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Research Article

INFLUENCE OF DEMOGRAPHIC FACTORS ON PAIN KILLER USAGE AND ADDICTION SYMPTOMS

*Mehnaz Nuruddin Gitay[1], Zubia Zia[2] and Farah Zehra[3]

[1]DIMC- Dow University of Health Sciences (Ojha Campus), Karachi, Pakistan
[2]Baqai Institute of Pharmaceutical Sciences, Baqai Medical University, Karachi, Pakistan
[3]Institute of Business and Technology, Karachi, Pakistan

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ABSTRACT

Pain killers have been a necessity for humans since their skin has been laden with pain receptors to signal them against any invasion or unusual going on in the body. This pain when exceeds the limits of tolerance has to be alleviated to reduce suffering. Since ancient times numerous natural substances like herbs and oils have been used to relieve pain, but in modern era more refined ways to relieve pain have been discovered that exactly target the precise pain. This research identifies the factors that govern painkiller usage and addiction and the people who, in majority fall prey to pleasures of pain killers. The research was carried out through a questionnaire and results were statistically analyzed by fishers exact test. Males, employed people, non medics and graduates are most attracted to pain killers and are susceptible to long term addiction. The reasons for these people falling prey to pain killers are work load, mental stress and physiological responses to the drug**.** These factors can be managed through proper intervention by health professionals. The role of friends and family too here cannot be ignored.

Keywords: Pain, addiction, painkillers, intervention, health professionals

INTRODUCTION

Pain is defined as the "unpleasant sensory and emotional experience with actual or potential tissue damage or described in terms of such damage"[1]. Pain is the most prominent member of a class of sensations known as bodily sensations, which includes itches, tickles, tingles, orgasms and so on. Pain is defined as a sensory and affective experience [2-4] that has a protective function[5]. A difference exists between "primary" and "secondary" stage pain affect. The secondary stage affect encompasses negative emotions like sadness, gloominess and depression caused by cognitive processes underlying the elaboration of meanings and the evaluation of the significance and the future implications of pain[4]. Sherrington in 1906 [6] was among the first modern neural scientists to describe pain as a physical adjunct to an imperative protective reflex, though now we know that chronic pain is not protective. The perception of clinical pain depends on the activity of the brain through there is no compelling evidence that responses to experimental painful stimuli can predict the pattern of brain responses in chronic clinical pain states. Lack of attention towards the painful stimuli may also result in no sensation of pain [7]. The pain experience varies according to the sociocultural background and the description of the experience depends on it to indicate extreme discomfort. "Hurt" indicates a lesser intensity than pain and "ache" the most minimal [8]. Pain is not merely a sensation; it is processed and completed in the limbic region[9]. The sensory stimuli are modulated via the serotonin and epinephrine circuits, probably due to which the perception of pain is influenced by depression and antidepressants [10]. It has been observed that anxiety enhances the pain perception [11], while depression reduces the sensitivity to pain[12]. Depressed people are more sensitive to the emotional pain rather than the physical pain they are exposed to. The central pathways descending from the brain modulate transmission of nociceptive information at spinal cord level [13] and via these descending pathways affective and

***Corresponding Author Address: Dr. Mehnaz Nuruddin Gitay, DIMC- Dow University of Health Sciences (Ojha Campus),** Karachi, Pakistan, E-mail: quick_gitay@hotmail.com*

cognitive factors, like anxiety, attention, and expectation, exert an influence on pain perception at this level [14]. Pain as well as negative emotions like anxiety both lead to the sympathetic arousal and share a common response pattern [15]. Emotions are significant drivers of behavior and shape our experience of pain via direct neural connections. Since pain is associated with negative emotions, it is attributed with terms like tolerable to miserable[16]. With the relationship between psychological background, emotional status and pain in view, the current study has been designed to explore the prevalent trend of how people in Karachi belonging to various age groups; educational and professional backgrounds deal with pain. Further on, the results are to be discussed in terms of the development of dependence on pain killers and addiction symptoms in the respondents.

MATERIALS AND METHODS

Research type followed in the present report is exploratory. Data is collected through survey, based on primary research. The research tool is a questionnaire. The research is carried out through a questionnaire distributed to be filled in by random respondents above 18 years of age. The questionnaire has been designed to explore the correlation of various demographic features with the prevalence of pain killer usage. The demographic features include gender, age, education, employment, etc. The data has been collected from 300 people randomly across Karachi, Pakistan. The data represents the demographic factors that influenced pain killer usage during the year 2012.

