owing to a dearth of knowledge about the right dose, adverse effects and interaction with other drugs or components of food, all of which will have serious implications for the individuals consuming them. These hazards are amplified in the extremes of age and special physiological states like pregnancy and lactation.^{3,4} Self-medication is associated with risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, wastage of resources, and increased resistance to pathogens.⁵ Self-medication is identified to be one of the most important cause of antibiotic resistance.⁶ Pathogens all over the world are becoming more and more resistant to existing antibiotics expeditiously. This is unmatched by the discovery of newer antibiotics as it is not lucrative for the pharmaceutical companies which prefer developing drugs that are meant for use in chronic diseases. This has already started to impair our ability even to treat common infections. A WHO report states that in settings where antibiotics can be bought without prescription the incidence of antibiotic resistance is higher. Antibiotic resistance can't be blamed solely on misappropriate use by humans; it can occur naturally as a part of evolution. But we can say that the tactless, out of place usage is accelerating the process of resistance.⁷ When resistance develops for the commonly used first line antibiotics then the management of even common infections become arduous. This leads to increased duration of morbidity and increased treatment duration, often given in hospitals that in turn increase the health care costs and economic burden on the families and societies. In short antibiotic resistance puts all of the accomplishments of modern medicine in jeopardy. Without effective antibiotics for preventing and treating infections in the course makes procedures like organ transplantations, chemotherapy, caesarean sections etc. that are comparatively safe; unsafe.⁷ Bearing in mind that antibiotic resistance is burgeoning as a colossal problem in the face of modern medicine and reckless self-medication being one of the most important contributing factor to development of resistance, this study was carried out among the adult population of a rural area of Kancheepuram district to find out the prevalence of self-medication practices and assess the level of awareness about antibiotic resistance in this population with an intention to find out the various factors that motivate these people to take self-medication.

METHODOLOGY:

Study design:

This is a cross sectional descriptive study carried out in UHTC of Sree Balaji Medical college hospital, Kancheepuram, Tamilnadu.

Study population:

Anyone aged above 18 years residing in Anakaputhur area of Kancheepuram district and who are willing to participate in the study.

Study period: 1 st March to 5 th May 2019.

Study area:

Field practice area of Urban Health and Training centre(UHTC), Anakaputhur of Sree Balaji Medical College and Hospital(SBMCH), Kancheepuram district.

Sample size: [8]

The sample size is 440. Calculated using the formula $n = \frac{4pq}{L^2}$ where $p = 51.7\%$ (from a study conducted among adults aged 18 years and above) $q = 48.3\%$, $L = 5\%$ with a non-response rate of 10% at 95% confidence and 5% level of significance.

Sampling method:

Simple random sampling method.

Inclusion criteria:

Anyone aged 18 years and above in Anakaputhur (urban area) were included in the study.

Exclusion criteria:

Anyone <18 years and those aged 18 years and above who didn't give consent to participate in the study were excluded.

Data collection:

Data was collected using a pretested questionnaire which includes socio-demographic details, self-medication practices which was filled by the investigator during interview with the participants for a duration of 3 months from March to May 2019.

Statistical analysis:

Data entry was done in Microsoft excel and analysis was carried out in SPSS 22.

Ethical clearance and informed consent:

The study was carried out after obtaining approval from the institutional Ethical Committee of Sree Balaji Medical and Hospital, Chrompet. The participants were briefed about the purpose of the study and informed consent was obtained prior to the data collection.

