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Original Research Article

Epidemiology of Chronic Pain Patients Attending Pain Clinic: Prospective, Observational Study

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Conflict of interest: Nil

Abstract

Objective: To study epidemiology and impact of chronic pain on life of patients and to find choose treatment modalities for chronic pain.

Methods: A random sample of 200 patients, aged 35 and over, was drawn and surveyed by a self-completion questionnaire. The questionnaire included case-screening questions, a question on the cause of the pain, the chronic pain grade questionnaire, the level of expressed needs questionnaire, and sociodemographic questions.

Results: About 72% of the GPs had awareness about pain clinics, but only 32% actually referred patients to pain clinics. Sixty percent of the GPs referred patients to other specialists, mostly orthopedic surgeons. Forty percent of the GPs were aware of few techniques of pain relief; however, 65% answered negatively about techniques at pain clinics. GPs showed interest in knowing more about such clinics (88.2%). Respondents with chronic moderate and chronic severe pain were 37% and 63%, respectively. Pain in knees (32%), legs (28%), and joints (22%) was most prevalent. Respondents with chronic pain were no longer able to exercise, sleep, maintain relationships with friends and family, and maintain an independent lifestyle. About 32% of patients lost ≥4 hours of work in the past 3 months. Majority (68%) of respondents were treated for pain with over the counter (OTC) drugs, and most were taking NSAIDs (95%).

Conclusion: Chronic pain is a major problem in the community and certain groups within the population are more likely to have chronic pain. A detailed understanding of the epidemiology of chronic pain is essential for efficient management of chronic pain in primary care. The high frequency of patients with chronic pain in practices of specialists demonstrates the necessity of a special qualification also on this level of our medical system.

Keywords: Chronic Pain Grade Questionnaire, The Level Of Expressed Needs Questionnaire, Sociodemographic Questions, Physiological Nociception.

Introduction

Chronic pain is defined as pain that persists past normal healing time [1] and hence it lacks the acute warning function of physiological nociception [2]. Pain is regarded as chronic when it lasts or recurs for more than 3 to 6 months. [3] Chronic pain is a frequent condition, affecting an estimated 20% of people worldwide [4,5] and accounting for 15% to 20% of physician visits. [6] In Indian context prevalence of chronic pain has been studied by telephonic surveys and found to be 13-19%. The number of patients with chronic pain is increasing every year, and effective management of it is one of the prime concerns of doctors across the world. But this demands appropriate awareness, knowledge, and attitude regarding pain and specialized clinics where pain can be dealt with, using the most effective approaches. The latter vividly points at "Pain Clinics," which form the basis of our study. [7]

Chronic pain should receive greater attention as a global health priority because adequate pain treatment is a human right, and it is the duty of any health care system to provide it. Epidemiology studies provide important information on prevalence and factors associated with its onset and persistence. Our research intends to fill the knowledge gap that exists in Indian literature in context of chronic pain and its associated factors. This will improve our pre-existing management strategies and helps us in minimising disabilities.

Materials and Methods

We conducted a prospective and observational study at Department of Anaesthesiology RKDF Medical College Hospital & Research Center Jatkhedi Bhopal. After approval from RAC and IEC we conducted our study at Pain clinic. Patients who fulfilled inclusion criteria and gave informed consent were included in study. A data collection form was given to attendant and explained in language of preference. The information collected from these forms was analyzed and used to prepare our result.

Study Design: Prospective Observational study

Sample Size: 200 (On basis of approx OPD annually)

Study duration: One Year

Inclusion criteria

1. Patient having Chronic Pain as defined by IASP Criteria
2. Age group 14 years and above

Exclusion criteria

1. Refusal of Consent
2. Follow up patients
3. Acute pain

Study Design: Observational, Data based, Prospective study.

Consent: Written consent was obtained from the relatives of patients after explaining them the nature and purpose of the study. They were assured that confidentiality would be strictly maintained. The option to withdraw from the study was always open.

Observation Chart

DATA COLLECTION FORM

Name.....Age/Sex.....
Address.....
.....Date.....
PhoneNo.....Email.....

