The Existing Social Structure is Responsible for Self-Medication in Human Beings in Tehsil Takht-E-Nasrati, District Karak, KPK, Pakistan

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Abstract: This paper sheds light on "The existing social structure is responsible for self-medication in human beings in Tehsil Takht-e-Nasrat, District Karak, KPK, Pakistan". The main objective of this research was to find out various causes and its association with self-medication. A sample size of 317 respondents were interviewed in the study area by the researcher through a well thought out interview schedule. Simple frequency and Chi square test statistics were applied for drawing results from the collected data. In this way, open availability of drugs, non-availability of doctors, lax drug regulation law, availability of drugs other than drug shops and open medical literature are the various causes of self-medication in the study area. Moreover, non-availability of doctors in government hospitals, Misdistribution of health care resources, Greater distance to health care center in rural area and burden over doctors were found highly significant with dependent variable (self-medication) in the study area. In light of the above results drug regulation law imposition, hospital monitoring, availability of drugs only on licensed drug shops and awareness sessions especially in rural areas are recommended.

Key words: Self-Medication • Medicines Availability • Human Being

INTRODUCTION

Self-medication exists in almost all part of the world at varying intensity in different social and cultural setups, gender, age, health condition, race and profession. About 50% people in the United Kingdom resort to self-medication in general health care cases. The government supports self-care response to common illness. Increased practice of self-medication, predominantly the use of antibiotics is worldwide plight and different variants of this predicament are obvious around the globe: Palestine 98%; Slovenia 92.3%; Croatia 88%; Malaysia 80.9%; Greece 74.6%; China 59.4%; Turkey 45.8%; USA 43%; Jordan 40.7%; Lithuania 39.9%; Ethiopia 38.5%; India 31% and Finland 28% [1].

Self-medication can be practiced via intake of modern medicines or the exercise of household treatment which comprises different sort of behavior purchasing medicines without doctor’s consultation [2]. Purchasing medicines through previous prescriptions, donated medicines, giving out drugs to ones relatives or to people of alike social sphere [3] consuming some previously available drugs present at home [4] cannot obey the physician consultation either by using it for longer period or suspending it before due time or make some other changes which distort the actual meaning of doctor prescription [5].

According to world health organization (WHO) protocol responsible self-medication provides an economical substitute for curing the familiar ailments in preventing and curing the illness which does not need a therapeutic consultation [6]. Self-medication ought to be supported by valid therapeutic knowledge to save the precious resources, save resistance to microorganism that can lead to severe health vulnerabilities as undesirable drug response and extending disease duration [7].

The dilemma becomes more perplex where public access to health care facilities is hard which exacerbate the already meager and defectively distributed and administered resources. Additionally, deficient control
over manufacture, distribution and business course of medicines could also worsen the situation [8]. Most of the community pharmacist did well to resolve the series of minor ailments of the patient as a result most of these patients did not came back to the physician to seek out help. It is probably that in United States, about 100 to 150 million patients with minor diseases could easily be self-treated without proper physician consultation. Since the dawn of history cracked, people have been using drugs to treat variety of ailments. Some herbal and plant extracted drugs have been used most frequently for therapeutic purpose around the world. Drugs made up of Plant-extractions can have powerful Toxicological and pharmacologic chemicals [9]. From the prehistoric societies of South America, cocaicane xtracted from the leaves of Erythroxylon coca were used to be chewed for seeking pleasure and reduction of exhaustion. In Africa, eserine an element of meiotic eye drop which is made of calabat beans was utilizes for the treatment of mania and obsessions. Ephedra, which has bronchiodilatory results, was derived from ephedra plants in prehistoric china whereas digitalis, a powerful cardiac stimulant was derived from lilac foxglove, a constituent of herbal folk remedies in England [10].

Plants and herbal remedies was not the solitary practice of self-medication in ancient times, however at the same time some foodstuff were used to lessen the surplus level of blood which was considered to be the reason for infirmity; in Latin America, some foodstuff are utilized to neutralize cold and hot sickness and to re-instate the human body balance condition [11]. Additionally, In South Africa, women of Xhosa speaking built have exercised local therapeutic practices for their own selves and their children to increase the potency of their womb against sorcery, averting babyhood sickness and to sideline the symptoms which they deem biomedical treatment would not be helpful to care for [12].

