

Ranjan Roy Michael Thomas

A Survey of Chronic Pain In an Elderly Population

SUMMARY

Elderly nursing home residents and those attending a day hospital program for six hours a week at the same home were surveyed to determine the prevalence of chronic pain. Of the 132 subjects, 83% reported having pain problems, mostly due to connective tissue disorders. Eighty-four percent of these patients were receiving analgesics for their pain, but the other 16% were receiving no treatment. Fifty percent of subjects report low levels of pain, 32% moderate levels, and 18% high to intolerable levels. For many patients, the pain has been present for several years. A relationship was also found between pain levels and depression. None of these patients was being actively treated for depression. There may be an inclination to underestimate the prevalence and intensity of pain in the elderly. (Can Fam Physician 1986; 32:513-516.)

Key words: Elderly, chronic pain, management

SOMMAIRE

Afin de déterminer la prévalence de la douleur chronique, on a procédé à une étude de personnes âgées en foyer et de patients du même foyer fréquentant six heures par semaine un programme hospitalier de centre de jour pour déterminer la prévalence de la douleur chronique. Des 132 sujets, 83% ont rapporté souffrir de douleurs en majeure partie attribuables à des désordres du tissu conjonctif. Quarante-vingt-quatre pourcent de ces patients recevaient des analgésiques; les autres ne recevaient aucun traitement. Cinquante pourcent ont rapporté des douleurs de faible intensité, 32% des douleurs modérées et 18% des douleurs allant de fortes à intolérables. Pour de nombreux patients, la douleur persistait depuis plusieurs années. On a pu établir une relation entre l'intensité de la douleur et la présence d'une dépression. Aucun de ces patients n'était traité activement pour dépression. Il est possible que nous ayons tendance à sous-estimer la prévalence et l'intensité de la douleur chez les personnes âgées.

Prof. Roy is an associate professor in the School of Social Work and Department of Psychiatry, and Dr. Thomas is an associate professor in the Department of Psychology, both at the University of Manitoba. Reprint requests to: Professor Ranjan Roy, School of Social Work, University of Manitoba, Winnipeg, MB. R3T 2N2.

THE PROBLEM of chronic benign pain in the elderly has received rather limited attention in the literature. Hunt¹ reviewed this topic and concluded that "pain may be considerably modified in its perception as a result of physiological age-related changes. Diagnostic difficulties also arise because of various other changes

in the older person, e.g., memory loss. . . . Great care is necessary as the clinicians substitute other forms of disability in the search to relieve suffering."¹ Chronic pain is a multi-faceted problem, the etiology of which remains a matter of speculation. Despite that particular gap in knowledge, there is consensus that the biological, psychological, and social factors interact in a complex way in the genesis and maintenance of this disorder.^{2, 3}

Although accurate data are not available on the prevalence of pain in the general population, a rough estimate is that 35% of all Americans are afflicted by pain.⁴ Crook, Rideout and Browne⁵ established that 16% of the individuals in 500 randomly selected households suffered from pain symptoms. Approximately 50 million

Americans consult their physicians every year because of severe or frequent headaches. A significant percentage of these patients are elderly.⁶

This survey was conducted to determine the prevalence of chronic pain problems in two groups: residents in a nursing home and individuals attending a day hospital program for six hours a week at the same nursing home. The day hospital group was involved in social and recreational programs. To be included in either group, patients had to be age 65 or over; capable of completing pencil-paper tests in English; ambulatory; not known to be suffering from debilitating diseases; not suffering from any neoplastic disorders; not receiving psychiatric treatment; and oriented to time, place, etc.

The survey's main purpose was to

ascertain the presence of chronic pain problems in this population. Nevertheless, there were several other objectives. Some of the key questions related to the level and duration of pain, use of analgesics, efficacy of treatment for pain, and degree of disability. In addition, for the non-institutionalized group, the presence of depression was also examined.

