

ORIGINAL ARTICLE

Prevalence of prescription drug abuse among patients with chronic pain attending in a pain clinic of a tertiary hospital

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Abstract

Background: Chronic pain and prescription drug abuse are extremely prevalent worldwide. Non-medical use of prescription drugs like opioids, central nervous system depressants and stimulants can lead to addiction, abuse or misuse, and diversion. It is not known what proportion of patients have already been exposed to prescription drug abuse presenting for chronic pain management. The main objective of the study was to assess the prevalence of prescription drug abuse among the patients presenting for chronic pain management.

Method: The study was conducted at the out patient's settings in the Pain Clinic of Bangabandhu Sheikh Mujib Medical University (BSMMU), Shahbagh, Dhaka. Study population included patients suffering from chronic pain of at least 2 years duration and patients over 18 years of age. Both quantitative and qualitative methods of investigation were followed. The quantitative data was collected by face-to-face interview, clinical evaluation and recording of reports. Based on the patient information recorded 30 patients (one-tenth of quantitative sample) were selected to find out the qualitative details through in-depth investigation of extent, trends, patterns and consequences of prescription drug abuse or misuse characteristics.

Results: Quantitative data was collected from 305 patients. The average age of patients was 39.92 ± 9.61 years and male to female ratio was 2.2:1. Most of the patients were living in rural area 195 (64%). Chronic musculoskeletal pain was more prevalent among chronic pain patients 31% [95% CI: (26-36)]. The mean (\pm SD) duration of pain was 6.82 ± 3.45 years. Most commonly prescribed medications were NSAID 81% [95% CI: (76-85)], muscle relaxants 50% [95% CI: (45-56)] and opioids 41% [95% CI: (35-46)]. The prevalence of drug abuse was 64% [95% CI: (59-70)]. The specified ways of drug abuse revealed that 49% [95% CI: (42-56)] patients used medication without legal prescriptions, 21% [95% CI: (16-27)] used more than the prescribed dose and 30% [95% CI: (23-36)] used more than the prescribed duration for relieving pain. NSAID was the most common drug taken without legal prescription 72% [95% CI: (63-81)] and used more than the prescribed dose 57% [95% CI: (42-72)]. The most common cause of taking drugs more than prescribed dose and duration were initially relief of pain but gradually higher dose needed 79% [95% CI: (66-91)] and painful condition worsened after stopping medication 76% [95% CI: (65-87)], respectively. The common problems/complications related to drug abuse were mental disturbance 78 (26%), sleeplessness 69 (23%) and loss of memory 64 (21%).

Conclusion: The prevalence of prescription drug abuse is high among chronic pain patients. Many patients suffer from abuse-related complications, which is a major concern for the healthcare system.

Keywords: Chronic pain, Prescription, Drug abuse, Prevalence, NSAID, Opioids

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Introduction

The epidemic of prescription drug abuse has reached a critical level, which has received national attention. While prescription drugs have been used effectively and appropriately to treat medical illness in the majority of patients, rates of abuse have escalated at alarming rates in the past decade¹. The increased availability of prescription drugs has contributed to a dramatic rise of non-medical use and abuse of these medications². Increased clinician awareness is essential in helping reduce prescription drug abuse, while continuing to provide effective treatment.

Drug therapy is one of the most commonly used modalities of treatment in managing persistent or chronic pain. In the last few decades, the treatment of chronic pain has expanded in the primary care setting³. Many primary care providers have had little specific training in pain medicine and addiction, and are unsure about how to safely prescribe medications⁴. In addition, the high prevalence of psychiatric comorbidity in those that misuse or abuse prescription drugs contributes to the complexity in treating pain⁵.

A significant proportion of patients do not provide an appropriate history or they underestimate their drug intake, while at the same time overestimating their pain levels. At the opposite end of the spectrum, some patients also provide a history of the use of higher doses of drugs prior to presenting for initial evaluation and insist on the continuation of these higher doses or at least the same doses and/or stronger ones.

