Self-medication and non-doctor prescription practices in Pokhara valley, western Nepal: a questionnaire based study

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Abstract:

Background: Self-medication and non-doctor prescribing of drugs is common in developing countries. Complementary and alternative medications, especially herbs, are also commonly used. Studies on the use of these medications in the Pokhara valley, western Nepal are lacking. Hence the present study was carried out in the first fortnight of August 2001. Methods: The study was carried out on 142 respondents by previously briefed seventh semester medical students using a semi-structured questionnaire. Demographic information and information on drugs used for self-medication or prescribed by a non-allopathic doctor was collected. Results: Seventy six respondents were aged between 20 to 39 years. Majority of the respondents (71.8 %) stayed within 30 minutes walking distance of a health post/medical store. 59.1 % had taken some form of self-medication in the 6 month period preceding the study. The common reasons given for self-medication were mild illness, previous experience of treating a similar illness and non-availability of health personnel. 70.4 % of respondents were prescribed allopathic drugs by a non-allopathic doctor. The compounding and the health assistant were common sources of medicines. Paracetamol and antimicrobials were the drugs most commonly prescribed. A significantly higher proportion of male respondents and young (<40 years) respondents had used self-medication. Conclusions: Self-medication and non-doctor prescribing are common in the Pokhara valley. In addition to allopathic drugs, herbal remedies were also commonly used for self-medication. Drugs especially antimicrobials were not taken for the proper time duration. Education to help patients decide on the appropriateness of self-medication is required.
**Background:**

In economically deprived communities most episodes of illnesses are treated by self-medication[1,2]. In Nepal due to the hilly terrain, the poor socioeconomic status, the high cost of modern medicines and non-availability of doctors in rural areas there are difficulties in accessing modern health care. Drug retail shops frequently serve as the publics’ first point of contact with the health care system[3]. Due to the varying topography and climatic zones ranging from the plains of the ‘terai’ to the alpine grasslands a variety of herbs and medicinal plants are found in Nepal and play an important role in self-medication[4].

In India, another south Asian country with economic and cultural similarities with Nepal, pharmacists and pharmacy attendants play an important role in fostering self-medication among the public[5]. Combination preparations containing ‘hidden’ classes of drugs and food supplements and tonics of doubtful value were found to be commonly used in India[6]. Similar results have been reported from studies in other developing countries[7,8]. Information on self-medication practices in Nepal outside the Kathmandu valley are lacking.

Non-doctor prescribing of medicines is also common in developing countries[1,2]. A doctor in the study is defined as someone who has obtained a Bachelor of medicine and bachelor of surgery (MBBS) degree in allopathic medicine. In Nepal certified health assistants (CHAs) and community health volunteers (CHVs) carry out preventive and curative health activities in the rural areas[9]. Complementary and alternative medicine (CAM) practitioners are found in both the rural and urban areas[4]. They occupy an important place in the village community. ‘Compounders’ who have worked for some time under practitioners in cities and have now set up their own clinic, CHAs and medical shop owners are easily accessible sources of health care in the rural areas.

Studies on self-medication patterns and the prevalence of non-doctor prescribing in the Pokhara valley are lacking. So the present study was carried out in the month of August 2001 in Pokhara sub-metropolitan city and the surrounding villages. A high prevalence of self-prescribing and non-doctor prescribing was observed in the study population.
Methods:

The study was carried out on 142 respondents using a semi-structured questionnaire by seventh semester medical students who were briefed beforehand. The name, address, age, sex, ethnicity, distance from the nearest road head and distance from the nearest health post/medical store were noted. The respondents were classified as urban or rural. Information regarding the type of medication, illness for which the medication was used and reason for not consulting a doctor was collected for both self-medication and the prescription of allopathic drugs by a non-allopathic doctor. The pattern of drug use over a six month period preceding the study was noted. In case of drug prescription by a non-allopathic doctor, details about the practitioner and the duration of therapy was also noted. Differences in the proportion of patients taking self-medication and non-doctor prescribed medications between the urban and rural respondents, and depending on the age group of the respondents were analysed using the z test of proportions. A p value of <0.05 was taken as statistically significant. Differences in the pattern of drug use between the sexes was also analysed using the z test (p<0.05). The study was approved by the institutional review committee of the Manipal teaching hospital, Pokhara.
Results:

One hundred and forty two respondents were covered during the study period. The age distribution of the respondents is shown in table 1. Seventy six of the 142 respondents (53.5 %) were aged between the ages of 20 to 39 years. Seventy five of the 142 respondents resided in an urban area while the rest were residing in villages. One hundred and seventeen respondents (82.4 %) were male.

Thirty nine of the 142 respondents (27.5 %) were farmers while 33 respondents (23.2 %) were students. Eighteen respondents (12.7 %) were employed in the army or were ex-servicemen. The commonest ethnic/ caste group encountered in the survey were Brahmins 54 (38 %). The other common groups were Chettris 36 (25.3 %) and Gurungs 29 (20.4 %).

