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Cultural Factors Responsible for Self-Medication in Swat Khyber-Pakhtunkhwa, Pakistan

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Self-medication is practiced throughout the world, despite of the fact that public at large know its harmful effects. The main objective of this paper is to investigate the factors causing self-medication in the area and its association with cultural factors behind self-medication. This paper is qualitative in nature and was carried out in District Swat, Khyber Pakhtunkhwa, Pakistan. A validated questionnaire was used for data collection from doctors, medical practitioners and lab attendants. The results revealed that over the counter (OTC) practice, quacks, joint family, trade name, colour, shape, common use, purdah of womenfolk, misguidance about medicine, advertising strategies, purchase of medicines through old prescriptions, quick relief from illness, sympathy of family, Complementary medicines, low-cost alternative, high fee of doctors/physician and administration of left-over medicine at home were found significant ($P < 0.05$) with self- medication practice in the area. This study concluded that various cultural factors are responsible for the practice of self-medication. Furthermore, pharmacy shops and OTC medicines need to be properly regulated, media advertisements need to be reviewed by concerned authorities and the doctors should adopt the method of "treating the patient not treating the disease".

Key words: *Self-medication, cultural factors, OTC medicines; Media; Supplementary medicines*

1. Introduction

This study has been carried out with the objectives to measure the level of association between cultural factors behind self-medication. In this way due to some complex factors, the experience of self-treatment in modern society is on the rise. Self-medication is widely used for common diseases such as; constipation, diarrhea, relieve pain, allergic diseases excessive of gastric acid etc. Generally a good variety of drugs are accepted and recommended in self-medication. Overdose, prolonged use, misdiagnose etc. are likely to occur due to self–treatment (Hughes et al., 2001). In almost all economically underprivileged countries, self-serving drugs are lower-cost alternative than prescribed by physicians, reaching almost 60-80% of health-related problems (Awad et al., 2005 & Abay & Amelo, 2010). Numerous factors are responsible for encouraging self-medication which include; time shortage, financial problems, free sales, friends and family influence, consumer expectation and attitude and media advertising (Kristiansson et al., 2008 and Barros, Griep & Rotenberg, 2009).

Most of the people do self-medication for pain relief. The availability of OTC analgesics medicines accelerated and domesticated this practice (Mehuys et al., 2019).

Some people do self-medication for headache and visit pharmacies which is not a valuable observatory for the study of headaches. The continuity this practice causes chronic migraine (Brusa et al., 2019). The greatly used drugs especially among the students are analgesics, antipyretics and anti-inflammatory for treating fever, chills, headache and common cold. Furthermore, lots of resources are also being wasted on self-medication due to high usage of antibiotics that leads resistance to pathogens and harm the community (Sajith et al., 2017). Self-medication with antibiotics through leftover or over-the-counter (OTC) medicines use, causes to antimicrobial resistance which is more common in Asian countries (Lescure et al., 2018).

Factors that determine health behavior can be observed in physical, economic, political, social, cultural contexts. According to Shaikh & Hatcher (2005), the health care system which may be formal/informal or public/private sector depend on the socio-demographic factors, women status, gender discrimination, cultural practices, cultural beliefs, educational level, political status, economic status, social status, environment and disease type. Different people take different ways to deal with mild symptoms, encourage people to take care of themselves, relying on careful of interventions for health seeking behavior. Some people attempt to use medicines from his own side at the first symptom of the diseases while others are waiting for development of the symptoms. Some people use modern medicine for treatment after consultation with general practitioners or pharmacists but most of the people practice self-medication (James & French, 2008). OTC medicines are usually effective and cheap for young people but is not likely to be used for special population groups such as children, elders, lactating and pregnant mothers (Murray & Callahan, 2003).

Most of the doctors fail to know about fatal diseases symptoms disappearing due to improper self-medication. Sex variance is one of the significant reasons of self-medication among young people although the ratio of acquiring medicines for self-medication is higher in female than male. In Mexico the practice of self-medication in women had a higher proportion (61.9%) than men (38.1%). Women are identified as essential elements for the consumption of drugs and the use of medicines, and the doctors should actively seek self-medication cases for research in this Mexican population (Angeles et al., 1991 & Figueiras et al., 2000 & Carrasco et al., 2008). Research consistently finds that men use all types of drugs more frequently and extensively than women however the misuse of prescription tranquilizers provides an exception to women (Dollar & Hendrix, 2018).

