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## **Pharmacophilia: Prevalence and trends in our community**

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### **ABSTRACT**

Pharmacophilia is affection for taking medications with or without need, basically taking drugs like hallucinogens, anti-depressants, analgesics, anti-allergics, cough preparation and alcohols. The aim of this study is to identify and analyze the factors that influence attitude of our community to take medicines frequently and unnecessarily. Study was conducted on 104 participants and they were classed as Pharmacophilia according to the attitude and compared with regarding to socio-demographic variables, clinical characteristics, gender, age-group, and education. Finally, results were evaluated statistically and compared with retrospective data. Appraisal of the study shows that with respect to gender, males tended to be less Pharmacophilia (59.4%) than females (75%). As far as age was concerned 45.71% of adults, 23.07% teenagers and 75% geriatrics claimed to be Pharmacophilia. As for the education level 18.75% graduates, 44.44% intermediate-pass and 66.67% matriculation-pass were Pharmacophilia. As the level of education declined, the number of people answering positively to Pharmacophilia was seen to increase. Most of the individuals admitted to taking medicines for the purpose of relaxing themselves. Additionally, anti-hypertensive drugs were used by 19.01%, analgesics were used by 68.57% and anti-depressants by 78.8%. 54.40% took medicines on daily basis, 16.21% on weekly basis, 1.34% on monthly basis and 27.03% took more than one times daily. 51.42% claimed that being Pharmacophilia brought a negative change in their life. Trend showed that mostly drug used by Pharmacophilia individuals belongs to anti-depressants for relaxation and it is recommended to conduct awareness programs for the control of drug misuse.

Key words: Pharmacophilia, Hallucinogens, Socio-demographic, Retrospective.

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### **INTRODUCTION**

Pharmacophilia is defined as a morbid fascination for taking drugs it is also called pharmacomania, [1] and is closely related to drug abuse and addiction. The National Institute of Drug Abuse (NIDA) defines any illicit use of a substance as drug abuse; this includes the non-medical use of prescription drugs. NIDA defines addiction as a chronic, relapsing disease characterized by compulsive drug seeking and use despite harmful consequences as well as neurochemical and molecular changes in the brain. [2] A pharmacophile may desire drugs like ayahuasca [3] (drugs that cause hallucinations), anti-depressants or caffeinated drugs such as antihistamines. WHO states that there are several reasons of being pharmacophilic, such as: lack of information about rational use of drug, improper or incomplete knowledge given by physician, incomplete counseling by pharmacist. [4] The possible consequences of pharmacophilic behavior are

adverse effects and building up of tolerance to the ingredients. In 2003, Croghan et al studied American attitudes toward psychiatric medication and their willingness to use them. Most respondents agreed that psychiatric medicines were effective but were not willing to take them even when advised to do so by a doctor. Compliance was influenced by factors including health status and past use of treatments. [5] Townsend and friends studied the viewpoint of adolescents toward psychiatric medication. They also evaluated the effectiveness of Hogan's Drug Attitude Inventory (DAI) for assessing the same [6]. Past research indicates that adolescent compliance ranges from 10-80% depending on population and drug evaluated. While the DAI had been successfully used to predict adherence to regimen in adults, Townsend et al were the first to use it on a population of adolescents. They found that the results were only "fair" fit to the adolescent data, possibly because the DAI do not adequately reflect adolescent experiences with medications. They

suggested potential alterations that could make the DAI a better tool for assessing adolescents' adherence to drug regimen. [6] Hong et al, 2009, investigated adherence and approach to anti glaucoma medication in patients. 147 patients were divided into Pharmacophilia or pharmacophobic groups based on their score on the Modified Glaucoma Drug Attitude Inventory (MG-DAI). 72.80% patients showed a Pharmacophilia attitude and tended to have better compliance to regimen. 27.20% displayed pharmacophobic characteristics and were inclined to have worse adherence. Different patterns of personality characteristics were observed in the two groups. They concluded that personality traits and drug attitude may be associated and a clear relationship exists between MG-DAI scores and adherence to treatment.[7] Sibitz et al, 2005, evaluated patients' attitudes towards antipsychotic medications by dividing them into Pharmacophilia and pharmacophobic classes using the DAI. 92 patients of schizophrenia and schizoaffective psychoses participated in the study. Their DAI scores were compared using sociodemographic variables, medical characteristics, subjective deficit syndrome, concept of disease, awareness, locus of control, and quality of life. 59 patients were identified as being Pharmacophilia and 33 as pharmacophobic. The paper concluded that the effect of subjective drug treatment experiences on attitude towards compliance needs to be the chief focus in order to change a patient's approach to pharmacological treatment.[8]

The present study aims to identify the frequency of Pharmacophilia behavior in the urban population of Karachi, Pakistan. The research will also uncover whether socioeconomic and demographic differences have any effect on the tendency towards pharmacophilia. Additionally, the classes of drugs most commonly abused will be identified. The information gleaned from this investigation can help limit instances of drug misuse in the city.