Table 2 shows the distance of the respondents houses from the nearest road head. The time taken in minutes by an average person to walk the distance was employed as the basis for comparison. Seventy seven respondents (54.2 %) stayed within 10 minutes walk from a road head. A similar criterion was used to measure the distance from the nearest health post/ medical store.

Eighty four of the 142 respondents (59.1 %) had taken some form of self-medication during the six month period preceding the study. Table 3 shows the drugs/ drug groups commonly used for self-medication. 160 drugs were consumed by the 142 respondents giving an average of 1.13 drugs per person. The commonest drug used was paracetamol in 69 instances (43.1 %) followed by other analgesics in 21 instances (13.1 %). The use of antacids as self-medication was low (6.25 %). Herbs were commonly used for self-medication by the respondents [14 out of the total of 160 drugs used (8.75 %)]. Headache and fever were the most common indications for self-medication accounting for 60.5 % of the illnesses requiring self-medication.

The reasons given for self-medication were analysed. Thirty six respondents (25.3 %) felt that the illness was too mild and did not require the services of a doctor. Nineteen % of the respondents felt that they had previous experience of treating a similar illness and even if they go to a doctor they will be prescribed similar medications. Non-availability of a doctor was also cited as a reason for self-medication.

One hundred of the 142 respondents (70.4 %) were prescribed allopathic drugs by a non-allopathic doctor during the preceding 6 months. The common sources of non-doctor prescription were the compounder in 51 instances and the health assistant in 42 instances. Drugs obtained from the medical store
by the patient without a proper prescription were classified as self-medication. A total of 150 drugs were prescribed over the preceding 6 month period. The most commonly prescribed drug was paracetamol [33 out of the total of 150 drugs (22 %)] followed by antimicrobials [16 out of the total of 150 drugs (10.6 %)].

27 patients did not recall the drugs which were prescribed.

Fever and headache were the commonest reasons for non-doctor prescribing accounting for 46.4 % of the cases. Non-accessibility of the doctor was cited as the commonest cause for non-doctor prescribing. That a visit to the doctor is not required for mild illnesses (23.4 %) and visits to doctors are expensive (10.6 %) were cited as other reasons.

Table 4 shows the distribution of respondents using self-medication according to place of residence (urban or rural), sex and age. The proportion of male patients using self-medication was significantly higher than the proportion of females (p<0.05). A significantly higher proportion of respondents aged below 40 years had used self-medication when compared to those above 40 years of age. There were no significant differences in the proportion of respondents who were prescribed allopathic drugs by a non-allopathic doctor according to gender, age or place of residence.
Discussion:

Self-medication can be defined as obtaining and consuming drugs without the advice of a physician either for diagnosis, prescription or surveillance of treatment[11]. In Nepal qualified MBBS doctors are often not willing to go to the villages due to various reasons and hence the rural people often turn to CAM practitioners, CHAs and CHVs for medical aid. The doctor patient ratio in Nepal is very low[12]. In the past decade a number of medical colleges have been established and the ratio is expected to improve.

The age and ethnic distribution of our study population corresponds to that of Kaski district[12]. Distance plays a vital role in the use of health facilities[10]. Due to the mountainous topography and the lack of all weather roads this is true in our study population. Respondents residing more than 30 minutes walking distance from a health post/ medical store more frequently used self-medication compared to those residing within 30 minutes walking distance but the difference was not statistically significant.

Fifty nine % of the respondents had taken some form of self-medication during the preceding six months. In previous studies the prevalence of self-medication varied widely from 95 % to 12.7 % [13,14]. Due to the differing socioeconomic profiles and demographic characteristics of the populations studied, it is difficult to compare the results.

Paracetamol and analgesics were the most commonly used class of drugs which is similar to findings in the literature[7,15]. In developing countries antimicrobials are commonly sold drugs. In our study in concordance with previous results[8,16] we found that antimicrobials were not commonly used for self-medication and were mostly obtained on prescription.

Factors influencing self-treatment include patient satisfaction, cost, educational level, socioeconomic factors, age and gender[17]. Decreased health care cost may be a major reason in developing countries. Drug interactions between prescribed drugs and the drugs taken for self-medication is an important risk factor of which the health care providers must be aware of[11,17].

A greater proportion of urban respondents and respondents aged below the age of 40 years took self-medication during the preceding six month period. More male patients used self-medication compared to females which is contrary to reports from the western literature[14,17]. The better socioeconomic status of men in Nepal, their better earning power and the higher educational level may be the reasons. However,
it is difficult to reconcile with the fact that economic reasons were commonly cited for self-medication. The greater prevalence of self-medication among the younger generation could be due to the better educational level.