The self-medication prevalence in Brazil was 16.1% being highest in the Northeast region 23.8%. Following the adjusted analysis, self-medication was observed to be associated with females, inhabitants from the North, Northeast and Midwest regions and individuals that have had one, or two or more chronic diseases (Arrais et al., 2016).

Self-medications use in Iraq was prevalent among 92.4% of students. Antipyretics and antibiotics were the most used medicines. Self-medication was higher among urban residents (AlAmeri et al., 2017).

The prevalence of self-medication among the pharmacy students of Saudi Arabia was reported at 19.61%. Prevalence of self-medication at the medical college was documented at 49.3%. The prevalence of multivitamin use was reported at 30.53%, analgesics; 72.35%, antihistamines; 39.16%, and antibiotic use at 16.59%. The prevalence of anti-diarrheal medicines and antacids use among students was found to be 8.63% and 6.64%, respectively (Albusalih et al., 2017).

Self-medication in Pakistan is increasing day by day. The 90% individuals do self-medication due to convenience and lack of trust on prescriber. The selection of medicines was based on 40% previous doctor's prescription. The medicines are obtained from community pharmacy. About 70% of the people partly understand the instructions come with the package insert while 10% didn't understand it. While selection of medicines people consider indication for use by 100%. Majority of People, about 70% considered self-medication is the acceptable practice while 20% said it is not acceptable practice (Nazir, & Azim, 2017).

The community pharmacists play a key role in avoiding the misuse of medicines especially antibiotic and pain killer. They can support community regarding public health, guaranteeing the safety of dispensing and avoiding self-medication. They play their role in developing responsible self-medication, means supporting the patient with more autonomy, within the limits of pharmaceutical advice, while responding to current issues of societal change and access to primary care (Savanovitch et al., 2020).

Among the educated young people in Pakistan, majority are aware of the adverse effects self-medication but still they buy, sell it for earning money and practice/use it for relief. Because of the above argumentations there is an urgent need for a cross sectional analysis of self-medication practice in the area (Zafar et al., 2008).

2. Methodology

This study was carried out in District Swat, Khyber Pakhtunkhwa, Pakistan. A conceptual framework comprises of independent variable "Cultural Aspects Responsible for Self – medication" and dependent variable "self-medication practice" The total number of doctors, medical practitioners and laboratory attendants were 1775 which constituted population for this study. On the basis of Krejcie & Morgan (1970), devised rules for calculating sample size, 317 sample size is enough for 1775 population. The data was randomly collected from the aforementioned respondents in the study area through a well thought out questionnaire. The collected data was entered into SPSS-22 for analysis and getting desired results i.e. chi square test was carried out for measuring association between independent variable (cultural aspect) statements and dependent variable (self-medication)

3. Results

Association between various cultural factors and self-medication

The relationship between independent variable (cultural aspect) based on various statements were crossed (bi-variate analysis) with dependent variable (self- medication practice). The results are as; The results declared a significant relationship of OTC medicines (P=0.002), Quackery practice (P = 0.005) and Joint family system's poor health seeking behaviour (P = 0.051) with self-medication practice. Similarly, Company name, shape, colour and public use of medicines also showed a significant (P=0.005) association with self-medication practice. Misguidance and inappropriate concepts about medicine (P=0.007) and shame/*purdah* factor for womenfolk (P=0.001), getting quick relief from illness (P=0.043), family sympathy with family sick member (P=0.006) and complementary medicines' low-cost alternative to health care (P=0.021) were found significant with self-medication in the study area. Furthermore, friend's advice about common medicines, media advertising strategies, high fee of the doctors/physician and administration of left over old, prescribed medicines at home were found highly significant (P=0.000) with self-medication practice.

