

1 **Original Research Article**
2 **Tendency of Self-Medication among Various**
3 **Malaysian Ethnicities**

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6 **ABSTRACT**
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Aims: Self-medication has been observed in all kinds of societies regardless of region, religion, ethnicity and socioeconomic status. It is practiced by individuals as part of self-care for preventing or curing diseases. The main objective of this study is to assess the number of individuals involved in usage of over the counter drugs in Malaysia; as well as to assess if certain races in Malaysian population are more inclined towards the use of medication without prescription.

Study design: Cross sectional descriptive study

Methodology: A number of patients selected randomly from the outpatient department of SEGi University hospital, Malaysia participated in the study. Data was collected using a simple questionnaire. A total of 315 patients (166 male and 159 female) participated in the research and completed the designed questionnaire (Figure 1). The data collected was analyzed statistically using SPSS 20.0; appropriate statistical tests (Chi-Square and Fisher exact test) were applied. The *P value* (<0.01) was considered significant.

Results: In total, self-medication was practiced by 16.2% of participants. The trend was slightly higher in males (9.2%) than female participants (6.99%). Regarding ethnicity, the highest tendency was reported by patients of Indian origin. In Malaysian population, herbal medications were the most popular (66.66%), for the purpose of self-medication followed by allopathic drugs (22.22%). Considering the types of allopathic medications, oral analgesics remain the most popular drug (60.56%) for self-medication among patient of all ethnicities.

Conclusion: In conclusion, the trend of self- medication is not very popular in Malaysians but still it has been practiced by individuals occasionally.

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9 *Keywords: Herbal medication; Oral analgesics; Self-care*
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12 **1. INTRODUCTION**
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14 Medications are needed to overcome disease process either to cure the active diseases or
15 for the prevention. Medications can be prescribed by the healthcare professionals
16 (medicines on prescription) or individuals may have self-medication. The use of medication
17 by an individual for the treatment of self-diagnosed or un-diagnosed symptoms is termed
18 "self-medication" [1]. Hence, medication is used without consultation from a doctor or health
19 professional [2]. Usually, the individuals purchase medicines over the counter (without
20 prescription). Self-medication has been observed in all kinds of societies regardless of
21 region, religion, ethnicity and socioeconomic status. Self-care is defined as an ability of
22 individuals to take care effectively [3]. It is considered as person's aptitude for the
23 establishment of a healthy life style as well as prevention of diseases. In addition to health,
24 nutrition, lifestyle, socioeconomic and environmental factors; self-medication is also
25 considered as one of the methods of self-care [4, 5].

26 The era of 1980's observed an increase in the phenomenon of self-medication when the
27 World Health Organization (WHO) approved some drugs to be altered from prescription
28 status to the ones sold without prescription. It was done with an aim to reduce the burden on
29 Health care Professionals and shifting the cost from health authorities to the consumers [6,
30 7]. Mostly minor illnesses alongside prolonged waiting time in hospitals in addition to reduce
31 cost are one of the many factors responsible for an increase in self- medication [8-10]. For
32 example, the most profound symptom with which the patient presents in dentistry is fear,
33 pain and anxiety [11, 12]. It is often in the knowledge of dentists that patients in pain often
34 take pain killers on their own to treat themselves. They do it with a perception that it will save
35 them from a visit to a dentist. In addition, antibiotics are routinely used in combination with
36 analgesics. It has resulted in development of problems like toxic drug effects, interaction
37 between medicines, increase cost of treatment and resistance of drugs to function optimally
38 on pathogens.

39 The main beneficiaries of using drugs without prescriptions are the pharmacist. Self-
40 medication has always remained a burning issue amongst health care professionals.
41 Dispensing of drugs without prescription must be stopped by employing all the measures
42 available in term of drug dispensing regulations globally to minimize the harm of self-
43 medication [13]. The main objective of this study is to assess the number of individuals
44 involved in usage of over the counter drugs in Malaysia; as well as to assess if certain races
45 in Malaysian population are more inclined towards the use of medication without
46 prescription. In addition, this study was to ascertain and enlighten different Malaysian
47 ethnicities about the detrimental effect of self-medication.

