Association between drug dependence and anemia in Pakistani Patients

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ABSTRACT

BACKGROUND: There has been a substantial increase in the number of drug dependence patients in Pakistan over the past years. Drug abuse and its sequalae affect health of the abuser in multiple ways, and one of the most commonly observed physical complications of drug dependence is anemia.

OBJECTIVES: This project aimed to study the association between anemia and drug dependence, the type and pattern of severity of anemia in these patients, the correlation of anemia with other variables e.g. demographic variables, drug abuse variables etc, and to compare our findings with other research carried out on the subject. Methodology: The study was carried out in the Model Drug Abuse Treatment and Rehabilitation Centre at District Headquarters Hospital Faisalabad. The study group consisted of 64 drug dependence patients admitted in the unit from 1st July 2000 to 31st December 2000. The study was descriptive and cross sectional, and a consecutive .

RESULTS: Of the study group, 84% were young adults between the ages of 21 to 40 years, 51.5% were married. 62.5% were from urban areas and 62.5% were multiple drug users. 89% cases had anemia out of sampling method was utilized. The diagnosis of drug dependence was made using DSM-lV criteria, and anemia was assessed according to WHO criteria. SPSS-10 was used for data analysis which 8% had severe anemia, 61% cases had moderate anemia, and 20% had mild anemia, 47% had been using addictive drugs for 2 to 5 years, and 58% cases also had physical or psychiatric complications, other than anemia. Iron deficiency anemia was the most common type of anemia seen. Conclusion: Anemia is an aspect that should be kept in mind during the treatment and rehabilitation of these patients. This study serves the purpose of highlighting an issue that is very important, highly prevalent, and largely unstudied by researchers in

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INTRODUCTION

The use of psychoactive drugs can be traced far back through the history of man, who seems always to have used them not only to enhance pleasure and relieve pain, discomfort, frustration or guilt; but also to achieve social, religious and ritualistic goals, and mask the realities of life [1]. Some people may take drugs more frequently, become drug dependant and thus abuse drugs. An upward trend in drug dependence has been reported from most of the countries around the world [2-5]. Drug addiction is thus a worldwide problem.

Pakistan is situated in a geographical region where hemp and poppy grow and are cultivated illegally in abundance. UNODC (United Nations Organization for Drug Control) has been providing assistance to this region, but war, violence, social and political unrest and economic troubles have exacerbated the drug abuse problem in this region. There has been a substantial increase in the number of drug dependents in Pakistan over the past years [6]. According to the national drug abuse surveys the number of chronic users of heroin increased from about 20,000 in 1980 to more than 15,00,000 (1.5 million) in late 1990. In the end of the 20th century the number of chronic drug abusers in Pakistan, of

which about half are heroin abusers, (Reported in UN Drug Control Program News). The phenomenon of drug abuse and its sequalae affect health of the abuser in multiple ways, e.g. changes in body weight secondary to changes in dietary habits and lifestyle, changes in nutrient metabolism due to the pharmacokinetic and pharmacodynamic effects of the drugs, changes in the endocrine system, etc. One of the most commonly reported physical complications of drug dependence is anemia.

Anemia afflicts an estimated two billion people world wide, mostly due to iron deficiency [7]. It is a critical health concern because it affects growth and energy level. A significant percentage of adolescents in the developing world are anemic, causing considerable health consequences for this age group. The prevalence is high in developing countries due to poverty, inadequate diet, certain diseases, pregnancy and lactation, drug abuse, ignorance and poor access to health services [7].

AIMS AND OBJECTIVES.

The current study aims to explore the association between drug dependence and anemia. The specific objectives of the study are as follows:

- To study the association between anemia and drug dependence.
- To study the type and pattern of severity of anemia in these patients.
- To study the correlation of anemia with other variables in these patients e.g. demographic variables, drug abuse variables etc.
- To compare our findings with other research carried out on the subject.

MATERIALS AND METHODS.

The study has been carried out in the Model Drug Abuse Treatment and Rehabilitation Centre at District Headquarters Hospital Faisalabad. The cases for the study consisted of drug dependence patients admitted in the unit from 1st July 2000 to 31st December 2000. The nature of the study was descriptive and cross sectional, and a consecutive sampling method was utilized. The inclusion criteria for the study were:

- ❖ Patients admitted in the unit for treatment of drug dependence.
- ❖ Age group 16 – 60 years.
- ❖ Patients who were physically stable enough to participate in the research.