Method

Subjects were drawn from a large nursing home located in a metropolitan area. Out of 400 potential subjects, 100 met the criteria for the institutionalized population and 97 agreed to participate. All 35 day hospital attenders were able to participate. Both groups completed a comprehensive questionnaire and the Visual Analogue Scale. This scale is a line, "the length of which is taken to represent the continuum of some experience like pain. It is a simple, robust, sensitive and reproducible instrument that enables a patient to explore the severity of his pain in such a way that it can be given a numerical value".⁷ The day hospital group, in addition, completed Beck's Depression Scale.⁸ For the purpose of this paper, and also due to the similar characteristics of the two groups, results have been combined and where necessary they have been reported separately.

Results

Age and sex

In general, all age groups were well represented in the sample. There was a slight preponderance of women over age 80 and a slight over-representation of men from ages 70-75 (see Table 1). However, 34% of the sample were over age 80. The sample consisted of 82 women and 50 men.

TABLE 1
Patients' Age and Sex

Age	F	M
65-69	9	7
70-75	21	17
76-80	21	12
>80	31	14
Total	82	50

Presence of pain

An astonishing 83% reported having current, pain-related problems. Only 17% of the subjects were free of pain. A vast majority of the patients attributed their pain to connective tissue

disorders. Eighty-eight percent of the subjects with pain reported various kinds of back, joint, and muscle pain. Approximately 12% of the patients also reported headache as a major complaint.

Duration of pain

Thirty-one percent of the subjects reported having pain of more than ten years' duration. Fifty-two percent had suffered pain for two to seven years (see Table 2). Predictably, only 7% of the sample had pain of recent onset and short duration.

TABLE 2
Patients' Duration of Pain

Pain Duration	F	M
0-1 year	5	2
2-3 years	15	11
4-7 years	18	13
8-10 years	9	3
10+ years	24	10
Total	71	39

Pain treatment

As we expected, a vast majority of patients (i.e., 84%) were being treated with analgesics. We also asked subjects to indicate if they were receiving any other form of treatment for pain. All replied in the negative. A somewhat surprising finding was that 16% of the subjects reporting pain were not being treated for their pain.

Pain levels

For the purpose of this analysis, pain levels were divided into three groups of low, medium, and high based on scores derived from the Visual Analogue Scale. Fifty percent of the subjects reported low levels of pain, 32% reported a moderate level of pain, and 18% felt that their pain was in the high to the intolerable range.

Effectiveness of pain medication

Over 80% of the subjects reported the pain medication was effective. On the other hand, 74% also felt that pain interfered with daily living, varying in degrees from very little to making life impossible. Hence, the overall effectiveness of pain medication was, at best, questionable.

The institutional group was divided into high and low pain categories to determine the relationship between pain levels and interference with daily living. Nearly 77% of the high pain

subjects reported a significant level of interference with their daily living. Surprisingly, more than half of the subjects in the low pain category also reported a significant level of interference.

Of the 58 institutionalized subjects who found pain medication useful, over two-thirds reported experiencing a moderate to high level of interference in their daily living due to pain.

Day hospital group

Statistical analyses using t-tests were conducted to assess relationships between variables with the day hospital group. Only pain and depression attained a level of significance at a P value of 0.05. Correlation between living arrangements and intensity, and duration of pain and intensity, demonstrated strong associations without attaining statistical significance. The relationship between depression and living arrangements, pain and activity level, depression and activity level, and depression and duration of pain failed to attain statistically significant values.

Discussion

Clearly, pain problems in this population were rampant and, perhaps not surprisingly, the efficacy of pain treatment was less than satisfactory. It is feasible that there is an inclination to underestimate both the prevalence and intensity of pain in the elderly. The elderly clearly do not have access to any other forms of treatment for their pain and there is heavy reliance upon analgesics. Half of the subjects reported pain levels that ranged from moderate to debilitating. It was equally clear that for many of these individuals, pain had been a persistent problem for several years.

The presence of pain in the day hospital group was surprisingly high. Given the fact that their caretakers saw them as a fairly healthy group of people, many of them suffered from moderate to very severe levels of pain and, again, most of them were receiving plain analgesics for arthritic problems.