Approx Duration of Pain:
3 Months/6 Months/12 Months/2 Years/ > 2 Years
Site of Pain:
a) Foot b) Knee c) Hip d) Wrist e) Elbow f) Shoulder g) Cervical h) Thoracic g) Lumbar h) Headache i) Abdomen j) Others (Please specify).....
Prior Consultation:
a) General Physician b) Orthopedician c) Neurologist d) Psychiatrist e) Pain Physician f) Alternative Therapy
Morbidities associated with Pain:
a) Feeling of anxiety b) Interferes with sleep c) Interferes with Work d) Depression e) Living with the pain
Treatment taken prior to Pain Specialist Consultation:
a) OTC drugs.....
b) Prescription Drugs.....
c) Massage and Physical Therapy d) Yoga e) Acupuncture f) Homeopathy g) Ayurveda h) Not on any medication

Consultation Taken From	No. Of Patients (N=200)	Associated Morbidities	Treatment Taken	Relief From Pain
Gen. Physician	75	50	OTC drugs	25
Orthopaedician	38	30	Prescription Drugs	30
Neurophysician	20	15	Prescription Drugs	15
Psychiatrist	12	10	Prescription Drugs	6
Pain Physician	30	18	Prescription Drugs	27
Alternative Therapy	25	20	Massage and Physical Therapy Yoga Acupuncture Homeopathy Ayurveda	15

Duration Of Pain	No. Of Patients (N=200)	Associated Morbidities	Workhours Lost
3 Months	62	anxiety Interferes with sleep and work	>=3 hours/day
6 Months	37	Feeling of anxiety Interferes with sleep and work	>=2 hours/day
12 Months	39	Feeling of anxiety Interferes with sleep and work	>=2 hours/day
24 Months	40	Interferes with sleep and Work Living with the pain	>=3 hours/day
>24 Months	22	Interferes with Work and sleep Depression Living with the pain	>=3 hours/day

Site of Pain	No. of	Treatment Taken	Percentage	Workhours

	Patients (N=200)			Lost
Joints A) Knee B) Hip C)Wrist D)Shoulder E) Others	135 (55 30 15 25 15)	OTC, Prescription drugs, alternative medicines	67.5%	>=2 hours/day
Spine Lumber, Sacral, Thorasic	55	OTC, Prescription drugs, alternative medicines	27.5%	>=3 hours/day
Others	10	OTC, Prescription drugs, alternative medicines	5%	>=2 hours/day

Results

About 72% of the physicians had awareness about pain clinics, but only 32% actually referred patients to pain clinics. Sixty percent of them referred patients to other specialists, mostly orthopedic surgeons. Forty percent were aware of few techniques of pain relief; however, 65% answered negatively about techniques at pain clinics. Physicians showed interest in knowing more about such clinics (88.2%). Respondents with chronic moderate and chronic severe pain were 37% and 63%, respectively. Pain in knees (32%), legs (28%), and joints (22%) was most prevalent. Respondents with chronic pain were no longer able to exercise, sleep, maintain relationships with friends and family, and maintain an independent lifestyle. About 32% of patients lost ≥4 hours of work in the past 3 months. Majority (68%) of respondents were treated for pain with over the counter (OTC) drugs, and most were taking NSAIDs (95%).

Statistical analysis:

The collected data was summarized by using frequency, percentage, mean & S.D. To compare the qualitative outcome measures Chi-square test or Fisher's exact test was used. To compare the quantitative outcome measures Independent t test was used. If data was not following normal distribution, Mann Whitney U test was used. SPSS version 22 software was used to analyse the collected data. p value of <0.05 was considered to be statistically significant.

Discussion

Breivik H conducted a large scale computer-assisted telephone survey to explore the prevalence, severity, treatment and impact of chronic pain. Screening interviews identified respondents aged 18 years with chronic pain for in-depth interviews. Their pain intensity was 5 on a 10-point Numeric Rating Scale . 61% were less able or unable to work outside the home, 19% had lost their job and 13% had changed jobs because of their pain. 60% visited their doctor about their pain 2-9 times in the last six months. Only 2% were currently treated by a pain management specialist. One-third of the chronic pain sufferers were currently not being treated. Two-thirds used non-medication treatments, e.g, massage (30%), physical therapy (21%), acupuncture (13%). Almost half were taking non-prescription analgesics; 'over the counter' NSAIDs. They concluded that chronic pain of moderate to severe intensity occurs in 19% of adult Europeans, seriously affecting the

quality of their social and working lives. Very few were managed by pain specialists and nearly half received inadequate pain management.