Table 1.
Association between various cultural factors and self-medication

Cultural Aspects Responsible for Self – medication (Independent Variable)	Dependent Variable	"χ2" value	"P" Value*
"OTC" medicines	Self-Medication	12.63	0.002*
Quackery/Fake medical practitioners.	Self-Medication	14.92	0.005*
Joint family poor health seeking behavior.	Self-Medication	9.43	0.051*
Name, shape, color and public use of medicines.	Self-Medication	14.92	0.005*
Misguidance and inappropriate concepts about medicine	Self-Medication	14.17	0.007*
Shame/*Purdah* for womenfolk.	Self-Medication	17.71	0.001*
To get quick relief from illness.	Self-Medication	10.08	0.043*
Sympathy with sick member of the family.	Self-Medication	14.56	0.006*
Complementary medicines are low cost alternative.	Self-Medication	11.51	0.020*
Media and advertising strategies accelerate this practice	Self-Medication	40.60	0.000**
Friends influence and advice about common medicines.	Self-Medication	55.52	0.000**
High fees of doctor/physician.	Self-Medication	81.43	0.000**
Use of left over or old prescribed medicines at home.	Self-Medication	53.10	0.000**

*0.05 is taken as level of confidence. * is significant while ** is highly significant

4. Discussion

In general it is obvious from the literature that patient satisfaction level from the physician (WHO, 1998), quality of health services (Zineldin, 2006), poor communication of health care practitioner (Kessler, 1991), taking risk of the sick person (Sharma, Verma, Sharma & Kapoor, 2005), taking the disease with non-serious attitude, Prior experience about ill person's self-diagnose (Hogard, 1999), past experience with the pain management (Amin et al., 2014), feel the same symptoms and signs is to use their own identity to diagnose the same disease; and taking the same drugs (Vuckovic & Nichter, 1997), the disease with non-serious approach (Pray & Popovich, 2000) (men 35.48% and women 15.56%) shortage of time (Upadhyay & Joshi, 2011) Addictive illnesses as a patient's impulse to find specific drugs (Khantzian, 1997 & et al., 2006) pharmacists, pharmacy assistants, medical assistants (Shankar et al., 2002) and friends information to purchase medicines (Afolabi, 2008), Crave for looking smart (Wen, Lieber, Wan & Hong, 1987) are the main causes of self-medication. In addition educated and rich people are more likely to have self-treatment than uneducated and poor through mass media (Klemenc et al., 2010 & Martins et al., 2002 & Buor, 2005).

The use of OTC products has been increasing, which is available with pharmacist, this trend is exacerbating self-medication practice (Bond, 2001). Some other factors behind the use of (OTC) to supplement their own practice are the positive factors of developing countries like Pakistan, which save time and resources of the country (Amin et al., 2014). In Nigeria and Cameroon, the most used self-drug sources are patent/street drug traffickers, local healers and local hawkers (Bond, 2001). One expert reported that self-care had become the norm of disease (Vuckovic & Nichter, 1997). Remembering name of the product, sometimes with its generic name, shape, color, action, and popular usage name lead to self-medication (Yelland & Veitch, 1989).

Witter (1996) reported that advertising medicine in media is considered as a motivating factor for medicine selling, specifically antibiotics and vitamins in Vietnam. Moreover, Burak & Damico (2000), stated that the abuse of medicine is more widespread due to media commercial strategies in youth segment of society.

Khantzian (1997), also supports the idea that misleading beliefs may sometimes be the cause of self-medication. In addition, the personal observation of the researchers also witnessed the mother of certain drugs for the incorrect faith, some of the treatment of drugs and some of the nature of the impact of self-medication can be calculated in the practice of treatment. Shame and purdah especially in rural areas, patriarchal society and the concept of male family members are respected, self-medication practice is high in women folk (Major, Vincze, et al., 2007).

In Pakistan family members and friend's recommendation also play a vibrant role in practicing self-medication. This is perhaps due to the strong social bondages in the rural societies, the influence of friends and family members is relatively large, which may play an important role in promoting a positive view of self-medication (Amin et al., 2014). Medicines left in the family cupboard have been reasons behind self-medication by purchasing from previous prescriptions and excessive consumption of medicines. The reason may be that the cost of drugs in Pakistan is too high, and the government allocate a negligible to health department, as a result people re-use and re-submitting old prescriptions to save money and resources to avoid going to the hospitals (Bond, 2001).

Sympathy with patient also leads to self-medication. The extended and joint family cannot go to hospital for every little bit of illness for the family members; as feeling of sympathy is natural thing with the family member especially in illness, which plays a significant role in self-medication (Phalke et al., 2006). Those who cannot afford the doctor's consultation high expenses due to poverty they use the alternate way due to lower cost-substitute, therefore majority of the people have been relying on complementary and alternative medicines (Worku & Mariam, 2003).