Research studies conducted in United States and Britain indicate that on the average 50-75% people treat their illness within the sphere self-medication practice medication [13].This practice is prevalent around culture, social status, gender, race, profession or any other socio-medical or socio-demographic state. A cost profit analysis of self-medication conducted in the UK inculcated that easy access to the Over The Counter (OTC) medicines to the community people save the time of general physicians in addition to other advantages to the end user since by doing so he/she may utilize his time for some profitable activity [14]. While practicing Self-medication consumer would visit the health care practitioner less often and would stay less in the hospitals resultantly decreasing the disbursement for this hospital and health care practitioner too [15].

Medicines physicians approach was prevalent in 1950 and 1960 in which physician had to play an active role in suggesting medicines while the patients were to be the passive recipient of the physician’s prescription. In the 1970 this approach shifted to focus on risk dynamics in one’s daily life. In 1980 people resort to play active role in health seeking behavior and in the 1990 lots of consumer got the understanding to espouse an active responsibility in managing infirmities and ventured to look for long term wellbeing on their own self care practices. They adopted having a reasonable view of healthiness which produced somewhat more attention on preclusion and self-health care choice [16].

In Pakistan, a small number of researches have been conducted about the different variants of self-medication. Out of which few studies are conducted to evaluate the use of antibiotic in the sphere of self-medication. In Pakistan, reported prevalence of it is as high as 35.2%-42% among students and connecting 6.3 to 51.3% in the general population [17]. These studies have focused on self-medication in some specific disease or the use of antibiotics without physician prescriptions which, obviously does not reflect the overall attitude of the public about self-medication practice. The studies have been conducted almost in universities and medical colleges by the pharmacists and epidemiologists. So their studies lack the sociological touch which inquires medical sociologists to put forward their contributions to this debatable issue.

The experience of self-medication is on the rise in modern society due to multifarious complex set of factors. Self-medication is commonly used to get relief from pain, diarrhea, constipation, gastric acid hyper secretion, or allergic diseases. A good number of drugs in self-medication are generally accepted at recommended dose. Misdiagnosis, excessive dosage, prolonged period of use, drug interactions etc are the risks which may occur as a result of self-medication. [7] Self-medication serves as a lower cost substitute for nearly 60-80% health related problems in almost all the economically deprived countries [18]. It is a growing worldwide experience with special reference to antimicrobials. The use of antibiotics without prescription is motivated by numerous factors. Free sales, economic and time constrains, family and friends [19].
Babar [20] carried out his study on health seeking behavior and health care in Pakistan. According to him, the factors determining the health behaviors may be observed in socio-economic, physical, cultural and political contexts. He asserted that the health care system; public or private, formal or non-formal, may depend on cultural beliefs and practices, socio-demographic factors, social structures, education level, gender discrimination, women status, economic and political system are the responsible factors for self-medication.

MATERIALS AND METHODS

The universe of the study was District Karak, Tehsil Takht-e-Nasrati. A conceptual frame work consisted on structural aspect of self-medication (dependent variable) and self-medication (dependent variable) was worked out from the relevant literature. Moreover, a sample size of 317 (per analogy of Sekaran [21] was drawn from a population (those who were affected from self-medication in the year 2015) of 1775 registered patients in tehsil headquarter hospital of Takht-e-Nasrati, Karak. The data was collected through a well thought interview schedule by the researcher. The collected data were analyzed through SPSS software and carried out simple frequency and Chi square test statistics for association between dependent and independent variables. The formula for chi square is given below;

$$X^2 = \sum \frac{(O-E)^2}{E}$$

Where:

- $X^2$ is the value for chi square.
- $\Sigma$ is the sum.
- $O$ is the observed frequency
- $E$ is the expected frequency.