DATA ANALYSIS

Data has been analyzed by Fisher's exact test to determine significant correlation between the demographics and painkiller usage data. The data was cross tabulated according to the percentages of the responses. Only significant data is included.

RESULTS

Demographic factors with Addiction Symptoms: Results have been evaluated as percentages of responses.

a) Out of the sample size of 300, 21.3% males considered their regular dose of painkillers ineffective as compared to just 13 % females who felt so.
b) 7.3% males are always hurt, while 5.3% males are sometimes hurt when anyone objects to their usage of pain killers.
c) 9.7% males suffer from mood shifts as compared to 5.7% females.
d) 9.3% non-medics are always, as well as 9.3% non-medics are sometimes annoyed with the doctor for not prescribing painkillers.
e) 20.3% non-medics significantly neglect their responsibilities as compared to 6.4% medics.
f) 12.7% non-medics suffer from mood shifts always, while 20% non-medics suffer from mood shifts sometimes, exceeding the medical professionals
g) 38.3% respondents who were employed either knew pain killers are addictive or else wanted to know more about it.
h) A greater percentage of respondents (17%) who were employed got annoyed with the doctor for not prescribing pain killers.
i) 20% employed people consider their regular pain killer dose ineffective as compared to the 14.3% unemployed respondents.
j) 7% graduates were always while 3.33% graduates were sometimes annoyed when anybody objects to their painkiller usage.
k) 15% of the respondents who were graduates got annoyed with the doctor for not prescribing painkillers.

DISCUSSION

Numerous demographic factors were tested in present survey to explore the trend followed for pain killer abuse and addiction symptoms. The demographic factors tested were gender, age, education, employment status and field of education. The addiction symptoms included mood shifts, withdrawal from friends and family, blackouts and forgetfulness, negligence of responsibilities, annoyance with the doctor for not prescribing pain killers and being hurt when someone objects to pain killer usage. Statistical analysis highlighted certain demographic factors to govern a majority of addiction symptoms, discussed ahead.

Gender: It has been found that males suffer from greater mood shifts, get offended more when anyone objects to their pain killer usage and still consider their regular dose of pain killers ineffective. It has been proven scientifically that narcotic analgesics are more effective on women than males due to the fact that the female body has a different set of receptors involved with the drug action. Until 1993, women of child bearing age had been excluded from clinical trials for new drugs by the U.S. Food and Drug Administration (FDA) [17]. Thus, during this period most of the pain killers tested suited the male body. Due to this

reason the female pain had been difficult to be treated completely and effectively, until recently when the difference has been discovered and suitable research has been carried out to effectively treat the females too. Males exhibited significantly greater heat and cold pain tolerance than females with distraction superior to sensory focusing only when anxiety sensitivity was high. In females, however, distraction was a superior strategy for coping with pain irrespective of anxiety sensitivity [18]. Stress and pain stimulate the secretion of endorphin from the pituitary gland. "Endorphin" is made up of 2 words- Endo (endogenous) and Orphin (morphine). Endorphin works like morphine on the body's opiate receptors and works like morphine. It alleviates the feeling of pain and stress. Endorphins are physiological mood lifters. Pain killers interfere with the production of natural pain relievers, endorphins, leaving the body dependent on and craving for the drugs. According to scientific research, the female hormones are capable enough to regulate pain, and even though women suffer from more pain throughout their lives, [19] they tolerate it well. Since studies have put forth that the pain thresh hold is more in men but tolerance is more in women [20]. On the other hand men go through lots of social stress as well as pain, to a level that they start relying on painkillers for relief, finally becoming dependent. Irritability, mood shifts are a part and parcel of the disturbed homeostasis of the body, ultimately making men feel offended when anybody identifies this dependence and objects to their usage of pain killers. Females start abusing pain killers to escape from problems while men do the same to feel high, euphoric and perform well at work.