In Asian region, 26.67% of women and 32.26% of men are self-treated due to high consultancy costs (Upadhyay & Joshi, 2011). It is a fact that preserving drugs at home leads to self-medication due to some of the popular drugs can be easily known by their trademark or generic labels, shapes, and colors that certain physiotherapists prescribe for certain diseases (Tse, Chung & Mungo, 1989 & Hugues et al., 1990).

5. Conclusion

This study focused on the various cultural factors behind the self-medication. The study concluded that, self-medication is a common phenomenon everywhere. Some responsible factors for self-medication such as; OTC medicines, Quackery, joint family system, company name, shape of medicines, colour of medicines, misguidance/misconception about medicine, media advertising strategy, friends advice, familiarity with common medicines, shame and purdah for women, purchase of old prescribed medicines, quick relief from illness, family sympathy and administration of left over drugs at home are some of the responsible factors associated with self-medication. In addition, self-medication is a low-cost alternative, the poor cannot afford the high fee cost of doctors/physician therefore they practice it. Moreover, ignorance from the side effects of medicine also leads to this harmful act.

6. Recommendations

After a careful study of the association between various cultural factors and self-medication, this study recommends that pharmacy shops and (OTC) medicines need to be properly regulated by the concerned authority. It is also necessary to strengthen health literacy through awareness programs and seminars for illiterate and literate people by the ministry of health. Media advertisements need to be reviewed and top-class health professionals should examine the health product carefully before advertisement. To establish a good rapport and to build the confidence of the patients, the doctor should adopt the method of “treating the patient not treating the disease” for the sake of removing any gap for Quakers and medical practitioners.

Contribution of this Article
The current study highlights the issue of self-medication to investigate the responsible factors which leads to self-medication in the research area and to measure the level of association between cultural factors behind self-medication which has not been investigated before.

Key words
Self-medication; cultural factors; OTC medicines; Media; Supplementary medicines

Conflict of Interest
Author and Co-authors have no conflict of interest

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Covering Letter

I am writing that the manuscript "**Cultural Factors Responsible for Self-Medication in Swat Khyber-Pakhtunkhwa, Pakistan".** Short title (Culture and Self-Medication) Why I felt need to investigate this topic, it is because that I observed in ordinary/rural/traditional society that the poor and ignorant people always self-medicated due to poverty, ignorance, purdah, easy availability, black market, OTC and no check and balance on medicine sale. Through this they becomes addicts of some medicines which then functions as drugs like heroin, alcohol, etc. simply it's the addiction process which work like a drug in later stage. This subject remained relatively unstudied in many areas of Pakistan as well as in other second and third world countries. Keeping in view the importance of the study the researcher spent from his own resources. In simple the researcher **got no fund for** writing this paper. The purpose of this research was to dig out about the term self-medication and some cultural factors responsible for self-medication through scientific methodology. While, writing this paper i.e. data collection, analysis and finalization a vast literature was kept under consideration. Furthermore, ethics, cultural values, traditional values like purdah, data security and hospitality were also given full attention. Moreover, this article is original work of the researcher in the said area. The manuscript is checked through turnitin software which stood at **5-6.00%.** In addition, this article is neither published nor recommended anywhere. Furthermore, this article has no conflict of interest.

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REFERENCES

Abay, S.M & Amelo, W. (2010). Assessment of Self-medication practices among medical, pharmacy, health science students in Gondar University, Ethiopia. *Journal of Young Pharmacists. 1;2 (3):306-10.*

Afolabi, A.O. (2008). Factors influencing the pattern of self-medication in an adult Nigerian population. *Annals of African medicine. 7(3):120-7.*

Al Ameri, R. J., Abdal Badri, H. J., & Lafta, R. K. (2017). Prevalence of self-medication among university students in Baghdad: a cross-sectional study from Iraq. *EMHJ-Eastern Mediterranean Health Journal*, *23*(2), 87-93.

Albusalih, F. A., Naqvi, A. A., Ahmad, R., & Ahmad, N. (2017). Prevalence of self-medication among students of pharmacy and medicine colleges of a public sector university in Dammam City, Saudi Arabia. *Pharmacy*, *5*(3), 51.