Thus, in management of chronic pain patients, the magnitude of multiple drug abuse or misuse continues to be a major public health issue. Population-based studies reveal that more than 75 million Americans (about 25% of the entire population) have chronic or recurrent pain. Of these, 40% report the pain as having moderate to severe impact on their lives⁶.

Navigating the complexity of treatment guidelines provided by the FSMB (The Federation of State Medical Boards), the U.S. DEA (Drug Enforcement Agency) and other health organizations can be confusing and intimidating. The difficulties in measuring pain, fear of regulatory issues, and legal

risks are additional barriers to providing appropriate pain management⁷.

The most up-to-date and reliable sources on the epidemiology of prescription drug abuse include the National Survey on Drug Use and Health (NSDUH), the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), Monitoring the Future, and the Drug Abuse Warning Network (DAWN)^{7,8}. All these surveys were conducted in U.S. and were intended to collect different types of information that can give an accurate account of the trends of prescription drug abuse.

NSDUH is an annual survey of the civilian, non-institutionalized population of the U.S. aged 12 or older (N=67,500), sponsored by SAMHSA (Substance Abuse and Mental Health Services Administration) Office of Applied Studies in the Department of Health and Human Services⁷. NSDUH has provided information on the incidence and prevalence of substance use in the population, and the problems associated with use on an annual basis since 1999. In addition to describing socio-demographic characteristics of users, patterns of use, treatment, perceptions of risk and availability, criminal behavior, and mental health, the NSDUH covers four broad classes of prescription psychotherapeutic drugs: pain relievers, tranquilizers, stimulants, and sedatives⁷. Non-medical use is defined as use of these medications without one's own prescription or simply for the experience of euphoria or other positive subjective drug effects. Non-medical use does not include the legitimate use of prescription drugs under a physician's direction, nor does it include use of over-the-counter medications.

The NESARC collects data on drug abuse and dependence, drug treatment utilization, family history of drug abuse, major depression and family history of major depression⁸. Information on the non-medical use of prescription opioids, sedatives, tranquilizers, and stimulants (which includes use 'without a prescription, in greater amounts, more often, or longer than prescribed, or for a reason other than a doctor instructed to use them') is also available⁸.

The significant need for treatment approaches that

balance treating chronic pain; while minimizing risks for multiple drug abuse, misuse, and diversion will essentially rely on acquiring comprehensive knowledge on the background relevant to appreciating the epidemiology of these problems. In the evaluation of chronic pain and substance abuse disorder, sufficient information on strategies for the initial management of these patients' is to be obtained to clarify the extent and severity of these problems and their resulting therapeutic concerns.

However, there is no organized study in our country for evaluating those consequences of prescription drug abuse in patients with chronic pain presenting to different pain management centers. This cross sectional prevalence study is intended to undertake to document the extent of prescription drug abuse among chronic pain patients presenting in a selective pain clinic of a tertiary level hospital.

Methods

This descriptive type of cross-sectional study was conducted in Pain clinic, Department of Anaesthesia, Analgesia and Intensive Care Medicine, Bangabandhu Sheikh Mujib Medical University, Shahbag, Dhaka. Patients over 18-60 years of age of both genders having chronic pain for more than 2 years were enrolled after having informed consent to participate in the study. After enrollment each subjects was evaluated clinically for demographics, and clinical history. All information obtained from patients were recorded in a semi-structured data sheet.

Both Quantitative and Qualitative methods of investigation was followed. Quantitative Data was collected by face-to-face interview, clinical evaluation and recording of reports. The respondents were assessed by history of prescription drug abuse by detailed history of their sufferings from chronic pain, physical examination, treatment seeking behavior, consumption of medications, escalation of dosage, and appropriate response to prescription drug usage. Qualitative approach included Case studies which were conducted with some selective patients for in-depth evaluation of extent, trends, patterns and consequences of prescription drug abuse or misuse characteristics.