## METHODOLOGY

Survey was conducted comprising 104 people from different ages and education levels. The participants consisted of 30 males and 74 females. As per W.H.O. the age limit of geriatrics was set to 60 years and above; adults, 20-59 years; and teenagers, 13-19 years. The participants were divided based on their education level as being graduates (minimum 16 years of education), intermediates (minimum 12 years of education) and matriculates (minimum 10 years of education). The questionnaires focused on why one might take medication, what type of medication is chronically used, whether being educated affected the desire

for self-medication and if pharmacophilia affected the lifestyle of a person.

## RESULT AND DISCUSSION

Pharmacophilia is an uncontrollable desire to take or to administer medicines which leads to increase rate of irrational drug use, as a result of this people become prone to drug misuse and abuse. So, in order to evaluate the trends of desire to take different medicines and the purpose of taking these medicines different individuals in our community, we have decided to conduct a survey in different localities of our community.

The overall trend of the population tested seems to favor pharmacophilia. Of the 104 people surveyed, 74 (87.05%) answered positive for pharmacophilia while 29 (27.88%) were non- Pharmacophilia. When the data was analyzed with respect to gender, males tended to be less Pharmacophilia (59.4%) than females (75%) (figure 1). Only 4 of the people surveyed fell into the geriatric age group and 75% answered positively for Pharmacophilia. 16 (45.71%) of 35 adults declared themselves as being Pharmacophilia. 26 teenagers were tested and 23.07% (6) claimed to be Pharmacophilia (figure 2). 12 out of 64 graduates (18.75%) were Pharmacophilia. As the level of education declined, the number of people answering positively to Pharmacophilia was seen to increase with 44.44% (8 out of 18) intermediate-pass and 66.67% (4 out of 6) of matriculation-pass participants being Pharmacophilia (figure 5). All of the people that answered positively to Pharmacophilia admitted to using medication specifically to relax. All Pharmacophilia participants said they took anti-depressants (78.8%) as well as anti-hypertensives (19.01%), while 68.57% Pharmacophilia individuals took analgesics (figure 4). Of the people surveyed, 51.42% believed that being Pharmacophilia affected their quality of lifenegatively, while 48.07% believed that being pharmacophilic does not affect their life (figure 6). The survey revealed that 44.23% participants agreed that Pharmacophilia is a mental illness while 55.76% differed in opinion.

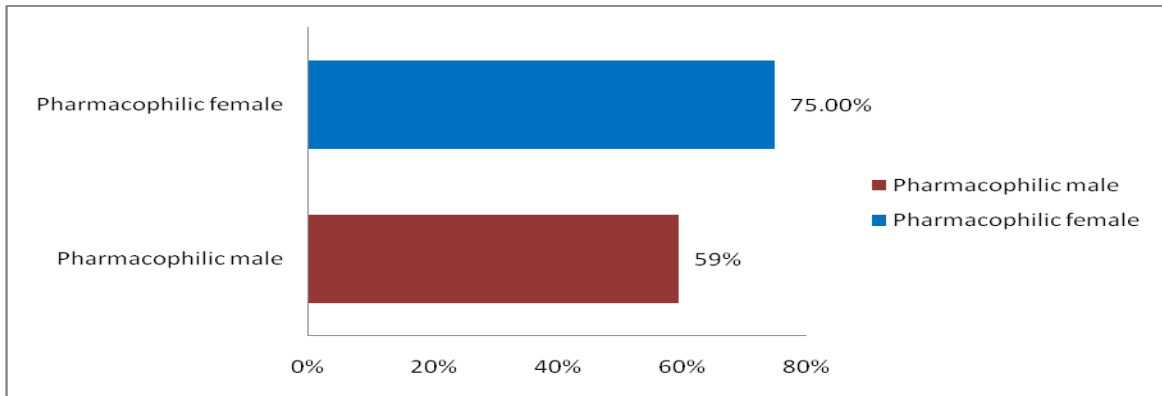
The survey revealed that 54.40% Pharmacophilia individuals take medicines daily, 16.21% weekly, 1.34% monthly and 27.03% take medicines more than once daily (figure 3). The overall results showed the higher trend of irrelevant and excessive use of drugs in our community. This trend is higher in females than males this may be due to change in physiological, socio-economical, and demographic factors. The results suggested the great variation in pharmacophilic behavior with respect to age and education level. People frequently use medicines

without any indication just for relaxation and feeling of well-being. The major factor behind this is the lack of drug information that if there is beneficial effect of the drug it does not mean that there is no side-effects of this drug not even this, but the excessive use of drugs without any indication may lead to adverse clinical situations.