Amin, S., Abid, F., Javeed, A., Ashraf, M., Riaz, A., Mushtaq, M.H., Ghafoor, A., Anees, M., Yaqoob, M.A. (2014). Cross sectional study on self-medication with analgesics among pharmacy students of Lahore, Pakistan. *Science International. 26(3).*

Angeles-Chimal, P., Medina-Flores, M.L., & Molina-Rodriguez, J.F. (1991). Self-medication in an urban population of Cuernavaca, Morelos. *Salud publica de Mexico. 34(5):554-61.*

Arrais, P. S. D., Fernandes, M. E. P., Pizzol, T. D. S. D., Ramos, L. R., Mengue, S. S., Luiza, V. L., ... & Bertoldi, A. D. (2016). Prevalence of self-medication in Brazil and associated factors. *Revista de saude publica*, *50*, 13s.

Awad, A., Eltayeb, I., Matowe, L & Thalib, L (2005). Self-medication with antibiotics and antimalarial in the community of Khartoum State, Sudan. J Pharm Pharm Sci. 8(2):326-31.

Barros, A.R., Griep, R.H., & Rotenberg, L. (2009). Self-medication among nursing workers from public hospitals. *Revista latino-Americana de enfermagem. 17(6):1015-22.*

Bond, C.M. (2001). POM to P-implications for practice pharmacists. *Primary Care Pharmacy. 2:5-7.*

Brusa, P., Allais, G., Scarinzi, C., Baratta, F., Parente, M., Rolando, S., & Mana, M. (2019). Self-medication for migraine: A nationwide cross-sectional study in Italy. *PloS one*, *14*(1), e0211191.

Buor, D. (2005). Determinants of utilization of health services by women in rural and urban areas in Ghana. *Geo Journal. 61(1):89-102.*

Carrasco-Garrido, P., Jiménez-García, R., Barrera, V.H., & Miguel, A. (2008). Predictive factors of self-medicated drug use among the Spanish adult population. *Pharmaco-epidemiology and drug safety. 17(2):193-9.*

Dollar, C. B., & Hendrix, J. A. (2018). "I'm Not a Traditional Woman": Tranquilizer Misuse as Self-Medication Among Adult Women. *American Behavioral Scientist*, *62*(11), 1562-1585.

Figueiras, A., Caamano, F., & Gestal-Otero, J.J. (2000). Socio-demographic factors related to self-medication in Spain. *European journal of epidemiology. 16(1):19-26.*

Hogard, C.V. (1999). Drug Consumers and Self-medication. Journal on Immunization and Preventive Therapies.

Hughes, C.M, McElnay, JC & Fleming, G.F. (2001). Benefits and risks of self-medication. *Drug safety. 24(14):1027-37.*

Hugues, F.C, Jeunne, C., Saubadu, S., Eme, D., Denormandie, P. (1990). A survey of self-medication. Comparison of results obtained at two centers. *Therapie. 5(4):325-9.*

James, D.H., & French, D.P. (2008). The development of the Self-Medicating Scale (SMS): a scale to measure people's beliefs about self-medication. *Pharmacy world & science. 30(6):794.*

Kessler, D. A. (1991). Communicating with patients about their medications. 650-1652.

Khantzian, E.J. (1997). The self-medication hypothesis of substance use disorders: a reconsideration and recent applications. *Harvard review of psychiatry. 4(5):231-44.*

Klemenc-Ketis, Z., Hladnik, Z., & Kersnik, J. (2010). Self-medication among healthcare and non-healthcare students at University of Ljubljana, Slovenia. *Medical Principles and practice. 19(5):395-401.*

Krejcie, R.V., & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and psychological measurement. (3):607-10.*

Kristiansson, C., Reilly, M., Gotuzzo, E., Rodriguez, H., Bartoloni, A., Thorson, A., Falkenberg, T., Bartalesi, F., Tomson, G. & Larsson, M. (2008). Antibiotic use and health-seeking behaviour in an underprivileged area of Perú. *Tropical Medicine & International Health. 13(3):434-41.*

Lescure, D., Paget, J., Schellevis, F., & Van Dijk, L. (2018). Determinants of self-medication with antibiotics in European and Anglo-Saxon countries: a systematic review of the literature. *Frontiers in public health*, *6*, 370.

Major, C., Vincze, Z., Meskó, A., Balogh, J., Zelkó, R., & Németh, E. (2007). Medicating outside the consulting room. *Orvosi hetilap. 148(7):291-8.*

Mehuys, E., Crombez, G., Paemeleire, K., Adriaens, E., Van Hees, T., Demarche, S, & Boussery, K. (2019). Self-medication with over-the-counter analgesics: a survey of patient characteristics and concerns about pain medication. *The Journal of Pain*, *20*(2), 215-223.