That a relationship was found between pain levels and depression in this population is not surprising.^{9, 10} None of these people were being actively treated for depression. Depression, for the most part in this population, was an unrecognized phe-

nomenon.¹¹ A recent report on depression in the elderly warns that somatic complaints in elderly chronic pain patients, as elicited by the Beck Depression Scale, may be indicators of their health status rather than symptoms of depression. Symptoms of guilt and self-deprecation should be weighted more heavily when evaluating depression in a patient with chronic pain.¹² Therefore, the association found between depression and pain in our survey requires further validation, as we made no attempt to score the psychological variables separately from the physical ones. The role of other social factors such as living arrangement, level of social activity, etc., in influencing either the pain experience or depression remains unclear on the basis of our study.

There were some methodological problems in this study. In the first place, we relied solely on patients' self reports, and made no attempt to obtain independent validation or corroboration of their statements. Second, those in the institutional group were assisted by three members of the nursing staff in completing their questionnaires, and there can be some concerns about the biases introduced by the nurses. The day hospital group did not receive any assistance in completing their questionnaires. Third, the population was a sample of convenience and probably not representative of the elderly population at large. Therefore, no firm conclusions should be drawn.

Conclusion

Despite these methodological shortcomings, the findings suggest that pain problems in the elderly need to be more closely monitored. In 16% of the population, pain problems simply were not recognized. The elderly should be systematically screened for coexistence of pain and depression. It is also imperative for this population to have access to other forms of treatment for pain. The elderly have not entirely benefited from the advances made in the treatment of chronic pain,¹³ per-

haps due to the fact that pain clinics are not readily accessible to this population. Also, such treatment methods have not made their way into routine management of pain in institutional settings. Finally, given the inclusion criteria, the rate of prevalence of chronic pain problems (83%) in this population was high. Even the institutionalized group was in the nursing home primarily due to social reasons. Whether or not this rate of prevalence will hold in relation to the elderly population at large remains to be established. ●

References

- Hunt TE. *Pain and the aged patient*. In: Smith W, Merskey H, Gross SC, eds. *Pain: meaning and management*. Jamaica, NY.: Spectrum Publications, 1980: 143-58.
- Bond M. *Pain: its nature, analyses and treatment*. New York, NY.: Churchill Livingstone, 1979.
- Melzack R, Wall P. *The challenge of pain*. New York: Basic Books, 1983.
- Bonica J. *Basic principles in the management of chronic pain*. *Arch Surg* 1977; 112:783-8.
- Crook J, Rideout E, Browne G. *The prevalence of pain complaints in a general population*. *Pain* 1984; 18:299-314.
- Rapaport A, Shettell F, Baskin S. *Geriatric headaches*. *Geriatrics* 1983; 38:81-7.
- Huskisson EC. *Visual analogue scale*. In: Melzack R, ed. *Pain measurement & assessment*. New York: Raven Press, 1983: 33-7.
- Beck AT, Beamesderfer A. *Assessment of depression: the depression inventory*. In: Pichot P, ed. *Psychological measurement in psychopharmacology: modern problems in pharmacopsychiatry*. Basel, Switzerland: Karger, 1974, vol 7:151-69.
- Romano J, Turner J. *Chronic pain and depression: does the evidence support a relationship?* *Psychol Bull* 1985; 97:18-34.
- Roy R, Thomas M, Matas M. *Chronic pain and depression: a review*. *Compr Psychiatry* 1984; 25:96-105.
- Himmelhoch J, Auchenbach R, Fuchs C. *The dilemma of depression in the elderly*. *J Clin Psychiatry* 1982; 43:26-32.
- Desonville CL, Reeves JL, Thompson LW, Gallagher D. *The pattern of depressive symptomatology in geriatric normals, depressives, and chronic pain patients*. *Pain* 1984; (suppl): S210.
- Roy R, Tunks E, eds. *Chronic pain: psychosocial factors in rehabilitation*. Baltimore: Williams & Wilkins, 1982.



For a winning edge in acute otitis media

SEPTRA* Pediatric Suspension b.i.d.

Each teaspoonful (5 mL) contains 40 mg trimethoprim and 200 mg sulfamethoxazole

SEPTRA* (Trimethoprim + Sulfamethoxazole)
 Rx Summary

INDICATIONS: Indicated for the following infections when caused by susceptible organisms.

UPPER AND LOWER RESPIRATORY TRACT INFECTIONS — particularly chronic bronchitis and acute and chronic otitis media.

URINARY TRACT INFECTIONS — acute, recurrent and chronic.