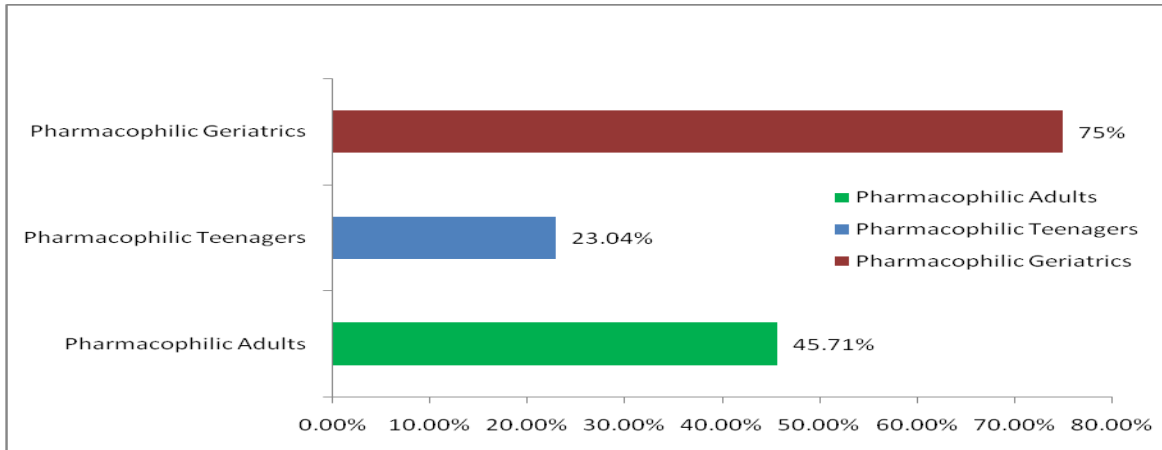
**CONCLUSION**

Present investigation concludes that the propensity towards pharmacophilia is more in females than

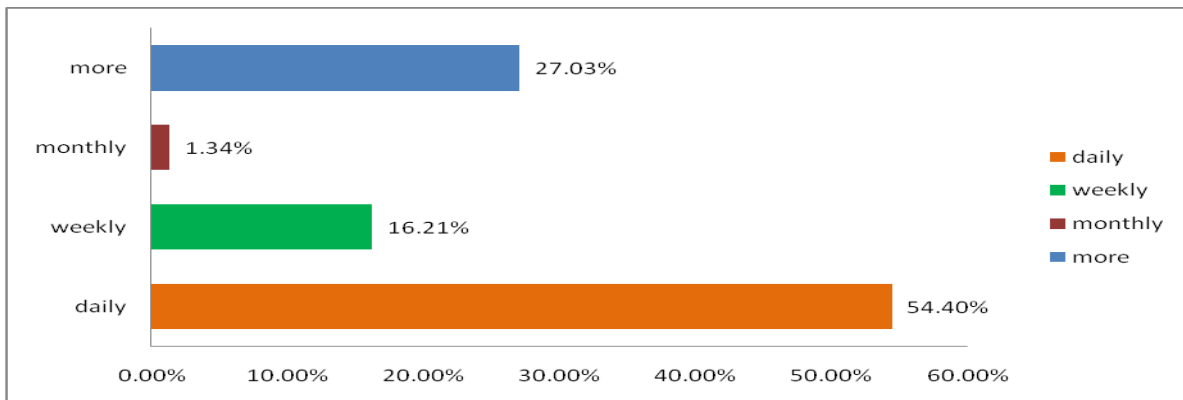
males, and steadily diminishes with the increment in education level. Even though the self-professed pharmacophiles claim that the condition affects their lifestyle, and most think of it as a mental illness, nonetheless the overall population tested tends to be pharmacophilic and the most frequently used drug class being antidepressants, closely followed by analgesics. Most pharmacophilic individuals admit to taking medicines at least once a day. The authors recommend that drug awareness seminars be conducted for the general population to better their understanding of drug use and misuse.