Table 1.1 reflects that non-prescription drugs encourages self-medication has exacerbated the already perverse condition of health care system in Pakistan. Strict regulation and policies are needed to be implemented on the manufacturing, selling and commercialization of medicines to put off this dilemma from further escalating. Nabeel [23]. Shakoor and Taylor have also delineated the lax regulation in the increase of counter fee medicines which are in lofty demand for the therapy of vastly widespread diseases [24].

<table>
<thead>
<tr>
<th>Statement</th>
<th>Yes</th>
<th>No</th>
<th>D, I know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy excess to non-prescription drugs encourages self-medication.</td>
<td>260(80.0%)</td>
<td>50(15.8%)</td>
<td>7(2.2%)</td>
<td>317(100%)</td>
</tr>
<tr>
<td>Our health care delivery system is not impressive.</td>
<td>262(82.6%)</td>
<td>50(15.8%)</td>
<td>5(1.6%)</td>
<td>317(100%)</td>
</tr>
<tr>
<td>Lax medical regulation has proliferated the practice of self-medication.</td>
<td>264(83.3%)</td>
<td>47(14.8%)</td>
<td>6(1.9%)</td>
<td>317(100%)</td>
</tr>
<tr>
<td>Non availability of doctors in govt. hospital leads to self-medication.</td>
<td>243(76.7%)</td>
<td>67(21.1%)</td>
<td>7(2.2%)</td>
<td>317(100%)</td>
</tr>
<tr>
<td>Misdistribution of health care resources is the cause of self-medication.</td>
<td>250(78.9%)</td>
<td>63(19.9%)</td>
<td>4(1.3%)</td>
<td>317(100%)</td>
</tr>
<tr>
<td>Greater distance to health care center in rural area leads to self-medication.</td>
<td>260(82.0%)</td>
<td>54(17.0%)</td>
<td>3(0.9%)</td>
<td>317(100%)</td>
</tr>
<tr>
<td>There is burden over doctors due to huge masses of patients.</td>
<td>249(78.5%)</td>
<td>64(20.2%)</td>
<td>4(1.3%)</td>
<td>317(100%)</td>
</tr>
<tr>
<td>Now day’s drugs of any sort are available at the door step.</td>
<td>238(75.1%)</td>
<td>75(23.7%)</td>
<td>4(1.3%)</td>
<td>317(100%)</td>
</tr>
<tr>
<td>Availability of drug other than drug shops may leads to self-medication.</td>
<td>230(72.6%)</td>
<td>78(24.6%)</td>
<td>9(2.8%)</td>
<td>317(100%)</td>
</tr>
<tr>
<td>Medical literature in school and college syllabus may leads to self-medication.</td>
<td>158(49.8%)</td>
<td>132(41.6%)</td>
<td>27(8.5%)</td>
<td>317(100%)</td>
</tr>
</tbody>
</table>

Values show frequencies while values in parenthesis show percentages.
Further 76.7% respondents viewed that non-availability of doctors in govt. hospital leads to self-medication while 21.1% were against the view and 2.2% were neutral. Haak [25] has supported the same idea that shortage of physicians in govt. hospital could have been the reason for self-medication. Majority i.e. 78.9% respondents stated that misdistribution of health care resources is the cause of self-medication whereas 19.9% went against the statement and 1.3% did not respond. Heisler [26] have also propped up the same idea that malfunction in health care structure, misdistribution of medical care resources and consequent increase in medicinal costs have been declared as a factor behind self-medication. Most of the respondents i.e. 82.0% supported the idea that greater distance to health care center in rural area leads to self-medication while 17.0% disliked the idea and 0.9% did not present their response. Buor [27] has found that access to health care facility has been the most significant reason behind the faulty utilization of drugs in the in the south district. Additionally, Okafor [28] has also declared the distance to the hospitals as very critical determinant behind the utilization of health care facilities.