A convenient sampling technique was followed. Study sample was achieved by investigating every 10th number of patient at the beginning of enrollment. One-tenth of the quantitative sample was used to conduct qualitative investigation.

Survey manpower (data collectors) was recruited from the trainee doctors of different post-graduate programs being conducting by the Department of Anaesthesia, Analgesia and Intensive Care Medicine, the sole authority of the Pain Clinic of BSMMU and other senior professionals of the research team were engaged to impart the training. A short training of the survey manpower was conducted, of which there were a provision for field practices combined with pre testing of data collection tools. The training was conducted in a participatory method. Training programs included in class orientation and intensive practices (role play) and supervised field practices.

Approval of the study was obtained from the Ethical Review Committee of Bangladesh Medical Research Council (BMRC). Data was collected anonymously and the confidentiality was maintained. The research was conducted in full accord with ethical principles.

Prescription drug abuse: Defining and assessing prescription drug abuse is complicated by unclear boundaries between "appropriate" use of these medications and inappropriate use or abuse. Prescription drug abuse is the use of a prescription medication in a way not intended by the prescribing doctor. Drug abuse may become ongoing and compulsive, despite the negative consequences. An increasing problem, prescription drug abuse can affect all age groups. The prescription drugs most often abused include opioids, painkillers, sedatives, anti-anxiety medications and stimulants.

Misuse and Abuse: For the terms "misuse", we used the definitions published in the NIDA "Research Report Series-Prescription Drugs: Abuse and Addiction" where the definitions they developed for "misuse" is "Use of a medication (for a medical purpose) other than as directed or indicated, whether willful or unintentional, and whether harm results or not." Abuse is defined by the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) (American Psychiatric Association,

1994)⁹. The DSM-IV definition of substance abuse is a “maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by one or more of the following, occurring within a 12-month period: 1) recurrent substance use resulting in a failure to fulfill major obligations at work, school, or home; 2) recurrent substance use in situations in which it is physically hazardous; 3) recurrent substance-related legal problems; or 4) continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance.”

Chronic pain: Chronic pain is pain that lasts a long time. In medicine, the distinction between acute and chronic pain is sometimes determined by an arbitrary interval of time since onset; the two most commonly used markers being 3 months and 6 months since onset¹⁰, though some theorists and researchers have placed the transition from acute to chronic pain at 12 months¹¹. Others apply acute pain that lasts less than 30 days and chronic pain that lasts more than six months duration¹². A popular alternative definition of chronic pain, involving no arbitrarily fixed duration, is "pain that extends beyond the expected period of healing" ¹⁰. Epidemiological studies have found that 10.1% to 55.2% of people in various countries have chronic pain¹³. Chronic pain may originate in the body, or in the brain or spinal cord. It is often difficult to treat.

Statistical Analysis:

Analyses was performed by using SPSS (statistical packages for social sciences). Simple descriptive measurement of the variables was expressed in percent, mean, SD, median. Bivariate analysis (chi-square test for categorical variables and t-test for continuous variables) was used to examine the relationships between chronic severe pain, respondent characteristics, and other variables of interest. Statistical significance for all outcomes was set at P < 0.05.

Results

Quantitative Findings

Table I shows the socioeconomic and demographic characteristics of the patients. Most of the female were housewife 79 (26%), other common occupations

were agriculture 61 (21%) and day labourer 61 (20%). Most of the respondents were married 235 (77%) and lived in a single family 181 (59%). About 160 (52%) were maintaining their livelihood by self-income.