Murray, M.D., & Callahan, C.M. (2003). Improving medication use for older Adults: An integrated research agenda. *Ann Intern Med. 139:2425-9.*

Nazir, S., & Azim, M. (2017). Assessment of antibiotic self-medication practice among public in the northwestern region of Pakistan. *European Journal of Hospital Pharmacy*, *24*(4), 200-203. http://dx.doi.org/10.1136/ejhpharm-2015-000733

Paula-Martins, A., Miranda, A., Mendes, Z., Soares, M.A, Ferreira, P., Nogueira, A. (2002). Self-medication in a Portuguese urban population: a prevalence study. *Pharmaco epidemiology and drug safety. 11(5):409-14.*

Phalke, V.D., Phalke, D.B, & Durgawale, P.M. (2006). Self-Medication Practices in Rural Maharashtra. *Indian J Community Med. 1(1): 34-35.*

Pray, W.S, & Popovich, N.G. (2000). Self – care/diagnostic pro-ducts. In: Gennero AR, editor. Remington the science and practice of pharmacy. 20th ed. *Pennsylvania: Lippi-ncott Williams and Winkins. 38–43.*

Sajith, M., Suresh, S. M., Roy, N. T., & Pawar, D. (2017). Self-medication practices among health care professional students in a tertiary care hospital, Pune. *The Open Public Health Journal*, *10*(1).

Savanovitch, C., Prunet-Spano, C., Catala, O., Bedhomme, S., Lafarge, E., Pereira, B., & Vennat, B. (2020). Gipamed Study: Validation of a Notification Grid for Pharmaceutical Self-Medication Interventions. *International Journal of Pharma Sciences and Scientific Research*, *6*, 1-07.

Shaikh, B.T., & Hatcher, J. (2005). Health seeking behaviour and health service utilization in Pakistan: challenging the policy makers. *Journal of public health. 27(1):49-54.*

Shankar, P.R., Partha, P., & Shenoy, N. (2002). Self-medication and non-doctor prescription practices in Pokhara valley, Western Nepal: a questionnaire-based study. *BMC family practice. 3(1):17.*

Sharma, R., Verma, U., Sharma, C.L., & Kapoor, B. (2005). Self-medication among urban population of Jammu city. *Indian J Pharmacology. 3(7) :40-3*

Tse, M.H., Chung, J.T., & Mungo, J.G. Self-medication among secondary school pupils in Hong Kong. A descriptive study. *Fam. Pract. 6(4): 303-306.*

Upadhyay, J., & Joshi, Y. (2011). Observation of drug utilization pattern and prevalence of disease in elderly patient through home medication review, Asian journal of pharmaceutical and clinical research. 4 (1):144.

Vuckovic, N., & Nichter, M. (1997). Changing patterns of pharmaceutical practice in the United States. *Social Science & Medicine. 44(9):1285-1302.*

Wen, Y., Lieber, E., Wan, D., & Hong, Y. (1987). A qualitative study about self-medication in the Williamson IF., Darby DN. Mant A. Self-care and self-medication: an evaluation of individuals' health care decisions. *Med Care. 25:965-78.*

Witter, S. (1996). 'DOI MOI' AND HEALTH: THE EFFECT OF ECONOMIC REFORMS ON THE HEALTH SYSTEM IN VIETNAM. *The International journal of health planning and management. 11(2):159-72.*

Worku, S., & Mariam, A.G. (2003). Practice of self-medication in Jimma town Ethiopian journal of health development. 17(2):111-116

World Health Organization. (1998). *The Role of the pharmacist in self-care and self-medication: report of the 4th WHO Consultative Group on the Role of the Pharmacist.* The Hague, Netherlands.

Yelland, M.J., & Veitch, P.C. (1989). How do patients identify their drugs? *Australian family physician. 8(11):1441-5.*

Zafar, S.N., Syed, R., Waqar, S., Zubairi, A.J, Vaqar, T., Shaikh, M., Yousaf, W., Shahid, S., & Saleem, S. (2008). Self-medication amongst university students of Karachi: prevalence, knowledge and attitudes. *Journal of the Pakistan Medical Association. 8(4):214.*

Zineldin, M. (2006). The quality of health care and patient satisfaction: An exploratory investigation of the 5Qs model at some Egyptian and Jordanian medical clinics. *International Journal of Health Care Quality Assurance*. 19:60–92.