Additionally, 78.5% respondents liked the statement that there is burden over doctors due to huge army of patients while 20.2% disliked the aforementioned statement and 1.3% were not taking either of the side. Accessibility to health care facility, Sandler [39] shortage of consultant doctors [25] have been considered as the crucial factors behind self-medication. Most of the respondent i.e. 5.1% viewed that now days’ drugs of any sort are available at the door step where 23.7% respondent negated the view and 1.3% respondents were impartial towards the statement. Medicines of any kind could be purchased from sales clerk in the pharmacy shop [30] wholesale medicine seller [31] and from people who frequently interact with the public like salespersons, bank officials and hairdressers. Furthermore, 72.6% respondents propped up the idea that availability of drug other than drug shops may leads to self-medication while 24.6% declined the idea and 2.8% did not orate on the statement. Acevedo and Toledo [32] have also supported the view that medicines available at the market other than pharmacy shops has been the factor behind self-medication in less developed countries. However, 49.8% respondents viewed that medical literature in school and college syllabus may leads to self-medication while 41.6% opposed the idea and 8.5% did not respond to the aforementioned statement.

**Association Between Structural Aspects and Self-Medication:** Table 1.2 indicates that a non-significant (P=0.665) relationship was found between self-medication and the statement that easy excess to non-prescription drugs encourages self-medication. The findings of the above study are not in line with the study of Huges, McElney and Fleming [7] who has paradoxically found that easy access to non-prescription drugs was the leading cause of self-medication. Although medicines of every sort are easily be available and accessed even without physician’s prescription but at the same time the above results also indicated that access to nonprescription drugs could not necessarily be responsible for self-medication. Similarly, a non-significant (P=0.492) association was established between self-medication and the statement that our health care delivery system is not impressive. These results indicated that not so impressive health care delivery system could not essentially be linked with the practice of self-medication. However, World Health Organization (WHO) has given great emphasis that self-medication practice must be properly taught and restricted [33].

<table>
<thead>
<tr>
<th>Statements of independent variable (Structural aspect)</th>
<th>Dependent variable (Self-Medication)</th>
<th>Chi-Square (P-Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy excess to non-prescription drugs encourages self-medication.</td>
<td>Self-medication</td>
<td>$\chi^2 = 2.387(0.665)$</td>
</tr>
<tr>
<td>Our health care delivery system is not impressive</td>
<td>Self-medication</td>
<td>$\chi^2 = 3.405(0.492)$</td>
</tr>
<tr>
<td>Lax medical regulation has proliferated the practice of self-medication</td>
<td>Self-medication</td>
<td>$\chi^2 = 3.780(0.437)$</td>
</tr>
<tr>
<td>Non availability of doctors in govt. hospital leads to self-medication.</td>
<td>Self-medication</td>
<td>$\chi^2 = 44.797(0.000)$</td>
</tr>
<tr>
<td>Misdistribution of health care resources is the cause of self-medication.</td>
<td>Self-medication</td>
<td>$\chi^2 = 78.924(0.000)$</td>
</tr>
<tr>
<td>Greater distance to health care center in rural area leads to self-medication.</td>
<td>Self-medication</td>
<td>$\chi^2 = 44.894(0.000)$</td>
</tr>
<tr>
<td>There is burden over doctors due to huge army of patients</td>
<td>Self-medication</td>
<td>$\chi^2 = 80.523(0.000)$</td>
</tr>
<tr>
<td>Now day’s drugs of any sort are available at the door step</td>
<td>Self-medication</td>
<td>$\chi^2 = 4.104(0.084)$</td>
</tr>
<tr>
<td>Availability of drug other than drug shops may leads to self-medication.</td>
<td>Self-medication</td>
<td>$\chi^2 = 3.142(0.534)$</td>
</tr>
<tr>
<td>Medical literature in school and college syllabus may leads to self-medication.</td>
<td>Self-medication</td>
<td>$\chi^2 = 4.273(0.370)$</td>
</tr>
</tbody>
</table>

Values show Chi square but parenthesis show significance level at 0.05 % of confidence.
Likewise a non-significant (P=0.437) relationship was present between self-medication and the statement that lax medical regulation has proliferated the practice of self-medication. These results indicated that lenient health care regulations could not necessarily be connected with the practice of self-medication. Nevertheless, Vietnamese MOH [34] has further stated that dismal monitoring system has appeared to facilitate self-medication practice in conjunction with a malfunctioning regulation of drug use. Under such circumstances, potentially dangerous prescription drugs are widely available at any pharmacy or drug outlet in Vietnam. Fabricant and Hirschhorn [8] has mentioned this very point in their studies that deficient control over the pharmaceutical products in terms of production circulation and commercialization can be a factor behind self-medication.

