

Chronic Pain

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Chronic pain can affect not only physical health, but also emotional well-being. It can intrude into all aspects of an individual's life, ranging from home and work to leisure and social relationships. In addition, chronic pain has implications for health care utilization and the allocation of health resources.¹

Many of the conditions that are major sources of chronic pain and discomfort, such as arthritis and migraine headache, rarely cause death. However, people with chronic pain experience more disability days, spend more time in hospital, and have more frequent doctor contacts than those who do not experience chronic pain.

This article examines the prevalence and severity of chronic pain and its impact on individual health status and health care utilization, based on data from 16,989 respondents aged 15 and over from the 1994-95 National Population Health Survey (NPHS). (See page 9 for a description of the survey and *Methods* for details on the variables used in this analysis.)

Rates higher among women, elderly

Pain is no stranger to a substantial share of Canadians. According to the 1994-95 NPHS, almost 3.9 million adults, 17% of the population aged 15 and over, experienced some chronic pain or discomfort.

Women were more likely than men to report pain (20% versus 15%) (Table 1). To some extent, the higher figures for women may reflect social differences. If men perceive seeking medical help or admitting to pain as weakness, this could partially account for lower proportions of them reporting chronic pain.^{2,3}

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Table 1

Prevalence of chronic pain, by sex and age group, Canada, 1994-95

	Population aged 15 and over	No chronic pain	With chronic pain	
	'000		%	
Both sexes	22,620	100	82	17
15-24	3,786	100	89	10
25-44	9,620	100	86	13
45-64	5,966	100	79	21
65-74	2,060	100	70	29
75+	1,191	100	65	35
Men	11,075	100	85	15
15-24	1,895	100	92	8
25-44	4,812	100	88	12
45-64	2,969	100	82	18
65-74	920	100	74	25
75+	478	100	69	31
Women	11,548	100	79	20
15-24	1,891	100	87	13
25-44	4,808	100	85	15
45-64	2,996	100	75	24
65-74	1,140	100	67	32
75+	713	100	62	37

Source: National Population Health Survey, 1994-95

Note: Population estimates and row percentages may not sum to total because of rounding.

For both sexes, the prevalence of chronic pain increased with age. The rate rose from 10% at ages 15 to 24 to 35% at age 75 and over. However, at all ages, rates were higher among women.

Regional variations

The prevalence of chronic pain varied by region (Table 2). For example, among men aged 65 and over, the rate was highest in Quebec, where 39% reported chronic pain; the lowest rate for elderly men was in British Columbia (15%). For elderly women, the highest rates were in Quebec (38%) and Ontario (37%), and the lowest, in the Atlantic region (25%).

Methods

Definitions

Statistics Canada's National Population Health Survey (NPHS) used three questions to assess **chronic pain**. Respondents were first asked if they were usually free of pain or discomfort. Those who replied "no" were asked to describe the usual intensity of the pain: *mild, moderate or severe*. In addition, they were asked how many activities this condition normally prevented: *none, a few, some or most*.

Long-term chronic conditions referred to health conditions that had been diagnosed by a health professional and had lasted or were expected to last six months or more. The interviewer read a list of chronic conditions (for example, arthritis, diabetes, migraine headache), and respondents indicated all that applied.

The estimate of **disability days** referred to the previous two weeks. The basic question was, "During that period did you stay in bed at all because of illness or injury, including any nights spent as a patient in a hospital?" If the answer was "yes," the respondent was asked, "How many days did you stay in bed for all or most of the day?" Follow-up questions asked, "Not counting days spent in bed, during those 14 days were there any days that you cut down on things that you normally do because of illness or injury?" and "How many days did you cut down on things for all or most of the day?" The derived number of disability days was the sum of bed-disability days and days in which activity was cut down.

The **mental distress** index was based on responses to six questions: "During the past month, about how often did you feel:

so sad that nothing could cheer you up?"
nervous?"
restless or fidgety?"
hopeless?"
worthless?"
that everything was an effort?"

The response options, *all of the time, most of the time, some of the time, a little of the time, and none of the time*, were given weights 5, 4, 3, 2, and 1, respectively. The index was the sum of the assigned weights for the six questions. The maximum possible score was

30, and the minimum was 6. The higher the score, the greater the level of distress. For this article, the scores were divided into quartiles; respondents classified in the fourth quartile were considered to have high mental distress.