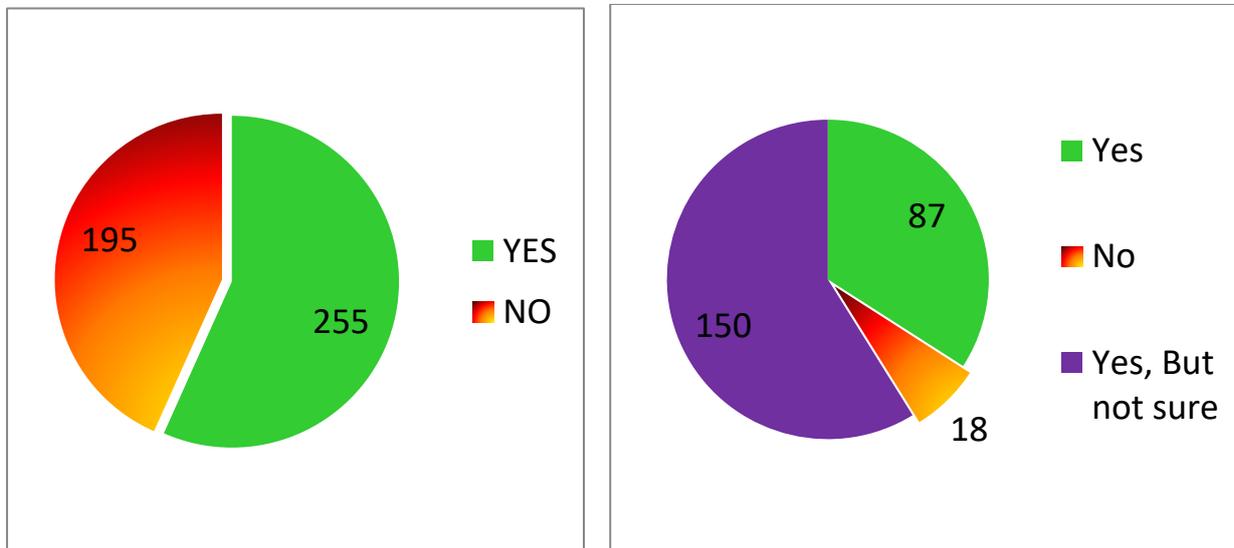
RESULTS:

Out of 450 participants who took part in the study, 128 (28.4%) were between 18- 29 years of age and 123 (27.3%) were between 40-49 years of age. 232 (51.6%) were females and 218 (48.4%) were males. 156 participants (34.7%) were graduates, 79 participants (17.6%) were post graduates and professionals. 9 participants (2%) were illiterate, while 34 participants (7.6%) had primary education, 60 participants (1.3%) had secondary education and 112 participants (24.9%) had higher secondary education. For this study we categorized the 450 participants based on occupation into employed, unemployed, retired and students. 296 participants (65.8%) were employed in some kind of occupation while the rest were retired people, students or unemployed. 189 participants (42.4%) were Hindus, 252 participants () were married, 297 participants (66%) were from nuclear families. Out of 450, 201 participants (44.7%) belonged to Socio Economic class I and 165 (36.7%) belonged to Class II According to Modified BG Prasad Classification. 305 participants (67.8%) claimed to make independent financial decisions.

| Characteristics | | Frequency N=450 | Percentage % |
|---------------------------|---|--------------------|--------------|
| Age | 18-29 | 128 | 28.4 |
| | 30-39 | 86 | 19.1 |
| | 40-49 | 123 | 27.3 |
| | 50-59 | 78 | 17.3 |
| | ≥60 | 35 | 7.8 |
| Gender | Male | 218 | 48.4 |
| | Female | 232 | 51.6 |
| Educational Qualification | Illiterate | 9 | 2 |
| | Primary | 34 | 7.6 |
| | Secondary | 60 | 13.3 |
| | Higher Secondary | 112 | 24.9 |
| | Graduate | 156 | 34.7 |
| | Post Graduate/ Professional | 79 | 17.6 |
| Occupation | Employed | 296 | 65.8 |
| | Retired | 33 | 7.3 |
| | Student | 44 | 9.8 |
| | Unemployed | 77 | 17.1 |
| Religion | Hindu | 189 | 42 |
| | Christian | 182 | 40.4 |
| | Muslim | 70 | 15.6 |
| | Others | 9 | 2 |
| Marital Status | Single | 172 | 38.2 |
| | Married | 252 | 56 |
| | Widowed/ Divorced | 26 | 5.8 |
| Type Of Family | Joint | 144 | 32 |
| | Nuclear | 297 | 66 |
| | Living Alone/ With Unrelated Roommates | 9 | 2 |
| Socio Economic Class | I | 201 | 44.7 |
| | II | 165 | 36.7 |
| | III | 17 | 3.8 |
| | IV | 42 | 9.3 |
| | V | 25 | 5.6 |