**Figure 1: Trends of pharmacophilia according to gender**



**Figure 2: Trends of pharmacophilia in different age groups**



**Figure 3: Frequency of medication in pharmacophilic individuals**

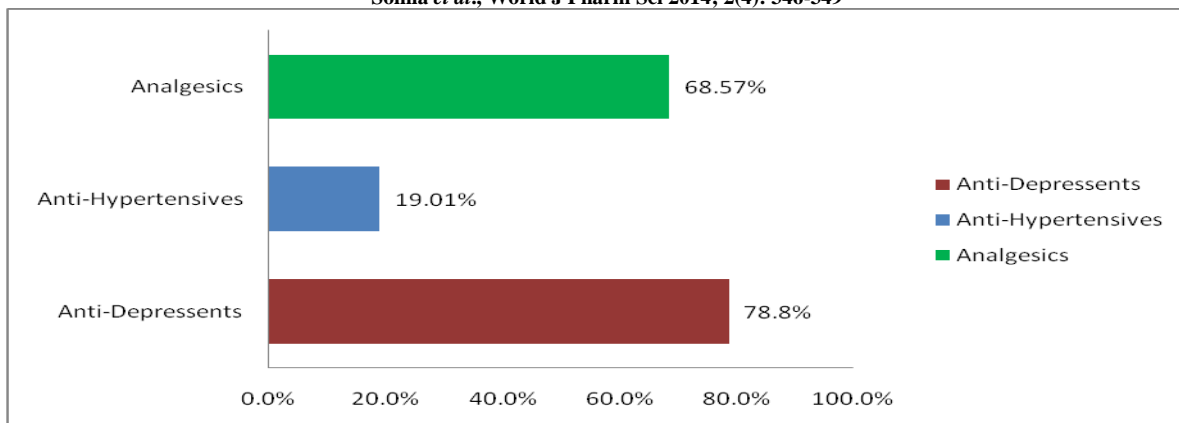


Figure 4: Commonly used classes of drugs by pharmacophilia individuals

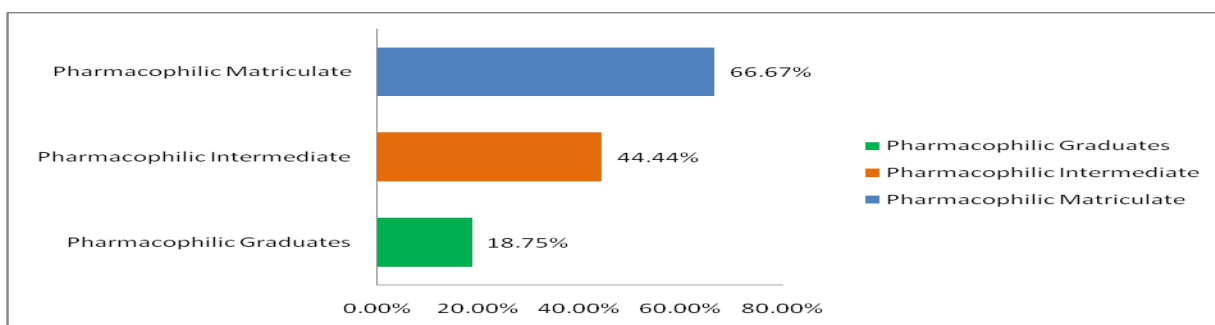


Figure 5: Changes in pharmacophilic tendency according to education level

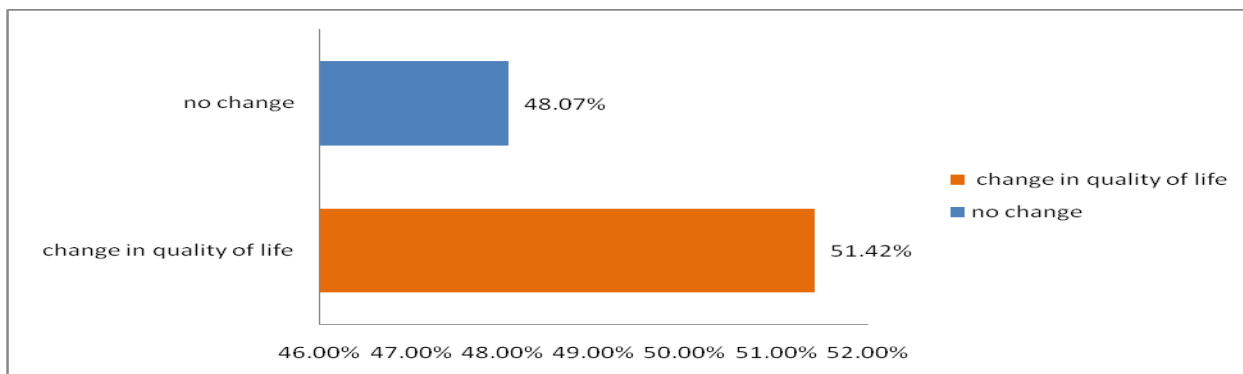


Figure 6: Change in quality of life after being pharmacophilic

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