However, at the same time, a very highly significant (P=0.000) relationship was found between self-medication and non-availability of doctors in govt. hospital leads to self-medication. Non availability of doctors have also been considered as the contributing factors supplemented with some transport problems, time and cost constraints [35]. Similarly, a very highly significant (P=0.000) association was present between self-medication and the statement that misdistribution of health care resources is the cause of self-medication. The findings of this very result are in line with the studies of Fabricant and Hirschhorn [8] who stated that access of population to the health care resources is one of the most fitting problem that leads to self-medication in the under developed states and exacerbating the already vicious condition supplemented with meager and inadequately circulated and managed resources.

In the same vein, a very highly significant i.e. (P=0.000) relationship was found between self-medication and the statement that greater distance to health care center in rural area leads to self-medication. Distance to health care facility matters a lot especially in rural area where transportation is hardly available when direly needed; hence rely on local (so called) healers are made which could potentially be hazardous to the health of masses. The study of Buor [27] conducted in the Ahafo-Ano, Ghana has established that distance to health care facilities was one of the most vital dynamic that has influenced the consumption of health care services. Additionally difficulties in access to health care facilities will encourage the practice of self-medication [36]. The more hard the access, the more probably the patient will be looking for self-medication.

On the other hand, several authors in the Institute of Social Medicine, University of Copenhagen, Denmark has conducted study and have found the prevalence of self-medication practice high where health care facilities were sufficient and accessible without any trouble. Even where health care facilities were readily accessible, misdiagnosis and administration was still present.

Furthermore, a very highly significant (P=0.000) relationship was present between self-medication and the view that there is burden over doctors due to huge army of patients. The ratio of doctors’ and patients is alarming which has compelled the doctors to check four times more patients per day in ideal setting. The lack of doctor and deficient health care resources has left us with no other alternative. Doctors are not in the position to give the required time for check up to every single patient which could possibly have developed fatigue and disinterest in the patient. So ultimate option could be self-medication in acute and minor illness which do not require professional assistance. Similarly, a non-significant (P=0.843) association was found between self-medication and the statement that now a day’s drugs of any sort are available at the door step. Although, almost drugs of all sorts are available at door step but these could not have been necessarily attributed to the self-medication. Shankar and Shenoy [37] have paradoxically established that pharmacists, health assistants, compounders and pharmacy assistants play a vital role in the encouragement of self-medication) as they are in close proximity with the patients.

Nevertheless, a non-significant (P=0.534) relationship was established between self-medication and in the idea that availability of drug other than drug shops may leads to self-medication. The results indicated that drugs availability other than pharmacy shop could not necessarily be linked with the practice of self-medication. Whereas the finding of Baruzaig and Bashrahil [22] has paradoxically established that purchase of medicines from unofficial sector such as open marketplace and village kiosks has encouraged the practice of self-medication. Availability of medicines in other than pharmacy stores are answerable for the increasing trend of self-medication. [38]

Moreover, a non-significant (P=0.370) association was found between self-medication and the statement that medical literature in school and college syllabus may leads to self-medication. Although medical literature in school and college level are somehow present but that is too little to develop insight about medication. That was why the above results could not have developed the relationship with the practice of self-medication.
CONCLUSION

This study focused on the investigation into the factors behind self-medication. It was concluded that self-medication is a universal phenomenon found almost everywhere in the world at varying capacity. Self-medication is the outcome of low cost alternative; poor people who cannot afford the high fee of the doctors have frequently resorted to self-medication. Long waiting hours at hospital, shortage of doctors in our country has also influence the practice of self-medication. Moreover, it was also concluded that access to nonprescription drugs, misdistribution of health care resources, lax medical regulation and Greater distance to health care center were some structural factors influencing the practice of self-medication. Drug regulation law imposition, hospital monitoring, availability of drugs only on licensed drug shops and awareness sessions especially in rural areas are some of the policy recommendations in light of the study.

REFERENCES