Table I: Socioeconomic and Demographic characteristics

Characteristics	Value
Age in years (mean±SD)	39.92 ± 9.61
Sex	
Male	210 (69%)
Female	95 (31%)
Living area	
Rural	195 (64%)
Urban	110 (36%)
Educational qualification	
Illiterate	77 (25%)
Primary	70 (23%)
Secondary	62 (20%)
SSC	46 (15%)
HSC	32 (11%)
Graduate and above	18 (6%)
Occupation	
Unemployed	48 (16%)
Housewife	79 (26%)
Student	18 (6%)
Businessman	21 (7%)
Service holder	13 (4%)
Agriculture	65 (21%)
Day labourer	61 (20%)
Marital status	
Unmarried	25 (8%)
Married	235 (77%)
Widowed	36 (12%)
Separated	9 (3%)
Family type	
Single	181 (59%)
Combined	124 (41%)
Source of life expenditure	
Self-incoming and maintaining	160 (52%)
Dependent on others	145 (48%)

Data expressed as number and percentage mean ± SD

The Table II below displays the pain history and characteristics of 305 patients. Most common pain type was chronic musculoskeletal pain 95 (31%) and 253 (83%) had localized pain rather than whole body pain. The mean duration of pain was 6.82 ± 3.45 years and 159 (52%) patients were suffering from pain of moderate intensity. Chronic pain greatly impacts on their activity of daily living.

Table II: Pain history and characteristics

Characteristics	Value
Type of chronic pain	
Chronic primary pain	41 (13%)
Chronic cancer pain	9 (3%)
Chronic post-traumatic pain	11 (4%)
Chronic neuropathic pain	48 (16%)
Chronic headache and orofacial pain	49 (16%)
Chronic visceral pain	52 (17%)
Chronic musculoskeletal pain	95 (31%)
Location of pain	
Whole body	52 (17%)
Localized	253 (83%)
Head and Neck	49 (19%)
Upper limb	22 (9%)
Lower limb	28 (11%)
Upper back	13 (5%)
Lower back	81 (31%)
Chest	8 (3%)
Abdomen	52 (21%)
Duration of pain in years (mean±SD)	6.82 ± 3.45
Intensity of pain by VAS (0-10)	
Mild (0-3)	40 (13%)
Moderate (4-6)	159 (52%)
Severe (7-10)	106 (35%)
Effects of pain	
Interference with normal daily activities	286 (94%)
Interference with general activities	272 (89%)
Restriction of movement	202 (66%)
Effects on working ability	263 (86%)
Effects on mood	174 (57%)
Interference with sleeping pattern	189 (62%)
Interference with enjoyment of life	292 (96%)

Data expressed as number and percentage mean ± SD

This study explored the history about treatments and medications received by the respondents. Table 3 shows the treatments and medication history of 305 patients.

Table III: Treatments and medications received by the respondents

Characteristics	Value
Types of treatment	
Medication	305 (100%)
Surgical	7 (2%)
Physiotherapy/Radiotherapy	168 (55%)
Procedural intervention	25 (8%)
Medications	
Opioid	124 (41%)
NSAID	246 (81%)
Sedatives/Hypnotics/Anti-depressants	68 (22%)
Stimulants	None
Muscle relaxants	154 (50%)

Characteristics	Value
Steroids	97 (32%)
Others (Homeopath, Ayurvedh, Unani etc)	105 (34%)
Mostly benefited treatments	
Medication	75 (57%)
Surgical	5 (71%)
Procedural intervention	10 (40%)
Physiotherapy/Radiotherapy	54 (32%)
Collection of pain relieving medication	
Public hospitals	82 (27%)
Pharmacy	121 (40%)
Hawkers	102 (33%)
Clinical diagnosis	
Known	76 (25%)
Not known	229 (75%)
Final diagnosis	
Osteoarthritis	42 (55%)
Prolapse intervertebral disc disease	15 (20%)
Inflammatory arthritis	15 (20%)
Bone fracture	4 (5%)

Value expressed as number and percentage

The information of treatment seeking behaviour of the patients are presented in the table below (Table IV).