- ❖ Patients providing written informed consent to joining the research.
- ❖ The steps in the research were as follows:
- ❖ Provision of written informed consent.
- ❖ Collecting demographic information and information about various variables regarding their drug abuse history, on a structured questionnaire developed for the purpose of this research.
- ❖ Drug dependence was diagnosed using DSM-lV criteria [8]
- ❖ Conducting the laboratory test to get their blood hemoglobin level (Hgb level in g/dl) and the blood peripheral picture to get the blood cell morphology. The Westergen method was used for the hemoglobin level estimation, and the WHO criteria for anemia, were used as a reference [9,10]
- ❖ Analysis of the data using the program Statistical Software for the Social Sciences Version 10 (SPSS-10).

RESULTS

Demographic details of the cases:

In this study group there were total 64 drug dependence cases (Table-1 below). All the patients were males. The largest age group was from 21 – 40 years, about half of them were married, and about 60% came from urban areas (mostly from within and around Faisalabad city).

Table I
Demographic details of the study group.

Age of the patient in years. No. (%)	Marital status. No. (%)	Residence No. (%)
Upto 20 yrs 05 (08%)	Unmarried 30 (47%)	Rural Area 24 (38%)
21 – 40 yrs. 54 (84%)	Married 33 (51%)	Urban Area 40 (62%)
41 – 60 yrs 05 (08%)	Widowed/divorced 01 (02%)	
Total: 64 patients (100%)		

Table II below shows the distribution of the study group according to their professional background. It is significant to note that the largest group was of unskilled laborers (28%) and the smallest category was of students (1.5%). Another observation that

comes out of this table is that the majority of the cases were from lower socioeconomic strata of society.

Table II
Professional background of the study group.

Profession / Occupation	Fqy	%
Unemployed	9	14.0%
Unskilled laborer	18	28%
Skilled worker	10	16%
Shop keeper	10	15.5%
Farmer	7	11.0%
Driver	3	4.5%
Government Servant	6	9.5%
Student	1	1.5%
TOTAL	**64**	**100%**

2. Variables regarding drug abuse and dependence.

Table lll below depicts the duration of drug abuse/dependence among patients of the study group. It is pertinent to note that the largest category was of patients abusing drugs for 2-5 years (47%), and there was a small but significant percentage who had been abusing drugs for more than 18 years (3%).It is also significant that 42% of the group had been abusing drug for more than 5 years.

Duration of drug abuse/ dependence	Fqy	%
Up to 1 years	07	11%
2 to 5 years	30	47%
6 to 9 years	10	16%
10 to 13 years	08	12%
14 to 17 years	07	11%
18 years and above	02	3%
Total	64	100%

Table lV below shows that majority of the drug dependence patients (63%) were abusing multiple drugs simultaneously (heroin, morphine, various forms of cannabis, injectable opioids and sedatives etc).

Types of drugs used	Fqy	%
Single Drug	24	37.5%
Multiple Drug	40	62.5%
Total	64	100%

1. Association of anemia with drug dependence:
According to the World Health Organization (8,9), normal hemoglobin levels are considered to be above 12g/dl, for individuals above 15 years of age. In the current study 89% of the cases had anemia diagnosed with these WHO criteria. The largest category was of moderate anemia (61%) implying an Hgb level of 9.1 – 10.5 g/dl, while 8% had severe anemia (Hgb level below 9g/dl). Table V below shows the details of the mentioned results.

Table V:
Frequency of anemia in the study group.

Level of hemoglobin (Hgb).	Fqy	%	Severity of anemia.
Up to 9.0 g/dl	05	8.0%	Severe
9.1 to 10.5 g/dl	39	61.0%	Moderate
10.6 to 12 g/dl	13	20.0%	Mild
12.1 g/dl onward	07	11.0%	Normal
Total	64	100%	----

Majority of the cases were of iron deficiency anemia, with a minority of other types (e.g. folic acid deficiency, Vit B6 deficiency, normochromic normocytic, and mixed type of anemia). 58% of the patients also had other physical and psychiatric complications due to their drug dependence, as shown in Table Vl below.

Table Vl
Frequency of patients with anemia plus other complications.