Ashok Kumar Saxena [8] et al conducted a questionnaire. Two sets of questionnaires were designed. The first, a screening questionnaire was used telephonically to identify the prevalence of CP, and should there be CP; the second, a detailed questionnaire was administered, to characterize the features and impact of pain. The interviews were carried out face-to-face. [9-12] A total of 4326 Indian patients were screened, and 836 completed a detailed pain questionnaire during 2006. The prevalence of CP was found to be 19.3% (n = 836). There was a higher prevalence in females (25.2%). Pain prevalence increased steeply beyond the age of 65 years old. There was a significant impact of CP on work and daily function. [13]

Considering the Indian scenario, patients prefer visiting either their family physicians or general practitioners (GPs) to be alleviated of their pain .Deshpande AN et al studied awareness, attitude, and knowledge about "pain clinics" among these general practitioners .A survey of 170 GPs was conducted in Nagpur, India, to know about their knowledge, awareness, and attitude toward pain clinics through a structured questionnaire. Majority of the GPs in Nagpur are aware of the pain clinics but are reluctant to refer patients to pain clinics. This may be due to limited knowledge about pain physicians and procedures performed at pain clinics and their efficacy and safety. [14,15]

Chronic pain is of concern to health professionals, patients, society, and negatively impacts quality of life (QoL). This epidemiologic study by Dureja GP et al identified point prevalence of chronic pain in India, impact on individual's QoL, unveiling current pain treatment practices, and levels of satisfaction with treatment. This epidemiological telephonic survey consisted of two questionnaires: screening questionnaire that assessed prevalence of pain, its frequency during the past week, intensity during last episode, sites of pain, and main causes, and in-depth questionnaire that evaluated demography, frequency, duration, and intensity of pain; impact of pain on QoL; respondent's perception regarding the attitude of their family, friends, and doctors toward their pain. Respondents with chronic pain were no longer able to exercise, sleep, maintain relationships with friends and family, and maintain an independent lifestyle. [16,17] About 32% of patients lost ≥4 hours of work in the past 3 months. Majority (68%) of respondents were treated for pain with over the counter (OTC) drugs, and most were taking NSAIDs (95%). They concluded that a significant population of India suffers from chronic pain, and their QoL is affected leading to disability. A proportion of respondents receiving pain treatment were taking nonprescription medications with a majority of respondents on NSAIDs. A very few were consulting pain management specialists. [18]

A systematic review and meta-analysis was done by Sá KN, Moreira L on prevalence of chronic pain in developing countries. The goal of this study was to estimate the pooled prevalence of CP in the general population in developing countries. The overall pooled prevalence of CP after correction for publication bias was 18%. Subgroup analyses demonstrated that year of publication and the adopted threshold for pain chronicity could partially explain the observed heterogeneity ($P < 0.05$). The proportion of individuals with CP in the general population of developing countries was 18%. However, reports of prevalence have high variability, especially related to year of publication and the threshold level adopted for pain chronicity. [19]

Evaluation and treatment of chronic pain worldwide are limited by the lack of

standardized assessment tools incorporating consistent definitions of pain chronicity and specific queries of known social and psychological risk factors for chronic pain. The Vanderbilt Global Pain Survey (VGPS) was developed as a tool to address these concerns, specifically in the low- and middle-income countries where global burden is highest. Bansal D et al studied prevalence and impact of low back pain in a community-based population in northern India. Whereas Walters JL et al did a pilot study of the Vanderbilt global pain survey on chronic pain and associated factors in India and Nepal. [20,21] Overall, Nepal had significantly higher chronic pain prevalence, symptom severity, widespread pain, and self-reported previous traumatic events, yet lower reported pain severity. Specific areas for improvement identified in this VGPS pilot study included survey translation methodology, redundancy of embedded metrics and cultural limitations in representative sampling and in detecting the prevalence of mental health illness, catastrophizing behavior, and previous traumatic events. [22]

Latina R et al did a cross-sectional study on the clinical characteristics of patients attending pain clinics. In Italy, chronic pain affects more than a quarter of the population, whereas the average European prevalence is 21%. This high prevalence might be due to the high percentage of Italian people who do not receive treatment. A total of 1,606 patients (mean age 56.8 years, standard deviation ± 11.4), 67% women, were analyzed. Severe pain was present in 54% of the sample. Chronic pain was musculoskeletal (45%), mixed (34%), and neuropathic (21%). In more than 60% of the cases, chronic pain was continuous, and in 20% it had lasted for more than 48 months; long-lasting pain was often neuropathic. Neuropathic pain and mixed pain were significantly associated with number of sites. [23]

Elliott AM et al undertook a study designed to quantify and describe the prevalence and distribution of chronic pain in the community. A random sample of 5036 patients, was drawn and surveyed by a postal self-completion questionnaire. The questionnaire included case-screening questions, a question on the cause of the pain, the chronic pain grade questionnaire, the level of expressed needs questionnaire, and sociodemographic questions. Backward stepwise logistic-regression modelling identified age, sex, housing tenure, and employment status as significant predictors of the presence of chronic pain in the community. Chronic pain is a major problem in the community and certain groups within the population are more likely to have chronic pain. A detailed understanding of the epidemiology of chronic pain is essential for efficient management of chronic pain in primary care. [24]

Surgery and trauma are recognised as important causes of chronic pain, although their overall contribution has not been systematically studied. This paper by Crombie IK et al reports on the contribution of surgery and trauma to chronic pain among 5130 patients attending 10 outpatient clinics located throughout North Britain. Surgery contributed to pain in 22.5% of patients, and was particularly associated with the development of pain in the abdomen and with anal, perineal and genital pain. Trauma was a cause of pain in 18.7% of patients, and was most common in pain in the upper limb, the spine and the lower limb.