Field of education: It has been seen that non-medical professional suffer from greater mood shifts, neglect their responsibilities more and get annoyed with the doctor for not prescribing pain killers. The possible reason for this might be that medical professionals better understand the harms of pain killer abuse or even excessive usage. In contrast with our results, a study by Baldiserri in 2007 has found drug abuse to be a more common problem among the health professionals, suggesting the reason to probably be either work pressure or easy access to this mental relief [21]. There is a possibility that medical professionals have filled in our questionnaire with immense prudence keeping themselves safe from this stigmatic accusation of drug abuse. Another possibility is that medical professionals are confident enough of their knowledge as to how much of the pain killers can finally turn them into addicts. Thus, non- medical professionals with their less awareness and impatience lose their logical sense in need of ecstasy and relief from social pressure and fall prey to pain killers. Mood shifts of non- medical professionals, ignoring responsibilities and above all, expecting the doctor to prescribe pain killers on visits are signs of gradual cravings of the drugs that might lead to addiction if not addicted now. Less knowledge of medical professionals about addiction also plays a major role in the non- medics being addictive. Doctors and dentists who have the power to prescribe must properly evaluate the exact dose required and the duration pain killers have to be taken. This would surely reduce their contribution from producing addicts. According to medical laws of analgesic prescription and provision the patient has the right to comment and opine over the pain killing medication he or she is receiving. The patient can request pain killers and also control the pain killers he or she is receiving. On the other hand his/her refusal to take pain killers has also to be honored. These laws are not absolute as the patient's capacitance matters in all cases and his/her decision might or might not be in his/her own benefit [22]. Thus, it can be suggested that health care professionals should exercise more care while prescribing pain killers to patients. Just what the patient narrates is not enough for the doctor to take hasty decisions and load the patient with pain killers, rather taking time to talk to the patient may reveal the underlying intentions of the patient to request pain killers.

Employment status: Statistics have shown that a greater number of employed respondents had knowledge about addiction, or else they were even eager to know more about it, yet they got annoyed with the doctor for not prescribing them painkillers. More employed respondents consider their regular dose of pain killers ineffective and suffered from blackouts and forgetfulness. Job pressure and heavy competition at workplace are motivators for people to take pain killers. Pain killers for employed addicts are not relievers from pain, in fact are tools that make them feel protected from the harsh work place realities. Employed addicts are the product of strugglers, who try all their level best to make ends meet. Such people usually become insecure about the success of their endeavors and failure alters their perception of realties. Very soon such addicts are at the verge of losing their jobs and ending up in misery. Since most of the employed respondents were educated, they knew very well about what addiction is, yet found it irresistible to avoid painkillers. They have turned out to be in a habit of pain killer usage and the habit has made their regular painkiller dosage ineffective.

Level of Education: Greatest number of respondents hurt with any objection to pain killer

usage and those who get annoyed with the doctor for not prescribing pain killers comprise of graduates. Graduates are the educated class of our society who have entered the practical field, are facing tough competition, have great responsibilities and are yet suffering from the social traumas of corruption and injustice. Graduates are youth emerged with glorious dreams that need the face of fulfillment with social and financial support. The dreams subside gradually as responsibilities and expectations of the family take over the efforts of the individuals. Such individuals find it hard to cope up with the situations and suffer from severe mental stress. Mental stress provokes head aches and young boys and girls start taking pain killers simply for headaches. These pain killers make them feel euphoric and they start ignoring other life issues, considering pain killers their saviors.

Recommendations: Pain killers are exogenous chemical agents that interfere with the body's natural responses to painful stimuli to stimulate soothing responses of the brain and blunting the pain. Taking appropriate pain killers at an appropriate dose is essential for facilitating the healing process. It provides relief and facilitates proper functioning of individuals. There is a fine line to decide when to take pain killers. Not every painful situation calls for pain killer medication. The body should be given a chance to respond and react naturally. The best way to fight pain naturally is by increasing the production of endogenous pain killers (endorphins).

Factors that increase endorphin release: Chocolates, drinking cold water, hot bath, exercise, green tea, swimming, acupuncture, the use of natural pain killers like fish oil, olive oil and turmeric are recommended. Even human saliva is a potent pain killer. It contains a compound similar to opiorphin that has the ability to relieve pain. It is the moral duty of health professionals to keep a vigilant eye on the pain killer taking trend of patients and take remedial and preventive steps to protect them from addiction. Friends and family should also try to notice changes in the behaviors of their loved ones and take protective steps as soon as any change in drug taking trend or behavior is noticed.

It can finally be concluded that the demographic factors that govern pain killer usage and addiction symptoms are gender, field of education, employment status and educational level.

Conflict of interest: There is no conflict of interest among the authors

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