The NPHS asked only people who had experienced depression in the past year about **sleep disorder**. Consequently, data from Statistics Canada's 1991 General Social Survey (GSS) have been used to assess the impact of chronic pain on sleep. The GSS asked all respondents, "Do you have trouble sleeping or staying awake?" Response options were *yes* or *no*. The GSS targeted people aged 15 and over in the 10 provinces, with the exception of full-time residents of institutions. The sample size was 11,924. Details on the sample design of the GSS are available in published reports.⁴

Rates of drug use, mental distress and sleep disorders, as well as several health indicators, were age-standardized to the 1994-95 NPHS population aged 15 and over.

Limitations

This analysis does not cover residents of institutions, and thereby excludes a substantial number of people who have chronic pain. As well, the data are self-reported and consequently have other inherent limitations. The social meaning assigned to pain may be culturally related, and an individual's response to a set of symptoms may vary, depending on factors such as income, level of knowledge, ethnic group, and support networks.⁵ Therefore, cultural attitudes toward chronic pain may account for some of the differences observed.

In this analysis, the association between a chronic disease and the prevalence of pain is indirect and not certain. NPHS respondents were not specifically asked if they experienced chronic pain as a result of a diagnosed chronic disease or condition. They were asked if they had been diagnosed with various chronic diseases, and later in the interview, if they experienced chronic pain or discomfort. In addition, the possibility that an individual may have more than one chronic disease further weakens the association between chronic pain and specific diseases.

Table 2**Prevalence of chronic pain, by region, sex and age group, 1994-95**

Canada	Atlantic	Quebec	Ontario	Prairies	British Columbia
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% with chronic pain

Both sexes

Table 4

Prevalence of selected chronic conditions and chronic pain, by sex and age group, Canada, 1994-95

	Both sexes			Men			Women		
	Number	% of population	% with chronic pain	Number	% of population	% with chronic pain	Number	% of population	% with chronic pain
	'000			'000			'000		
Total									
Arthritis/rheumatism	3,033	13	47	1,119	10	44	1,914	17	49
Back problems (non-arthritic)	3,310	15	42	1,618	15	35	1,691	15	49
Chronic bronchitis/emphysema	719	3	46	283	3	45	436	4	46
Diabetes	721	3	43	359	3	36	362	3	49
Heart disease	905	4	41	469	4	35	436	4	49
Stomach/intestinal ulcers	785	3	40	365	3	36	419	4	42
Migraine	1,676	7	34	471	4	30	1,205	10	35
Age 15-44									
Arthritis/rheumatism	566	4	40	227	3	38	339	5	42
Back problems (non-arthritic)	1,577	12	39	770	11	34	807	12	44
Chronic bronchitis/emphysema	304	2	36	94	1	25	210	3	41
Diabetes	114	1	27	49	1	22	65	1	30
Heart disease	85	1	33	30	--	--	55	1	37
Stomach/intestinal ulcers	347	3	34	162	2	38	185	3	31
Migraine	1,083	8	27	307	5	22	776	12	29
Age 45-64									
Arthritis/rheumatism	1,154	19	48	423	14	47	731	24	49
Back problems (non-arthritic)	1,148	19	41	610	21	33	539	18	50
Chronic bronchitis/emphysema	205	3	47	85	3	54	120	4	42
Diabetes	244	4	43	133	4	34	111	4	53
Heart disease	279	5	41	179	6	34	101	3	55
Stomach/intestinal ulcers	276	5	38	133	4	32	143	5	43
Migraine	460	8	45	127	4	43	333	11	45
Age 65+									
Arthritis/rheumatism	1,313	40	49	468	33	45	844	46	51
Back problems (non-arthritic)	584	18	54	238	17	47	346	19	58
Chronic bronchitis/emphysema	211	6	59	105	7	55	106	6	62
Diabetes	363	11	47	177	13	41	186	10	53
Heart disease	541	17	43	260	19	36	280	15	49
Stomach/intestinal ulcers	161	5	54	71	5	41	91	5	65
Migraine	133	4	51	37	3	55	96	5	49

Source: National Population Health Survey, 1994-95

Regardless of the presence or severity of chronic pain, drug use was generally higher among women than among men. Analgesics, for example, were used by 88% of women who experienced severe chronic pain, compared with 74% of men. Similarly, 16% of women with severe pain, but 9% of men, used sleeping pills.