Table IV: Treatment seeking behavior

Characteristics	Value
Treatment received from	
Specialist doctors	59 (19%)
General practitioners	72 (24%)
Nurses/Paramedics	83 (27%)
Village doctors	91 (30%)
Mostly benefited from	
Specialist doctors	52 (88%)
General practitioners	43 (60%)
Nurses/Paramedics	21 (25%)
Village doctors	26 (29%)
Discipline of specialist doctors	
Internal medicine	10 (17%)
Physical medicine	7 (12%)
Rheumatology	6 (10%)
Neuromedicine	10 (17%)
General surgery	4 (7%)
Orthopedics	13 (22%)
Neurosurgery	4 (7%)
Anaesthesiology	5 (8%)
Service facility	
Public hospital	68 (52%)
Private hospitals/Clinics	63 (48%)
Mostly benefited	
Public hospital	39 (57%)
Private hospitals/Clinics	48 (76%)

Characteristics	Value
Location of service delivery point	
Outdoor	61 (47%)
Personal chamber	70 (53%)
Type of treatment want to receive	
Medication	192 (63%)
Surgical	11 (4%)
Procedural intervention	102 (33%)
Reason for choosing	
Anxiety/Fear of surgery and intervention	192 (63%)
Side effects of medications	113 (37%)

Value expressed as number and percentage

The drug abuse history of the patents were prescribed in Table V.

Table V: Current and prior substance use and misuse history

Characteristics	Value
Drug misuse	196 (64%)
Specified ways	
Medication not legally prescribed	96 (49%)
Medications used more than prescribed dose	42 (21%)
Medications used more than prescribed duration	58 (30%)
Medication taken without legal prescription by	
Own knowledge and interest	6 (6%)
Using other patient’s prescriptions	21 (22%)
Forcing/persuing by service provider	2 (2%)
Medicine shop	67 (70%)
Medication taken without legal prescription	
Opioid	10 (10%)
NSAID	69 (72%)
Sedatives/Hypnotics/Anti-depressants	8 (8%)
Steroid	9(9%)
Medications used more than prescribed dose	
Opioid	8 (19%)
NSAID	24 (57%)
Sedatives/Hypnotics/Anti-depressants	5 (12%)
Muscle relaxants	3 (7%)
Steroid	2 (5%)
Cause of taking increased dose	
Ineffective to relieve pain	9 (21%)
Initially pain relieved but gradually higher dose needed	33 (79%)
Higher doses	
Two times (Double)	38 (90%)
Three times (Triple)	4 (10%)
Medications used more than prescribed duration	
Opioid	9 (16%)
NSAID	31 (53%)
Sedatives/Hypnotics/Anti-depressants	8 (14%)
Muscle relaxants	4 (7%)
Steroid	6 (10%)
Cause of taking drugs for long duration	
Physical problems after stopping medication	12 (21%)
Dependency/Addiction	2 (3%)
Painful condition worsened after stopping medication	44 (76%)
Average duration of taking medication in monthst	2.34 ± 1.68

Value expressed as number (percentage). mean ± SD

The effects of treatments are listed in Table VI.

Table VI: Effects of treatments.

Characteristics	Value
Number of patients	232 (76%)
Mental disturbance	78 (26%)
Sleeplessness	69 (23%)
Loss of memory	64 (21%)
Aggression	29 (10%)
Restlessness	30 (10%)
High blood pressure	21 (7%)
Low blood pressure	35 (11%)
Tremor	38 (12%)
Shortness of breath	25 (8%)
Heart problems	8 (3%)
Dependence	3 (1%)

Value expressed as number and percentage

Qualitative Findings

Thirty individual were selected for In-depth investigations (IDI). All the participants provided information on their experience. Each interview lasted for near 30 to 45 minutes. All the interviews were conducted by face to face interview. Lastly, transcripts were filtered and the final results were summarized.

Thirty participants belonged from different places in Bangladesh. To ease the participants, casual conversation was initiated at the beginning and the whole research topic was mentioned in brief and verbal consent to participate in IDI was taken.

The qualitative analysis revealed the information regarding their age differences, current health condition, and previous health condition before going to physicians, experience about the diagnosis, satisfaction and dissatisfaction of patients, opinion and consequences of drug misuse, overall perceptions and suggestions.