When probed into the use of self-medication in the past 3 months, 255 participants 56.6% reported to have used medications without reaching out to a health care provider. Out of these 255 participants who have taken self-medication in the past 3 months only 87 participants (19.3%) knew what type of medicine they were taking, 33.3% knew about the

medication but were unsure. 4% of participants were completely unaware of the medicines they took. Assuming that the people who were unsure about the medications to have little knowledge about medications consumed the total number of participants with the knowledge about the medication consumed is 237.



| SELF MEDICATION USE | FREQUENCY N= 450 | PERCENTAGE % |
|---------------------------------------|---------------------|--------------|
| YES | 255 | 56.6 |
| NO | 195 | 43.3 |
| KNOWLEDGE ABOUT TYPE OF MEDICATION | FREQUENCY N= 255 | PERCENTAGE % |
| Yes | 87 | 34.1 |
| No | 18 | 7.05 |
| Yes, But not sure | 150 | 58.8 |

| Characteristics | | Total N= 450 | Participants practicing self- medication | | Chi- square | p- value | Odd's ratio | 95% CI |
|-----------------|--------|--------------------|--|-------|----------------|-------------|----------------|---------------|
| | | | number | % | | | | |
| Gender | Female | 232 | 140 | 60.3 | 2.638 | 0.104 | 1.36 | 0.937 – 1.981 |
| | Male | 218 | 115 | 52.7 | | | | |
| Age | 18-29 | 128 | 52 | 40.62 | 29.997 | 0.000* | | |
| | 30-39 | 86 | 44 | 51.16 | | | | |
| | 40-49 | 123 | 88 | 71.54 | | | | |
| | 50-59 | 78 | 53 | 67.94 | | | | |

| | | | | | | | | |
|----------------------------------|------------------------------------|-----|-----|-------|---------|---------|-------|---------------|
| | ≥60 | 35 | 18 | 51.42 | | | | |
| Educational qualification | illiterate | 9 | 131 | 60.9 | 3.0477 | 0.080 | 1.396 | 0.959- 2.031 |
| | School education | 206 | | | | | | |
| | College education | 235 | 124 | 52.7 | | | | |
| Occupation | Employed | 296 | 184 | 62.1 | 10.6377 | 0.0011* | 1.92 | 1.294 – 2.849 |
| | Unemployed/ Student/ Retired | 154 | 71 | 46.1 | | | | |
| Marital status | Married | 252 | 159 | 63 | 9.63 | 0.0019* | 1.81 | 1.244 – 2.651 |
| | single | 198 | 96 | 48.4 | | | | |
| Type of family | Joint | 144 | 60 | 41.6 | 19.40 | 0.0000* | 2.45 | 1.640 – 3.687 |
| | nuclear | 306 | 195 | 63.7 | | | | |
| Socio Economic status | Class I and II | 366 | 220 | 60.1 | 9.463 | 0.0021* | 2.10 | 1.303 – 3.414 |
| | Class III, IV, V | 84 | 35 | 41.6 | | | | |

There was no significant association between gender ($P= 0.104$), educational qualification ($P= 0.080$) and use of self-medication. Significant association was found between *employment status of participants* with employed participants 1.92 times more likely to use self-medication than students, retired or unemployed individuals ($P= 0.0011$), *marital status* with married participants 1.81 times more likely to use self-medication ($P=0.0019$), *type of family* with participants from joint family 2.45 times more likely to use self-medication ($P= 0.000$), *socio economic status* with participants from relatively lower socio economic class 2.1 times more likely to use self-medication ($P= 0.0021$) and *financial decision making* with participants who are relatively independent in making financial decisions 1.65 times more likely to use self-medication ($P= 0.0133$).