Mailis-Gagnon A et al did an observational study to describe the pain and demographic characteristics of patients attending a university-affiliated tertiary care pain clinic. Musculoskeletal problems affecting large joints and the spine were the predominant cause of pain (more prevalent in women), followed by neuropathic disorders (more prevalent in

men) in patients with recognizable physical pathology. The most affected age group was in the 35- to 49-year age range . The relevance of the data in relation to other pain clinics is discussed, as well as waiting lists and other barriers faced by chronic pain patients, pain practitioners and pain facilities in Ontario and Canada.

Tunks ER et al reviewed the epidemiologic literature concerning psychosocial mediators of outcome in chronic pain. These factors deserve attention in the assessment and treatment of chronic pain by mental health professionals. Treatments considered include analgesics, psychological rehabilitation, and prevention of disability. Psychosocial factors such as abuse, mood disorder, employment handicap, poor coping skills, and other psychosocial problems are commonly found in chronic pain patients. Many such factors that can be identified in chronic pain sufferers are relevant to the professional skills of mental health professionals. These factors are determinants of prognosis, course, and outcome of chronic pain.

Willweber-Strumpf A et al studied the epidemiology of chronic pain in 5 medical practices. 900 patients of five different specialists (general medicine, internal medicine, neurology, orthopaedics, surgery) in the german town Bochum were investigated with a questionnaire about chronic pain. The four most frequent localisations of chronic pain were the back, the head, the joints and the legs. The primary treatment strategies of the chronic pain were physiotherapy and drug therapy. 30% of the patients did not have any pain relieve by the past treatment strategies. This study concluded that patients with chronic pain are a frequent and important problem in practices of home physicians. The high frequency of patients with chronic pain in practices of specialists demonstrates the necessity of a special qualification also on this level of our medical system.

Conclusion

Chronic pain is a major problem in the community and certain groups within the population are more likely to have chronic pain. A detailed understanding of the epidemiology of chronic pain is essential for efficient management of chronic pain in primary care. The high frequency of patients with chronic pain in practices of specialists demonstrates the necessity of a special qualification also on this level of our medical system.

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Availability of data and material: Department of Anaesthesiology RKDF Medical College, Bhopal

Code availability: Not applicable

Consent to participate: Consent taken

Ethical Consideration: There are no ethical conflicts related to this study.

Consent for publication: Consent taken

What this Study Add to Existing Knowledge

With this study we will be filling the existing knowledge gap among pain physicians across the country. Epidemiology of chronic pain will improve our knowledge and help us in framing better policies at level of institutions and government to manage this global epidemic. Patients with chronic pain are a frequent and important problem in practices of physicians. The high frequency of patients with chronic pain in practices of specialists demonstrates the necessity of a special qualification also on this level of our medical system.

Limitations of Study

Incidence of chronic pain is very high in community and number of specialist doctors and clinics are very limited. Sample size taken as per the OPD attendance at Department of Anaesthesiology, RKDF Medical College Hospital & Research Center Jatkhedi

Bhopal is not adequate enough to extrapolate the data for community. Chronic pain is still a evolving branch of medicine. Diagnosis of chronic pain conditions are mostly done on clinical basis. Hence there is possibility of inter observer variations.

Contribution by Different Authors

First author Dr. Varchaswa Pandey Assistant Proffessor Department of Anaesthesiology,RKDF Medical College Hospital & Research Center Jatkhedi Bhopal Data collection and statistical analysis

Second author Dr Bhuvaneshwar Minj Associate Professor Department of Anaesthesiology, RKDF Medical College Hospital & Research Center Jatkhedi Bhopal Data collection and statistical analysis

Third author: Dr. Deepak Khare Consultant Anaesthesia, Central Hospital, West Central Railway Jabalpur References and Discussion

Fourth and Corresponding Author Dr Shruti Dubey Assistant Professor, Department of Emergency Medicine People's College of Medical Sciences Bhopal, References and Discussion

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