Herbs were also commonly used for self-medication similar to other developing countries[2,8]. Herbal medicines are commonly found in the forests around the villages and are also grown in the courtyards of houses. There are also cultural factors in play as the respondents have been exposed to herbal medicines from an early age. Many respondents while acknowledging the power of modern allopathic medicines considered herbal remedies as the more appropriate treatment of the cause of the illness. The elderly persons in the households possessed knowledge of simple herbal remedies for common illnesses and these remedies were usually tried first. The medical shops also commonly stocked herbal and ayurvedic preparations and hence these drugs were easily accessible. Herbs were commonly considered safe and devoid of adverse effects. This may not always hold true and the possibility of interactions should be kept in mind[18]. Standardisation of the herbal preparations used for a particular illness though difficult to achieve should be aimed at. Educational interventions to help patients decide on the appropriateness of self-medication may be helpful.

Allopathic drugs are commonly prescribed by persons other than MBBS doctors in the study. Due to the low doctor patient ratio and reluctance of doctors to serve in rural areas CHAs man most of the health posts in Nepal. CHAs undergo a 1 year course after passing their school leaving certificate examination and manage most health problems on their own. Since health posts and sub-health posts are present in most of the villages the rural people often turn to them for their medical needs. There being no significant rural-urban difference in the prescription of allopathic drugs by non-allopathic drugs is surprising given the concentration of doctors in urban areas in Nepal.

Due to various reasons the drugs were not taken for the proper length of time. Antimicrobials were used for the proper duration in only 4 of the 16 instances when an antimicrobial was prescribed. Economic constraints were commonly cited as a reason for the premature stoppage of treatment. Development of antimicrobial resistance has to be kept in mind due to this inappropriate use.
Further studies on the prevalence, the factors influencing and the appropriateness of self and non-doctor prescribing are required. These studies are being planned as study projects in community medicine for the seventh semester students of our institution.
Conclusions:

Self-medication is prevalent in the Pokhara valley with 59 % of respondents using some form of self-medication in the six month period preceding the study.

Paracetamol and other NSAIDs were the drugs most commonly used for self-medication. Residence in an urban area, male sex and age less than 40 years were associated with increased self-medication. Herbs were commonly used for self-medication.

Non-doctor prescribing of allopathic drugs was also common (70.4 % of respondents). The common sources of medicine were the compounder and the health assistant. Fever and headache were the most common reasons for non-doctor prescription.

Drugs especially antimicrobials were not taken for the proper length of time. Education to help patients decide on the appropriateness of self-medication is required. Further studies on the factors influencing self and non-doctor prescribing are required.
Competing interests:

None

Authors' contributions:

PRS designed the questionnaire, analysed the results and wrote the manuscript. PP helped in designing the questionnaire, briefed the student volunteers, checked on their progress and helped in writing the manuscript. NS participated in the design of the study and helped in the statistical analysis.

All authors read and approved the final manuscript.
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References:


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<tr>
<th>Age group</th>
<th>No. of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>0</td>
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<tr>
<td>10-19</td>
<td>19</td>
</tr>
<tr>
<td>20-29</td>
<td>42</td>
</tr>
<tr>
<td>30-39</td>
<td>34</td>
</tr>
<tr>
<td>40-49</td>
<td>20</td>
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<td>50-59</td>
<td>19</td>
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<tr>
<td>≥60</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>142</td>
</tr>
</tbody>
</table>
Table 2: Distance of the respondents houses from the nearest road head (minutes of walking)

<table>
<thead>
<tr>
<th>Distance in minutes</th>
<th>No. of respondents</th>
</tr>
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<tbody>
<tr>
<td>&lt; 10</td>
<td>77</td>
</tr>
<tr>
<td>10-29</td>
<td>13</td>
</tr>
<tr>
<td>30-59</td>
<td>13</td>
</tr>
<tr>
<td>60-119</td>
<td>12</td>
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<tr>
<td>≥ 120</td>
<td>27</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>142</strong></td>
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</tbody>
</table>
Table 3: Frequency of drugs/ drug groups used by the respondents for self-medication

<table>
<thead>
<tr>
<th>Drug/ drug group</th>
<th>Frequency of usage</th>
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</thead>
<tbody>
<tr>
<td>Paracetamol</td>
<td>69</td>
</tr>
<tr>
<td>Other NSAIDs</td>
<td>37</td>
</tr>
<tr>
<td>Cold remedies</td>
<td>17</td>
</tr>
<tr>
<td>Antacids</td>
<td>10</td>
</tr>
<tr>
<td>Herbs</td>
<td>14</td>
</tr>
<tr>
<td>Others</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>160</strong></td>
</tr>
</tbody>
</table>
Table 4: Differences in the proportion of respondents using self-medication according to age, gender and place of residence

<table>
<thead>
<tr>
<th>Respondent characteristics</th>
<th>Proportion using self-medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>0.65</td>
</tr>
<tr>
<td>Rural</td>
<td>0.5</td>
</tr>
<tr>
<td>Male</td>
<td>0.64</td>
</tr>
<tr>
<td>Female</td>
<td>0.4*</td>
</tr>
<tr>
<td>Age &lt; 40 years</td>
<td>0.7</td>
</tr>
<tr>
<td>Age ≥ 40 years</td>
<td>0.42**</td>
</tr>
</tbody>
</table>

* $z=2.22$, $p <0.05$
** $z=4.84$, $p<0.05$