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49 **2. MATERIAL AND METHODS**

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51 The current research is a quantitative and preliminary study that was conducted on patients
52 visiting the out-patient department at SEGi Oral Health Centre, Malaysia. In order to collect
53 the patient's data, a simple questionnaire was used [14]. The questionnaire was comprised
54 of two major sections: Section 1: sought information on the socio demographic data of
55 respondents such as age, gender, marital status, level of education, socio-economic status
56 and place of residence. The section 2 was pertinent to information on health seeking
57 behavior and self-medication practice by respondents including the types of medications,
58 duration, frequency and the recommendation source of self-treatment. The purpose of
59 research and its potential outcome was explained in detailed to each respondent and an
60 informed consent was obtained for participating in the research. Questions related to
61 reasons leading to self-medication alongside their side effects if any were also asked from
62 respondents.

63 A total of 340 patients were randomly selected from the out-patient department at SEGi Oral
64 Health Centre, Malaysia. Twenty five patients refused to sign the consent and participate in
65 the research. A total of 315 patients (166 male and 159 female) participated in the research
66 and completed the designed questionnaire (Figure 1). The data collected was analyzed
67 statistically using SPSS 20.0; appropriate statistical tests (Chi-Square and Fisher exact test)
68 were applied. The *P value* (<0.01) was considered significant.

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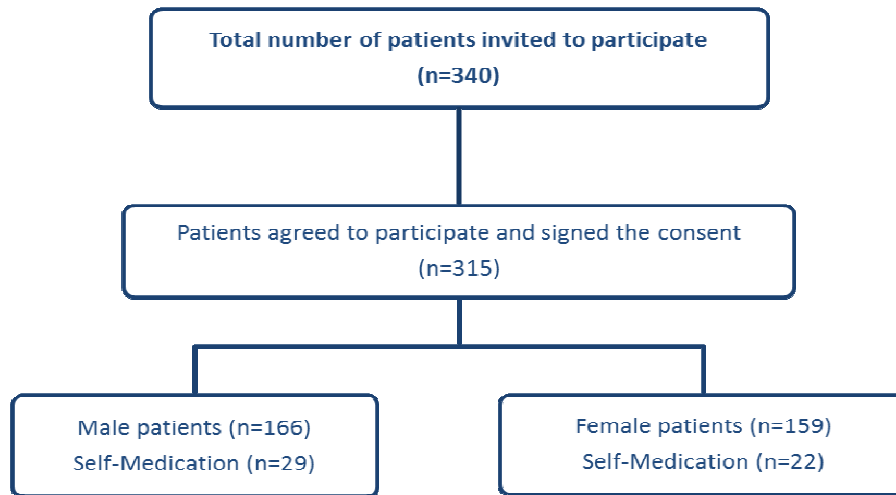
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Fig. 1. Number of patients participants in the research and self-medication users

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3. RESULTS AND DISCUSSION

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The patients of various age groups were included randomly in the study. The majority of patients (n=189) fall in the age group 20-29 Years, followed by patients age group 15-19 years. As the main focus of this study remain to assess the tendency of self-medication among different Malaysian ethnicities. In general, 16.2% of participants reported the use of self-medication. The trend was slightly higher in males (9.2%) than female participants (6.99%). Among the self-medication users, the highest tendency (50%) was reported by patients of Indian origin (Figure 2). The self-medication in patients of Malay origin (11.11%), Chinese (15.79%) and other ethnicities (15.38%) was significantly lower than Indian patients ($P < 0.01$). Considering the education level of the participants, the students reported significantly higher tendency (~20%) of self-medication compared to the working community (~7%). The graduate student had the highest tendency (21.43%) of self-medication among the students of various academic levels (Figure 3). It was followed by secondary school students (16.66%) and 7.14% of post-secondary students ($P < 0.01$).

