

CHRONIC PAIN PREVALENCE AND CULTURAL INFLUENCE ON PAIN PERCEPTION AND EXPRESSION

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Pain is recognized by the World Health Organization (WHO) as an important global public health concern. Chronic and recurrent pain, viewed as diseases in their own right pose a specific healthcare burden (1). Several epidemiological studies from different countries have showed varying prevalence rates for chronic pain, ranging from 12 to 80% of the population (2). Research evidence has been accumulating on wide disparity of prevalence not only across countries, but also across patients' population by age, gender, race and ethnicity (3,4). A large body of pain literature suggests that diverse biological, psychological and socio-cultural factors are associated with racial and ethnic disparities in pain prevalence and reporting (5-11). Elucidating factors underlying these group differences is of crucial importance for effective relief and further management and prevention strategy of pain

Yet no comprehensive prevalence studies have been conducted in Georgia on chronic pain, however several cross-sectional surveys were carried out on oncological patients, mostly with advanced cancer during over a decade period.

Since the epidemiological studies are limited to one particular group of patient population the aim of this article is to help understand the magnitude of the problem and identify factors, which may be associated with pain prevalence among different groups of cancer patients.

The objectives of the study were: 1. Evaluation of chronic pain prevalence in the study population; 2. Identify patient-related factors, and 3. Explore any possible influence of the revealed factors on chronic pain prevalence.

Methods and Material: Secondary data analytical study was conducted based on three cross-sectional survey- and one descriptive study- data from palliative care clinic of Cancer Prevention Center for 2006-2014. Special questionnaires with both: closed and open questions were employed in all studies. Chronic pain intensity in the reviewed surveys was measured by Visual Analog Scale (VAS). Functional status of the patients was assessed in accordance with ECOG WHO.

Prevalence rates of pain were determined from a combined sample and separate samples of a widely diverse population of cancer patients who had met the inclusion selection criteria of the studies. In sum 1076 patients were included in the combined sample.

Nonparametric method and regression analysis were used to analyze factors associated with pain expression, intensity and interference with normal activity. Data were processed in SPSS software.

Results: Cancer patients were presented with adults. Age ranged from 18 to 87, median age was 56. Over a half of the patients were of productive ages. The majority of the patients (>60%) was presented by females. Male-female ratio ranged between 1,8-2,1.

In the combined sample of 1076 patients pain prevalence composed 85,6% but it widely varied (from 60,9% to 90,0%) across the previously conducted studies (on 346, 830 and 1994 cancer patients) by disease, patients' age and gender (13-16). Even in one particular study there were significant variations (Table 1) by disease stage in accordance with the patients' functional status. Pain intensity was found to be between 5,5-6,3. Pain frequency and intensity were in linear correlation with the patients' functional status ($r=0.4$). ($Y = 0,7949$, 95% Confidence Interval $-0,6977$ to $0,8920$).

Table 1. Chronic Pain among 638 oncoincurable patients by ECOG-WHO scale

ECOG scale	# of patients	Pain Frequency	
		abc. #	%
I	23	14	60.9
II	244	186	76.2
III	242	191	78.9
IV	129	110	85.3
I-IV	638	501	78.5

Chronic pain frequency also varied by physiological types of pain; nociceptive pain ranged between 51,6%-58,7%, neuropathic – from 4,4% to 5,4% and mixed - within 36,6%-44,0%. Disparity in pain prevalence by physiological type was observed before and after treatment of the patients. Proportion of mixed pain was increasing along with the progression of cancer by up to 30-35% in the fourth - incurable stage.

In order to investigate factors affecting pain frequency we analyzed a cross-sectional study, carried out in 2007 on patients' attitude and awareness towards pain and its causes. 346 patients were enrolled. Response rate was 87%. The majority of the patients were over 50 years of age (Table 2). It was found that the vast majority of the patients (94,5%) were unaware of the diagnosis of their suffering. A few of them suspected tumor. 15% - attributed their pain to inflammatory diseases. Only 20% were aware of the diagnosis and the stage due to the operation history. Of those who didn't know their diagnoses only 110 (32,6%) expressed willing to know it. Most of them were of productive ages (30-64) and belonged to III and IV groups by ECOG-scale while of those who preferred to know what caused their pain, the majority were between 50 and 64 ages. Over 70% of them belonged to III and IV groups by ECOG-scale. Patients' awareness was significantly associated with the disease stage (OR= 2,14).