Age categories

There were cases from different age groups. Among the cases, one fifth of them were from 20 to 30 years old, one fifth were older group aged between 50 to 60 years and others were between 30 to 50 years and the highest aged people was 58 years old among all of them.

Educational Background

Six patients had studied upto primary level and five

upto secondary level. Number of patients completed S.S.C. and H.S.C. were three and two, respectively. Three among them was exceptional to complete their bachelor's degree and others were illiterate.

Residential Status

Among the participants, only 5 of them were residents of Dhaka city, except that, all the patients belonged from different districts outside Dhaka in which some of the regions mentioned were Madaripur, Rangpur, Narayanganj, Gopalganj, Kushtia, Mymensingh, Rajshahi, Chandpur and Khulna. So almost around Bangladesh, people were included in the study.

Financial Status

None of the patients' families belonged from a higher economical background. Resulting from which, most of the participants' common occupations were daily wager, mason, tea staller, CNG drivers, brickyard worker, cement shop businessman, mobile device businessman, garment worker, and many others. Some of the female patients were housewives.

Current health condition

When talked about their present health condition, most of the patients were dissatisfied with their condition. Many of them had shown concern about their present condition and wanted to visit the doctor again but due to the pandemic situation couldn't attempt it, as per their opinion.

Physical condition before going to physicians

Almost all the patients were in worse condition while going to the registered physicians. Respondents who participated in the interviews, very few were in an emergency condition to see the doctor.

Satisfaction of the patients

Most of the patients are satisfied with the attitude and behavior of the physicians. It was quite good as per their opinion. Mostly all the patients except for one or two said that they were satisfied with the treatment and behavior.

Dissatisfaction of the patients

Most of the cases are dissatisfied with the treatment of village doctors. More than half of the participants went to multiple doctors for pain relief.

The experience about the diagnosis

Very few patients know the diagnosis of their pain.

Opinion on misuse of drugs

Two third of patients gives history of misuse of drugs. A few of the participants take medications more than the prescribed dose and duration. Very few of them take medications due to the development of dependence.

Overall perception and suggestions

Most of the participants said that there was no pain specialist outside Dhaka city. Almost all of them suggest that the government should increase the facility to treat patients suffering from chronic pain as well as increase the number of pain specialists. Strict rules and regulations should be followed to stop dispensing drug without prescriptions.

Consequences of misuse of drugs

Most respondents expressed that they used to feel stressed. They feel that misuse of drugs have an adverse impact on their physical health as well.

Discussion

Chronic pain and substance abuse are independently recognized as complex problems growing in scope and severity. Each has its own unique difficulties that contribute to poor outcomes and partial response to treatment. A substantial and very unfortunate number of patients have both of these devastating problems and constitute a highly stigmatized and plainly underserved population who would benefit from additional scientific and clinical attention⁸.

Practical guidance is needed for the assessment, formulation, and treatment of patients with chronic pain and substance dependence disorder. Identifying opportunities and directions for additional research are important elements to advancing our understanding of these problems and their critically important interrelations. Chronic pain remains a substantially undertreated problem associated with both an indication for prescribing drugs and with abuse of prescription medications¹⁴. This study was conducted with the aim of assessing prescription drug abuse among chronic pain patients.

This is the very first study to observe the trend of

abuse of pain medications in Bangladesh. The mean age of patients was 39.92 ± 9.61 years and median age was 39 years. Out of 305 patients, 210 (69%) and 95 (31%) were male and female, respectively; male to female ratio 2.2:1. About 195 (64%) patients were living in rural area. Only 18 (6%) patients have completed their graduation, 77 (25%) were illiterate, 70 (23%) and 62 (20%) have completed primary and secondary school, respectively.