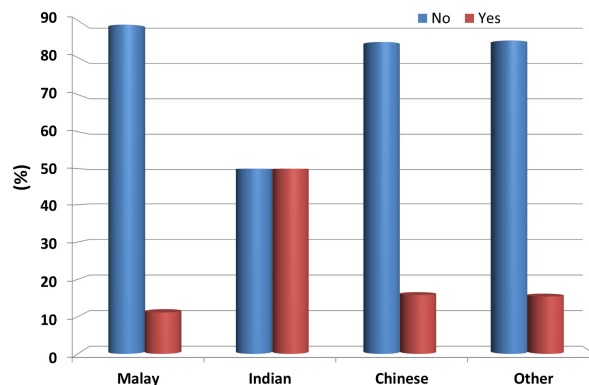
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105 **Fig. 2. Tendency of using self-medication among various Malaysian ethnicities**

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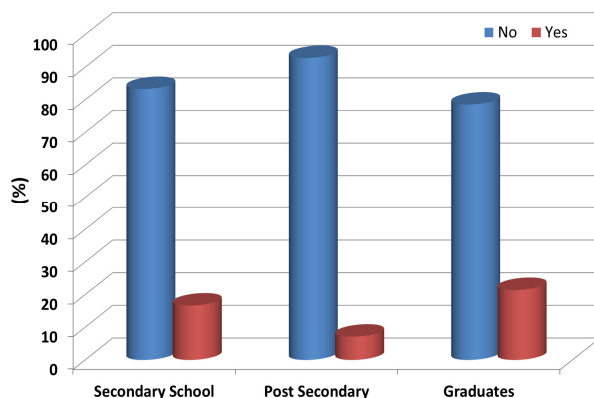
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114 **Fig. 3. Tendency of self-medication in relation to education level**

115 In terms of type of medications used; a very clear trend was observed in the Malaysian
 116 population (Figure 4). There was the highest tendency for using the herbal medications
 117 (66.66%), followed by allopathic drugs (22.22%) and homeopathic medicines (11.11%).
 118 Considering the types of allopathic medications, oral analgesics remain the most popular
 119 drug (60.56%) for self-medication among patient of all ethnicities followed by other types of
 120 oral medications (27.24%). Only 12.11% patients reported use of topical medicines for self-
 121 medication. Answering the question, "what is frequency of using the self-medication",
 122 67.13% answered rarely (Figure 5), 23.78% on monthly basis and only 9.09% reported using
 123 self-medication on daily basis.

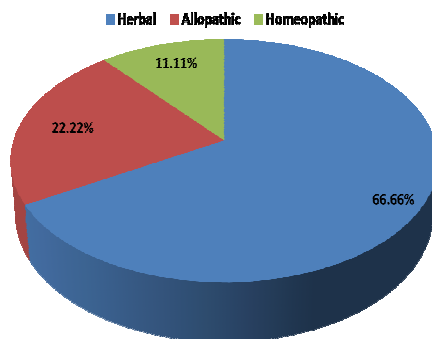
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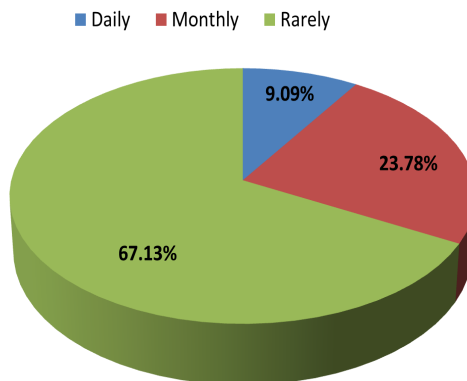


129 **Fig. 4. Types of medicines and their tendency for being used as self-medication agent**

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133 **Fig. 5. Frequency of using self-medication as reported by various patients**

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135 A significantly lower tendency towards self-medication was observed among individuals who
136 participated in this study. In terms of gender, males were found to be more inclined towards
137 self-medication than the female counterparts. The most common reason attributed to this
138 behavior by males was lack of timing. General lack of motivation to get themselves checked
139 by health care personals also contributed to the habit of self-medication. **In contrast, females**
140 **were reported to be more inclined to self-medication; 47% of Mexican women [15], and**
141 **61.9% of females in Nigeria [16].** In developing countries socio-economic factor is the chief
142 reason for self-medication. Due to high poverty in African regions, females restore to the use
143 of drugs without prescription as it saves them from paying physician/dentist consultation
144 fees.