The 255 participants who have used self-medication in the past 3 months were probed to see the ailments for which they have used self-medication, the reason for choosing self-medication over seeking a health care provider's advice and the source of information for using self-medication. 222 participants out of 255 participants (87%) used self-medication for treating fevers, 212 participants (83.1%) for common cold/ sore throat, 151 participants (59.2%) for aches and pain in the body. 150 participants (58.8%) of the 255 self-medication users chose not to see a doctor due to lack of time, 89 participants (34.9%) chose self-medication as they didn't perceive their problem to be big enough to seek a doctor's help, 79 participants (30.9%) chose self-medication because they had difficulty in travelling to see a doctor, 63 participants (24.7%) chose self-medication due to financial constraints. Other reasons for choosing self-medication were because the participants knew what medications would cure their ailments (3.9%) and because their friends or family members persuaded them to self-medicate (3.5%). Regarding source of information about self-medication, 150 participants (58.8%) received information from the pharmacist, 123 participants (48.2%) used doctor's old prescription and 113 (44.3%) received information from family and friends. Participants also reported receiving information from media, online resources, friends and family members. Out of the 255 who took self-medication only 237 participants seemed to have knowledge about the type of medication they consumed. When these 237 participants were asked about the type of medication they consumed it was observed that the most

commonly consumed drug for self-medication is paracetamol (78.4%), analgesics (63.2%) and antibiotics (48.5%). Others commonly used drugs for self-medication are cough syrups, cetirizine and other anti-inflammatories, antacids, Ayurveda medications, anti hypertensives and oral hypoglycemics.

| Ailments for consumption of self-medication | Frequency N= 255 | Percentage |
|---|-------------------------|--------------------|
| Fever | 222 | 87 |
| Aches and pains | 151 | 59.2 |
| Common cold/ sore throat | 212 | 83.1 |
| Diarrhea/ vomiting/ abdominal pain | 63 | 24.7 |
| General wellness/ weight loss | 40 | 15.6 |
| Others | 70 | 27.4 |
| *The percentages are non-additive as one participant may give history of consumption of drugs for more than one ailment on more than one occasion | | |
| Reason for preferring self-medication over seeing a physician | Frequency N= 255 | Percentage |
| Difficulty to travel | 79 | 30.9 |
| Lack of time | 150 | 58.8 |
| Didn't perceive it as a big problem | 89 | 34.9 |
| Financial constraints | 63 | 24.7 |
| Friends/ family suggestions | 9 | 3.5 |
| Knew medicines themselves | 10 | 3.9 |
| The percentages are non-additive as one participant may give history of consumption of self-medication for more than one reason | | |
| Source Of Information For Taking Self-Medication | Frequency N=255 | Percentage |
| Doctor's old prescription | 123 | 48.2 |
| Own experience | 53 | 20.7 |
| Pharmacist | 150 | 58.8 |
| Friends or family | 113 | 44.3 |
| Media or online resources | 78 | 30.5 |
| *The percentages are non-additive as one participant may have received information from more than one source | | |
| Type Of Medication | Frequency N=237* | Percentage* |
| Paracetamol | 186 | 78.4 |
| Cetirizine | 71 | 29.9 |
| Cough syrups | 124 | 52.3 |
| Analgesics | 150 | 63.2 |
| Antacids | 43 | 18.1 |
| Antibiotics | 115 | 48.5 |
| Ayurveda medications | 18 | 7.5 |
| Diabetic medications | 9 | 3.7 |
| Anti-hypertensives | 17 | 7.1 |
| Others | 45 | 18.9 |
| *N=237 because only 237 out of 255 participants who consumed self-medication seemed to know what medication they took. | | |
| *The percentages are non-additive as one participant may give history of consumption of more than one type of medication. | | |

DISCUSSION:

The present study revealed that the prevalence of self-medication among the urban population of Kancheepuram district is 56.6% which is comparable to the study done by Gayathri S, Kokila Selvaraj et al where the prevalence of self-medication in a rural area of Kanchipuram district to be 58.4% in the year 2017. [8] Vinithra Varadarajan, Christina Mary P. Paul et al., carried out a similar study where the overall prevalence of self-medication use was found to be 51.7% in a Chennai based population. [9] The findings obtained by Dnyanesh Limaye et al. in a study done in urban areas of Maharashtra where prevalence of self-medication use was found to be 29.1%. [10] Another study conducted in Chennai by Ganesh N, Subramanian S et al., the prevalence of self-medication was found to be 39.1%. [11] Review of other similar literature reveals prevalence and pattern of self-medication practices vary widely and comparisons are unworkable due to variations in data collection methods and difference in recall period. Out of the 255 participants, 92.9% seemed to have some awareness about what kind of medication they consumed as self-medication. When compared to a study done by Vinithra Varadarajan et al., [9] among participants using self-medication only 81.7% of them reported having some knowledge about the medication they consumed. This difference can be due to the fact that the proportion of participants having graduate or post graduate education was higher in the present study than in the other study which might be the reason for the higher awareness about medicines.