Table 2. Distribution of patients by age and willingness to know diagnosis

Know diagnose	<30	30-39	40-49	50-64	>60	Total
Yes	3/2,4	10/8,1	28/22,6	48/38,7	35/28,2	124
No	10/4,5	12/5,4	37/16,7	94/42,3	69/31,1	222
Total	13/3,8	22/6,4	65/18,8	142/41,0	104/30,	346

Willingness to know the causes of pain was depended upon functional status of patients and was increasing in parallel with the deterioration of the patients' health status. Most of the patients from both groups (89,3%) over 50 attributed pain to age and accepted pain as a common accompanying symptom of aging, while younger patients didn't pay much attention to pain because of fear - having a severe disease. Almost all patients preferred not to communicate their pain problem with others as it would be considered bad-mannered. Every fourth of the cancer patients, suffered with unrelieved pain prior to the admission to the clinic. In this regard it worth to note that proportion of under-medicated patients showed an increasing trend during the past decade (Fig. 1).

Fig.1. Proportion of under-medicated patients by years Given the above accumulation of under-medicated patients along with other factors including inadequate knowledge level of primary health care medical professionals in chronic pain management (15), is likely to be attributed to the patient-related cultural factors.

Discussion: Our findings are consistent with a large body of literature (2,7,8,21) demonstrating a substantial variation in chronic pain prevalence by diseases and patient populations. International association for the study of pain (IASP) Task Force on Taxonomy defines pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage (16). Pain is considered to be subjective. Each individual learns how to express it through personality, cultural variations and previous experiences related to injuries that occurred earlier in life (17). Our findings indicated strong cultural influence on patient's behavior and attitudes towards pain perception and reporting. The majority of the cancer incurable patients were unaware and had no desire to know causes of their suffering. Due to the cultural expectation and acceptance of pain, most of the cancer patients refrained from sharing and communicating their pain problem with others. Merskey H. at al. showed that the perception of pain and behaviors associated with pain are influenced by the sociocultural contexts of the individuals experiencing pain (18). M. J. Sullivan and others (19-21) indicated, that ethnic background and culture play an important role in determining how pain is perceived. A variety of sociocultural factors have been examined and found to exert substantial influence over the experience of and response to pain (21-26). Diverse other important factors (Biopsychosocial pain model) shape the pain experience and contribute to disparities between groups. In our study we discussed only cultural factors, as one of the most common and strong characteristic quality for the study population of different ethnicity, residing in the country. Just for instance, cultural attitude towards pain in the Georgian population is

expressed in pain expectancy and pain acceptance. Pain is anticipated and accepted during childbirth, childhood and elderly even by some medical professionals. Our findings confirmed that there are cultural differences in the meaning of pain and showed that cultural patterns substantially determine patients' awareness towards the causes of pain. Though the terms 'race', 'ethnicity' and 'culture' are frequently used interchangeably they represent different concepts (27). Culture typically refers to behavioral and attitudinal norms, inherited ideas, beliefs, values and knowledge transmitted and reinforced by members of the group (27). Culture shapes many aspects of the experience of pain, including pain expression, lay remedies, social roles, expectations, perception of the medical system (28). Therefore understanding of patients' cultural background should be an integral part of pain assessment. Based on our findings we agree with those who state (20, 29) that chronic pain assessment and management should go beyond purely biomedical approaches to address the various issues with which a patient with chronic pain may be struggling. In addition, we consider, that cultural factor may play a significant role as a confounder and therefore may require to be treated adequately during study data analysis. Since our study and the analyzed cross-sectional surveys are limited to hospitalized cancer patients, who were under systematic attention and observation and, most likely to be enrolled in clinical trials, along with cultural factor, Hawthorne Effect should be taken into consideration. However, we consider that even Hawthorne Effect may be shaped and overestimated because of cultural attitudes and behavior of patients to pain.

Conclusion: 1. Chronic pain prevalence is high and diverse even in a homogeneous cancer patient population. 2. Over 1/3 of cancer incurable patients (mostly of productive ages) are unaware of and unwilling to know what causes their pain. 3. Cultural attitudes towards pain perception and expression are most likely to affect and shape diverse pain prevalence in cancer patients. 4. Deep analytical epidemiological studies are required to fill the gap of our study and determine ethnical and other patient-related factors in diverse population of pain patients.

Recommendations: Pain assessment, management and prevention plans should be developed on the basis of good physician-patient communication with the consideration of the patients' pain characteristics, physical activity, cultural background and social environment patients live and experience.

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ქრონიკული ტკივილის პრევალენსი და კულტურული თავისებურებების გავლენა ტკივილის აღქმასა და გამოსაჯერებზე.

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