145 Middle aged individuals were also found to be more inclined to self-medication in
146 comparison to teenagers. It is primarily attributed to lack of time on part of middle aged
147 people. A significant influence of ethnicity among Malaysian population was found towards
148 self-medication. People belonging to Indian race were mostly found to involve themselves in
149 self-medication. It was followed by individuals belonging to Malay and Chinese races. It can
150 be attributed to the fact that Indian populations have greater believes in alternative medicine.
151 Herbal medicines are more commonly used self-medications among Malaysian populations.
152 The use of herbal medicine among Chinese stems from the source that most of the Chinese
153 population has been self-medicating themselves with herbal drugs for over generations on
154 the recommendation of their ancestors. A referral from a friend or family member for using
155 some articular herbal medicine is also very common among races of subcontinent.

156 The academic qualification of the patient reflects that 21.43% of graduates were using self-
157 medication that is significantly lower than reported tendency of self-medication in other
158 countries for example Egypt (52.5%), India (26%) and in Sir Lanka (83.3%). A general belief
159 among graduate patients was that medicines are an effective tool for alleviating dental pain
160 hence there is no need to visit a dentist [17]. The drug most commonly used for self-
161 medication by respondents was oral analgesics. It is used either alone or concomitantly with
162 antibiotics. Health benefits of fluoride are well known for oral health [18-20]. Fluoride
163 containing products (tooth pastes, mouthwashes, salts) are available over the counter and
164 have a potential to attract public for self-medication. The combination of drugs is used with a
165 notion that pain will alleviate at a faster pace as compared to using a single drug. Afolabi et
166 al. conducted a similar study in Nigeria and they also found out similar inclination of patients
167 towards usage of oral analgesics (55.1%) alone whereas 27.3% were using antibiotics
168 concomitantly with oral analgesics [21]. The antibacterial agents are commonly used in
169 dentistry [22]. However, the misuse of antibiotics and their unwanted effects are very well
170 known. Antibiotics are used commonly without the consultation of health care professionals
171 [23]. For example, it has been reported in a previous study [23] that 28% patients misuse
172 antibiotic for alleviating the pain while 51% use antibiotics on the advice of their friends. It
173 is also pertinent to note that a signification ratio of Malaysian population was practicing self-
174 medication on a rare basis and not using them regularly. The daily user of self-medication
175 are as low as 9% reflecting that majority of patients are not depending on self-medications
176 for proper continuous treatment and attend physicians on regular basis.

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178 **4. CONCLUSION**

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180 The issue of self-medication has not attracted much attention from the authorities
181 concerned. It is important to note that although the trend of self- medication is not very

182 popular in Malaysia but still it has been practiced by individuals occasionally. The reasons
183 cited could range from lack of time to financial constraints or familial pressures. Regulatory
184 authorities and health care professionals must highlight the drawbacks of self-medication. All
185 possible means of transfer of message must be used be it electronic or print media. In era of
186 today social media can act as a valuable tool to disseminate information about the harmful
187 effects of self-medication. Stringent rules must be put in place by authorities to reduce over
188 the counter sale of drugs. More public awareness programs should be organized at all levels
189 in general and schools in particular to highlight about the hazardous effects of practicing self-
190 medication. It is suggested that medical stores must be managed by a qualified pharmacist
191 who can advise the patients about the safety of the drug they are buying and forewarn them
192 too about its hazardous effects.

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195 **CONSENT**

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All authors declare that 'written informed consent was obtained from all participants.

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200 **ETHICAL APPROVAL**

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All authors hereby declare that all experiments have been examined and approved by the
appropriate ethics committee and have therefore been performed in accordance with the
ethical standards laid down in the 1964 Declaration of Helsinki.

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262 DEFINITIONS, ACRONYMS, ABBREVIATIONS

263 **Herbal Medicine:** A plant (or part) used for therapeutic benefits.