GENITAL TRACT INFECTIONS — uncomplicated gonococcal urethritis.

GASTROINTESTINAL TRACT INFECTIONS.

SKIN AND SOFT TISSUE INFECTIONS.

SEPTRA is also indicated in the treatment of infants and children with a diagnosis of *Pneumocystis carinii* pneumonitis, especially if they are immunosuppressed.

SEPTRA is not indicated in infections caused by *Pseudomonas*, *Mycoplasma* or viruses. This drug has not yet been fully evaluated in streptococcal infections.

CONTRAINDICATIONS: Patients with evidence of marked liver parenchymal damage, blood dyscrasias, known hypersensitivity to trimethoprim or sulfonamides, marked renal impairment where repeated serum assays cannot be carried out, premature or newborn babies during the first few weeks of life. For the time being SEPTRA is contraindicated during pregnancy.

ADVERSE REACTIONS: Most frequent: nausea; vomiting; gastric intolerance; and rash. Less frequent: diarrhea; constipation; flatulence; anorexia; pyrosis; gastritis; gastroenteritis; urticaria; headache; and liver changes (abnormal elevations in alkaline phosphatase and serum transaminase).

Occasionally reported: glossitis; oliguria; hematuria; tremor; vertigo; alopecia; and elevated BUN, NPN, and serum creatinine. Hematological changes occurring particularly in the elderly are mostly transient and reversible (primarily, neutropenia and thrombocytopenia; less frequently, leukopenia, aplastic or hemolytic anemia, agranulocytosis, and bone marrow depression).

PRECAUTIONS: As with other sulfonamide preparations, critical appraisal of benefit versus risk should be made in patients with liver damage, renal damage, urinary obstruction, blood dyscrasias, allergies or bronchial asthma.

The possibility of a superinfection with a non-sensitive organism should be borne in mind.

DOSAGE AND ADMINISTRATION: Adults and children over 12 years. Standard dosage: 2 SEPTRA tablets or 1 SEPTRA DS tablet twice daily. Minimum dosage and dosage for long-term treatment: 1 SEPTRA tablet or 1/2 SEPTRA DS tablet twice daily. Maximum dosage. Overwhelming infections: 3 SEPTRA tablets or 1 1/2 SEPTRA DS tablets twice daily. Uncomplicated gonorrhea: 2 SEPTRA tablets or 1 SEPTRA DS tablet four times daily for 2 days.

Pneumocystis carinii pneumonitis: 20 mg/kg/day trimethoprim and 100 mg/kg/day sulfamethoxazole in four divided doses for 14 days.

Children 12 years and under:*

Young children should receive a dose according to biological age.

Children under 2 years: 2.5 mL of suspension twice daily.

Children 2 to 5 years: 2.5-5 mL of suspension twice daily.

Children 6 to 12 years: 5-10 mL of suspension twice daily.

*In children this corresponds to an approximate dose of 6 mg trimethoprim/kg body weight/day, plus 30 mg sulfamethoxazole/kg body weight/day, divided into two equal doses.

DOSAGE FORMS:

SEPTRA DS TABLETS, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, and coded SEPTRA DS 02C. Bottles of 50 and 250.

SEPTRA TABLETS, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole, and coded SEPTRA Y2B. Bottles of 100 and 500.

SEPTRA PEDIATRIC TABLETS, each containing 20 mg trimethoprim and 100 mg sulfamethoxazole, and coded WELLCOME H4B. Bottles of 100.

SEPTRA PEDIATRIC SUSPENSION, each teaspoonful (5 mL) containing 40 mg trimethoprim and 200 mg sulfamethoxazole. Bottles of 100, 400 and 800 mL.

SEPTRA FOR INFUSION, each ampoule (5 mL) containing 80 mg trimethoprim and 400 mg sulfamethoxazole.

Product Monograph available on request.

Reference: 1. Schwartz RH, Rodriguez WJ, Barsanti RG, et al. Acute otitis media secondary to ampicillin-resistant *H. influenzae*. *Ear Nose Throat J* 1984;63:52-60.



WELLCOME MEDICAL DIVISION
 BURROUGHS WELLCOME INC.
 KIRKLAND, QUE.

*Trade Mark

W-431

PAAB
 CCPP