The higher prevalence of chronic conditions and of drug use among women may reflect their greater use of the health care system. In other words, women may be more likely to seek medical help, and consequently, are more likely to be diagnosed

and treated for a chronic condition.⁸ As well, the difference in drug use may be attributable to systematic differences in the ways that women and men are treated for chronic conditions

The use of tranquilizers and anti-depressants by those who suffer chronic pain indicates that these people tend to experience mental distress (Chart 1). For instance, 64% of women with severe chronic pain experienced mental distress, compared with 20% of those with no chronic pain. The trend was the same for men, although the rates were lower.

Table 5

Use of selected drugs in previous month, by presence and severity of chronic pain, population aged 15 and over,[†] Canada, 1994-95

	Severity of chronic pain			
	No chronic pain	Mild	Moderate	Severe
	% using drugs			
Both sexes				
Analgesics	59	66	80	83
Narcotics	3	5	12	21
Tranquilizers	2	4	8	14
Sleeping pills	2	2	9	13
Anti-depressants	2	5	8	17
Men				
Analgesics	53	59	77	74
Narcotics	3	6	12	19
Tranquilizers	1	2	6	11
Sleeping pills	1	1	7	9
Anti-depressants	1	5	6	14
Women				
Analgesics	64	72	81	88
Narcotics	4	3	13	23
Tranquilizers	2	6	8	15
Sleeping pills	2	2	10	16
Anti-depressants	3	5	10	19

Source: National Population Health Survey, 1994-95

[†] Age-adjusted to 1994-95 NPHS population aged 15 and over.

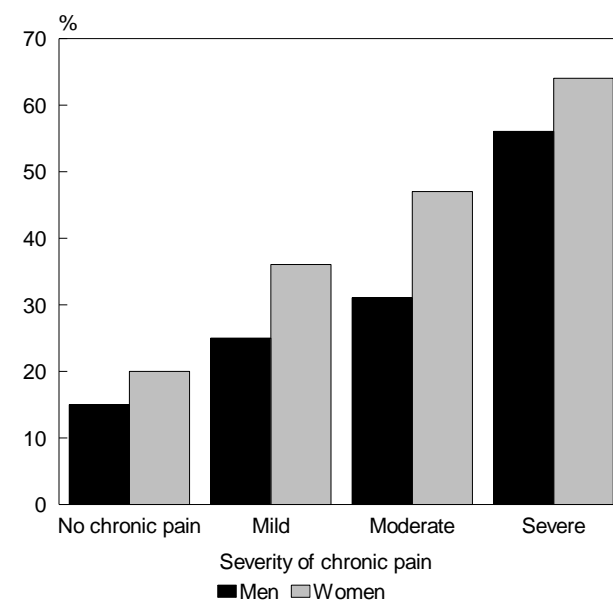
Sleep disorders

As their use of sleeping pills suggests, people with chronic pain are also likely to have sleep disorders. Pain is an important factor in taking medication to aid sleep.⁹ And according to the 1991 General Social Survey, sleep difficulties tended to increase with the severity of chronic pain (Chart 2). Well over half (58%) of women aged 15 and over with severe pain reported sleep problems, compared with 22% with no chronic pain. Among men, sleep disorders were less common, but the pattern was the same—52% with severe chronic pain reported problems with sleep, versus 16% of those with no chronic pain.

Most chronic conditions associated with chronic pain are more common at older ages. This may, in part, explain why sleeping problems also increase with age. The association between chronic pain and insomnia may create a cycle of dependency on medications to deal with both problems.¹⁰

Chart 1

Mental distress,[†] by sex and presence and severity of chronic pain, Canada, 1994-95

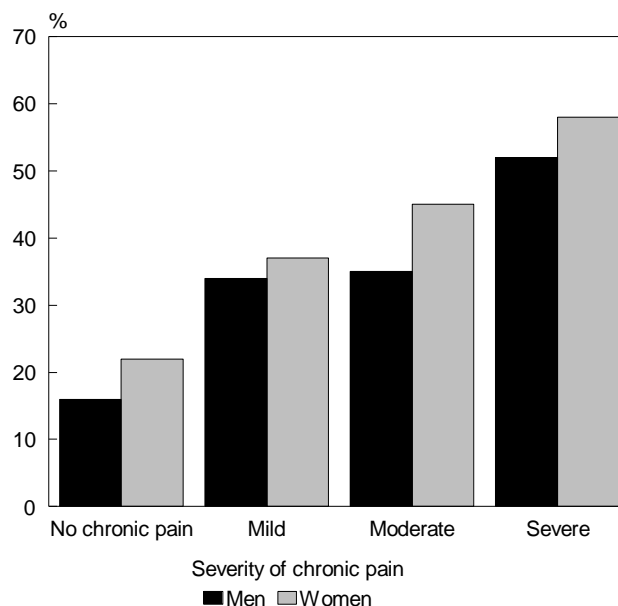


Source: National Population Health Survey, 1994-95

[†] Age-adjusted to 1994-95 NPHS population aged 15 and over.