The NESARC reports revealed that young adults aged 18-29 years had the highest rates of non-medical use of opioids (7.4%) and tranquilizers (4.7%). Those aged 30-44 years had higher rates of non-medical use of stimulants (6.8%) and sedatives (5.1%)⁸. It also analyzes demographic and regional differences in non-medical use and abuse of prescription drugs. Men, especially in the western United States, had significantly higher rates compared to women, of non-medical use of all categories of prescription drug use⁸.

Compared to persons who were married and cohabitating, those who were never married, widowed, separated, or divorced had greater non-medical use/abuse of opioids, sedatives, and tranquilizers. Thus, risk factors for non-medical use of prescription medications include male gender and single status. Lifetime prevalence of non-medical prescription drug use in 2004-5 was highest for opioids and stimulants (both 4.7%), followed by sedatives (4.1%), and tranquilizers (3.4%), and the lifetime prevalence of abuse or dependence for these drugs (non-medical use) was highest for stimulants (2.0%), followed by opioids (1.4%), sedatives (1.1%), and tranquilizers (1.0%)⁸.

In this current study, the prevalence of drug abuse was 64% [95% CI: (59-70)]. The specified ways of drug abuse revealed that 96 (49%) patients used medication without legal prescriptions, 42 (21%) used more than the prescribed dose and 58 (30%) used more than the prescribed duration for relieving pain. NSAID was the most common drug taken without legal prescription 72% [95% CI: (63-81)] and used more than the prescribed dose 57% [95% CI: (42-72)]. The average duration of taking medications more than the prescribed time period was 2.34 ± 1.68 months and NSAID was the frequently used drugs taking for long duration 53% [95% CI: (41-66)]. The prevalence of

drug misuse was higher than other studies done in abroad^{8,14,15}.

The NSDUH statistics for 2008 report an estimated 6.2 million (2.5%) persons aged 12 or older using prescription-type psychotherapeutic drugs non-medically⁷. The majority of non-medical users (55.9 percent) obtained these drugs from a friend or relative for free (of which, 81.7 of these friends or relatives received drugs from one doctor)⁷. About 18.0 percent of non-medical users received these drugs from only one doctor. Only 4.3 percent got pain relievers from a drug dealer or other stranger, and 0.4 percent bought them on the Internet⁷.

Concerning current abuse of medications, this study showed that the most common drug was NSAID. However, studies related to drug abuse found that opiate was the commonly misused medications^{3-8,14,15}. The scope of getting medicines without legal prescriptions from medicine shop may contribute to this finding.

We have seen that most of the participants were coming from outside Dhaka city, capital of Bangladesh and belonged to lower socioeconomic group. Unavailability of pain physicians outside Dhaka city and the lower socioeconomic status contributed a great impact on this higher prevalence¹⁶.

This current study revealed that more than half of the participants went to multiple doctors, as because such pain is often inadequately managed. Patients received treatment commonly from village doctors 91 (30%), nurses/paramedics 83 (27%), general practitioners 72 (24%) and specialist doctors 59 (19%). This doctor shopping played a major role in prescription drug abuse¹⁷.

The consequences of drug misuse adversely affect both physical and mental health of the patients^{1,7}. A large number of patients have got problems/complications after long time using of pain relieving medications 232 (76%). The most common adverse effects of treatments were mental disturbance 78 (26%); sleeplessness 69 (23%); loss of memory 64 (21%); restlessness 30 (10%) and tremor 38 (12%). The study results were similar with the above mentioned studies^{1,7,9}.

Limitation

Although the study was conducted in a small scale, a larger study can give a real insight into the phenomenon in terms of Bangladesh.

Conclusion

We have found the higher prevalence of prescription drug abuse among the chronic pain patients of lower socioeconomic group. It is expected that the findings of this study may aware the policymakers and stakeholders regarding this much-overlooked side of health services so that appropriate steps can be taken to avoid this situation.

Declaration

Ethics approval

Institutional Review Board (IRB) of Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh.