Our study reveals that there is no significant association between gender and self-medication use. The study done by Vinithra Varadarajan et al., [9] revealed the same result. Our study reveals that the prevalence of self-medication use is higher in age group 40-49 and 50- 59 years of age. And this finding is statistically significant and similar to the findings of study done by Vinithra Varadarajan et al which states that self-medication practices are more among participants above 35 years of age. This can be attributed to the fact that in this age group people trivialize most health issues that they might have and hence they don't perceive their health issues to be big enough to seek professional medical attention and hence they turn to self-medication.

Our study reveals that contrary to popular belief there is no significant association between educational qualification and self-medication practices. The same results were obtained from the study done by Hajira Saba I et al. in Bengaluru [3] and Vinithra Varadarajan et al. in Chennai. This goes on to show that treatment seeking behaviour, particularly for common diseases is mostly inconsequential with regard to education. That is, irrespective of the educational status, a person will continue to use self-medication if they don't perceive their health issues as a problem big enough to spend their time to seek professional medical attention.

Our study reveals that prevalence of self-medication is higher among employed participants than unemployed participants. Similar studies done by Hajira Saba I et al in Bengaluru revealed a similar result with prevalence of self-medication being lower in unemployed participants. Due to difference in classification of occupations across literature accurate comparisons couldn't be made. The relatively higher prevalence of self-medication among employed population can be due to the fact that seeking medical attention can demand time and possible loss of work days leading to reduced income which might explain their

inclination to self-medication. The lower prevalence of self-medication in unemployed population can also be the reduced purchasing power of this subset of population.

Our study reveals that the prevalence of self-medication is higher among participants who are married than single participants. In the study done by Dnyanesh Limaye et al. [10] married participants seem to be more indulgent in self-medication use than single participants. The reason might range anywhere from wanting to save money spent on health care to not having enough time.

Our study also reveals that prevalence of self-medication is higher in joint families in comparison with nuclear families. This can be due to various reasons. The participants from nuclear families might be unable to seek medical care and may lean on self-medication because of the lack of family support as most of the time the burden of tending to the family falls on just one or two people while in a joint family the burden can be shared among other family members.

Our study reveals that participants belonging to socio economic classes I and II (lower socioeconomic classes) are more commonly indulging in self-medication practices than the economically affluent. This is in sharp contrast to the findings in the study done by Gayathri S et al. in Kanchipuram. [8] This can be attributed to the fact that losing wages is sometimes a risk that these people have to take when they choose to seek medical care hence they turn to self-medication.

The most common ailments for which people took self-medication in the present study is fever and common cold. This is consistent with the findings of the study done by Kumar V et al the participants mostly quoted the above mentioned reasons as the commonest ailments for using self-medication. [5]

The commonest reason for which participants sought self-medication was lack of time to seek medical care. The other common reasons are the fact that the participants didn't perceive the ailment as a problem big enough to seek medical care and travelling difficulty. The study done by Nagarajiah BH et al also revealed that participants chose self-medication over profession medical care mostly because the thought the illness to be minor or they wanted to save time. [12]

The commonest source of information regarding what medicine to take in the present study was the pharmacist and old prescriptions given by doctors. Similar findings were obtained in a study done by Manish Jain et al where the commonest sources of information were the pharmacist and doctor's old prescription. [1]

The most commonly used drugs in self-medication are paracetamol, other analgesics and cough syrups similar to the study done by Manish Jain et al. were the most commonly used drugs for self-medication is paracetamol and other NSAIDs. Apart from this a considerable chunk of participants (48.5%) use antibiotics and even though not as high studies done by Manish Jain et al. and Kumar et al reveal that a considerable number of participants consume antibiotics groundlessly without professional medical advice to do so for which further research is required. [1,5].

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