Chart 2

Sleep disorders,[†] by sex and presence and severity of chronic pain, Canada 1991



Source: General Social Survey, 1991

[†] Age-adjusted to 1994-95 NPHS population aged 15 and over.

Activity limitations

A majority of people with chronic pain reported either that it did not limit their daily activities (31%) or limited only a few of them (33%) (Table 6). Overall, 16% of people who suffered chronic pain found that most activities were limited. This degree of limitation was most common at older ages. By age 75 and over, 24% of those with chronic pain were limited in most activities.

Table 6

Effect of chronic pain on daily activities, by sex and age group, Canada, 1994-95

	Total with chronic pain	Number of daily activities limited				
		None	A few	Some	Most	
	'000	%				
Both sexes	3,943	100	31	33	19	16
15-24	393	100	40	37	16	7
25-44	1,297	100	38	33	15	13
45-64	1,245	100	28	28	24	20
65-74	594	100	25	39	20	17
75+	413	100	21	35	19	24
Men	1,624	100	37	28	18	17
15-24	143	100	60	23	11	5
25-44	577	100	43	28	14	14
45-64	524	100	32	24	23	21
65-74	232	100	25	32	25	19
75+	149	100	26	39	11	24
Women	2,319	100	28	37	20	16
15-24	250	100	29	44	18	8
25-44	720	100	34	38	17	12
45-64	721	100	26	31	24	19
65-74	362	100	24	43	16	16
75+	264	100	19	33	24	24

Source: National Population Health Survey, 1994-95

Note: Population estimates and row percentages may not sum to total because of rounding.

As might be expected, the extent of activity limitation increased with the severity of pain. However, pain tended to have more effect on men's activities than on women's. Three-quarters of men with severe pain reported either that some (27%) or that most (49%) activities were limited. By contrast, a smaller proportion of women with severe pain were limited in some (22%) or most (42%) activities.

More days in bed and doctor contacts

The effects of chronic pain were reflected in the number of days people reported that they had to stay in bed most or all of the day because of illness

or injury, or had to restrict their normal activity. In the two weeks before their interview, people with no chronic pain reported an average of 0.1 of a bed-disability day. The average rose from 0.4 of a day for those with mild chronic pain to 1.2 days for those with severe pain (Table 7). Similarly, people with no chronic pain reported that they had 0.6 of a disability day in the previous two weeks, compared with 3.2 disability days for those whose pain was severe.

Table 7

Selected health indicators,[†] by sex and presence and severity of chronic pain, population aged 15 and over, Canada, 1994-95

Presence and severity of chronic pain	Average number of:				
	Restricted activity days (past two weeks)	Bed-disability days (past two weeks)	Disability days (past two weeks)	Doctor contacts (past year)	Hospital days (past year)
Both sexes	0.7	0.2	0.8	4.7	1.0
No chronic pain	0.5	0.1	0.6	3.8	0.7
Mild	0.9	0.4	1.4	5.4	1.4
Moderate	1.8	0.6	2.2	10.1	2.2
Severe	2.4	1.2	3.2	12.9	3.9
Men	0.5	0.1	0.7	3.7	0.9
No chronic pain	0.4	0.1	0.5	3.0	0.7
Mild	0.9	0.3	1.0	4.5	0.7
Moderate	1.5	0.3	1.8	8.3	2.5
Severe	2.5	0.7	3.2	12.1	4.3
Women	0.8	0.3	1.1	5.7	1.2
No chronic pain	0.6	0.2	0.7	4.6	0.8
Mild	1.1	0.4	1.4	6.2	2.1
Moderate	2.0	0.7	2.6	11.0	1.9
Severe	2.4	1.5	3.5	13.6	3.7

Source: National Population Health Survey, 1994-95

[†] Age-adjusted to 1994-95 NPHS population aged 15 and over.

The prevalence and severity of pain were also associated with greater use of health care services. People with severe chronic pain reported an average of 13 doctor contacts in the past year, compared with four contacts for those who reported no chronic pain. As well, people with chronic pain were much more likely to have been admitted to hospital than persons who did not suffer from it. Those with severe chronic pain averaged four days in hospital in the previous year, compared with less than one day for those who experienced no chronic pain.

References

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