Author contributions

Conception and development of the idea *AKMA*

Data collection *MMK*

Data analysis *DKB, MSI*

Writing - Original draft preparation *MMK*

Review & editing *AKMA*

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Conflict of interests None

References

- 1 Substance Abuse and Mental Health Services Administration. Results from the 2006 Survey on Drug Use and Health: National Findings. Office of Applied Studies; Rockville (MD): 2007. DHHS publication SMA 07-4293.
- 2 McCabe SE, Teter CJ, Boyd CJ. Medical use, illicit use, and diversion of abusable prescription drugs. *J Am Coll Health*. 2006;54:269–78.
- 3 Reid MC, Engles-Horton LL, Weber MB, et al. Use of opioid medications for chronic noncancer pain syndromes in primary care. *J Gen Intern Med*. 2002;17:173–9.
- 4 Savage SR, Joranson DE, Covington EC, et al. Definitions related to the medical use of opioids: Evolution towards universal agreement. *J Pain Symptom Manage*. 2003;26:655–67.

- 5 Chelminski PR, Ives TJ, Felix KM, et al. A primary care, multi-disciplinary disease management program for opioid-treated patients with chronic non-cancer pain and a high burden of psychiatric comorbidity. *BMC Health Serv Res*. 2005;5:1–13.
- 6 National Center for Health Statistics. United States, 2006 with chartbook on trends in the health of Americans. NCHS; Hyattsville: 2006; 68–71.
- 7 Substance Abuse and Mental Health Services Administration. Results from the 2008 National Survey on Drug Use and Health: National Findings. Office of Applied Studies; Rockville, MD: 2009. NSDUH Series H-36, HHS Publication No. SMA 09-4434.
- 8 Huang B, Dawson DA, Stinson FS, et al. Prevalence, correlates, and comorbidity of nonmedical prescription drug use and drug use disorders in the United States: results of the National Epidemiologic Survey on Alcohol and Related Conditions. *J Clin Psychiatry*. 2006;67:1062–73.
- 9 American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders-IV. Vol. 2000 Washington., D.C: American Psychiatric Association; 1994.
- 10 Turk, D.C.; Okifuji, A. (2001). "Pain terms and taxonomies". In Loeser, D.; Butler, S. H.; Chapman, J.J.; Turk, D. C. *Bonica's Management of Pain* (3rd ed.). Lippincott Williams & Wilkins.18–25. ISBN 0-683-30462-3.
- 11 Main, C.J.; Spanswick, C.C. (2001). *Pain management: an interdisciplinary approach*. Elsevier. 93. ISBN 0-443-05683-8.
- 12 Thienhaus, O.; Cole, B.E. (2002). "Classification of pain". In Weiner, R.S. *Pain management: A practical guide for clinicians* (6 ed.). American Academy of Pain Management. ISBN 0-8493-0926-3.
- 13 Harstall C, Ospina M. How Prevalent Is Chronic Pain? June 2003 volume XI issue2 Pain Clinical Updates, International Association for the Study of Pain.
- 14 Becker WC, Fiellin DA, Gallagher RM, Barth KS, Ross JT, Oslin DW. The association between chronic pain and prescription drug abuse in Veterans. *Pain Med*. 2009 Apr;10(3):531-6.
- 15 David B. Brushwood, Ben A. Rich, John J. Coleman, Jennifer Bolen, Winston Wong. (2010) Legal Liability Perspectives on Abuse-Deterrent Opioids in the Treatment of Chronic Pain. *Journal of Pain & Palliative Care Pharmacotherapy* 24:4, 333-348.
- 16 Roy J. Health status, treatment and drug use in rural Bangladesh: a case study of a village. *Aust J Rural Health*. 1997 May;5(2):70-5.
- 17 Biernikiewicz M, Taieb V, Toumi M. Characteristics of doctor-shoppers: a systematic literature review. *J Mark Access Health Policy*. 2019;7(1):1595953. Published 2019 Mar 27. doi:10.1080/20016689.2019.159