Complications	Fqy	%
Had other psychiatric or physical complications.	37	58%
Had only anemia	27	42%
Total	64	100%

DISCUSSION

In the current study, we saw that 84% of the subjects were 21 – 40 years of age, which is the most productive age group in any community, and if this group is suffering from drug dependence, the impact on their productivity and the well being of the community in general is very severe. 51% of them were married, which means that their drug dependence problem would be having a disasters effect on their wife and children, besides their parents and siblings, increasing the hardship and burden caused by the problem itself. 62% were from the urban areas, probably because of the easy availability of drugs in the cities, the psychosocial problems of inner city life (e.g. unemployment, street crime, breakdown of social support networks etc). The observation that the cases spanned across a number of professions emphasize the

fact that drug dependence is not a problem of any one group or community, and is affecting all parts of our society. However, it was also interesting to note that the socioeconomic status of the patients was more skewed towards the lower socioeconomic strata, exactly the groups who have less ability to deal with economic problems and crises. Suffering from drug dependence would severely impair the already limited ability of these people to provide for their families. 47% had been abusing drugs for 2 – 5 years before coming (or being brought) for treatment, and its is logical to deduce that the harm done by the problem would be very severe after such a long duration of untreated (or partially treated) drug dependence. About 63% were using multiple drugs, which has been known to increase the harm done by the problem itself, the number and severity of complications arising, and to decrease the chances of successfully getting off drugs in the short term, and staying off them in the long term. The complications arising from prolonged multiple drug abuse/dependence are also more severe and difficult to treat. The observation that 89% had anemia, and of these, 70% had moderate to severe anemia, also further complicates the clinical picture, and increases the challenge for treatment and rehabilitation. Around 60% also had other psychiatric and physical complications (which were also documented, but the discussion about them would be beyond the scope of this paper), means that health professionals providing care to these patients also need to have training in managing related physical and psychiatric co-morbidities, and the treatment should ideally be in a multidisciplinary setting.

Most of the other studies on this subject have provided generally similar results as the current study. Hussein et al carried out a study on 40 drug dependence patients in 1992 [11]. The results showed that 55% belonged to urban areas whereas 45% were from rural areas. Most of the patients were laborers and had low socioeconomic status and had ill health and anemia.

A second study on substance abuse and dependence was conducted in Delhi metropolis India by R. Thara in 2001 [12].The reported prevalence of tobacco, alcohol, cannabis and opioids abuse was higher in the urban, as compared to the rural, areas and mostly adolescents and adults were fond involved in drug abuse and dependence. Most subjects belonged to low socioeconomic class, and had ill health and anemia.

Dogar et al (the same research team that carried out the current study) conducted a study on changing patterns of drug abuse in Pakistan, spanning the time period 1996-2001. That study also found that drug abuse was more frequently reported among urban, literate, married males during young adulthood. Sex, curiosity and peer pressure were the main motivations involved in starting drug abuse. Besides these stable findings, some changing trends were observed as well; polydrug abuse was becoming more frequent and the socioeconomic status of this patient group was deteriorating [13].

Dogar et al also conducted another study in 2000, on the effect of addictive drugs on the physical health of drug dependence patients, and the study revealed that the mean age of drug addicts was 31 years, most of them were poly-drug addicts and mean duration of addiction was 8 years, the drug addicts had low body weight and high blood pressure and temperature, as compared to the control group, the addicts as a group had decreased albumin, globulin and total protein levels; while plasma glucose, SGOT, SGPT, T3 and T4 levels were generally higher in the dug addicts, as compared to the control group [14].

Although most of the findings in all of these studies were in line with the observations reported in the current study, it is interesting to note that none of these research projects focused on anemia and its type and frequency in patients of drug dependence.

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EDITORIAL COMMENTS:

Drug addiction is a major problem in Pakistan. Different types of drugs are being used for addiction like narcotic injections, Bhang, hashish, charas and heroin. These are usually smuggled via Afghanistan and there are different mafias in the country who make them available throughout the country. They make handsome money at the cost of many lives. We frequently see different addict people "Jahaz" wandering about in search of drugs and lying in the streets after taking addiction. They are not owned by their families and are thrown outside their houses. They are deprived of money as all is spent on purchasing these drugs so they are lack of food and even clothes. This paper is a good attempt to highlight anemia in these drug addicts.

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