

# Joint disorders and walking disability in Sweden by the year 2000

## Epidemiologic studies of a Swedish community

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The prevalence of joint complaints with walking disability, as well as clinically diagnosed hip and knee diseases, in Sweden in the year 2000 was calculated from data from a population survey that we made in a Swedish community (Åtvidaberg) in 1986. The population was representative of that of the whole country. Among all 5,259 persons aged 45 years and older, 35 percent reported long-lasting joint complaints. The prevalence of clinically diagnosed degenerative joint disease was 14 percent, that of

extraarticular disease 12 percent, inflammatory joint disease 2.4 percent, arthralgia 1.4 percent, and collagenoses 0.5 percent.

From the official estimations of the Swedish 8.5 million population as to age classes and sex by the year 2000, joint complaints can be foreseen in 1.2 million inhabitants, representing a total increase of 0.16 million persons. The number of patients with destructive rheumatoid arthritis can be estimated at 58,000 in the year 2000.

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Joint disorders in the elderly population are a major cause of disability in the community. In the Canadian Health Survey (1) as high a frequency as 16 percent of the population was estimated to have arthritis, rheumatism, or other back, limb, and joint disorders. The prevalence markedly increased from 17 percent in the 15-64-year-old group to 48 percent in the group aged 65 years or over, with consistently higher frequencies for females than males. Similar data have been published in the USA (2) and the United Kingdom (3, 4).

In Sweden, an interview survey of the adult population showed long-standing disorders of the back and joints in 12 percent of both males and females (5). In a population study of 79-year old persons in Gothenburg (6), subjective complaints from the knee were reported in 17 percent, from the shoulder in 16 percent, and from the hip in 11 percent. At aged 79 years, 16 percent of the females and 5 percent of the males had rheumatoid arthritis ARA criteria 3-8.

The present report is based on an epidemiologic population study that was undertaken to record the full spectrum of joint disorders in the age group 45 years and over.

### Population survey

In the year 1986, the municipality of Åtvidaberg had a population of 12,707, with an age and sex distribution

similar to that of Sweden as a whole. The mean age was 39.5 compared with 39.3 for the population of the entire county, and for the whole of Sweden as well. Those aged 45 years and above were 5,259 (2,717 females and 2,542 men).

The survey was conducted during 9 months in 1986. All 5,259 subjects received a questionnaire by mail in March 1986. The 884 persons who did not answer were sent a new questionnaire in August 1986. The survey was then closed. Back problems were excluded, as well as accidents, provided that the latter had not given rise to long-lasting joint complaints.

The total answering frequency was 92 percent (same for both women and men). Of those, 1,840 (35 percent) reported joint complaints (subjective joint disorders). For determination of joint diseases (objective joint disorders), all the probands with a subjective disorder were examined clinically in 1987-88. This revealed 1,569 persons (30 percent of the population aged 45 years and above) with objective joint disease. There were 241 (4.6 percent) who had degenerative hip disease and 349 (6.6 percent) who had knee disease.

To obtain information on the 389 persons who did not answer the questionnaire, medical records for the period 1980 and on were studied for a randomized sample of 122 individuals (31 percent) of the category. In addition, examination was made of a randomized sample of 100 medical records obtained for the group of individuals who had reported joint complaints and

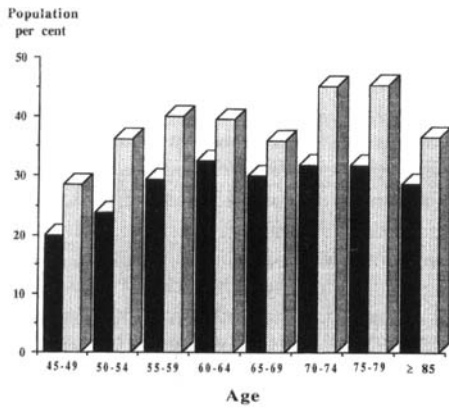


Figure 1. Prevalence of joint complaints in the Swedish population aged 45 years and over. For the year 2000, the estimated number of men is 1,529 and women 1,765 million.

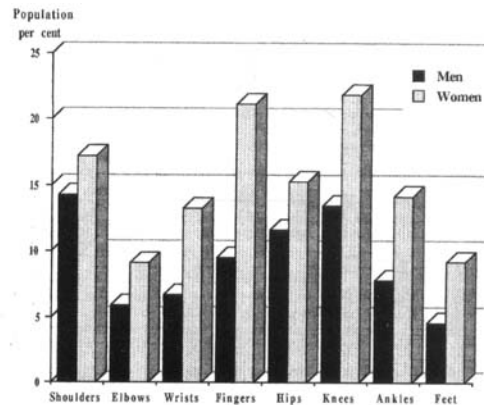


Figure 2. Prevalence of joint complaints as to site for men and women.

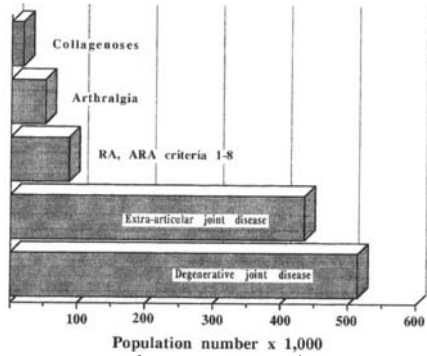


Figure 3. Number of patients with clinically diagnosed joint disease in the Swedish population aged 45 years and over by the year 2000.

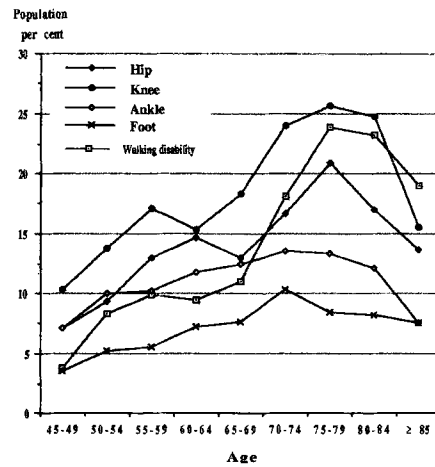


Figure 4. Age-related knee, hip, ankle, and foot complaints and walking disability.

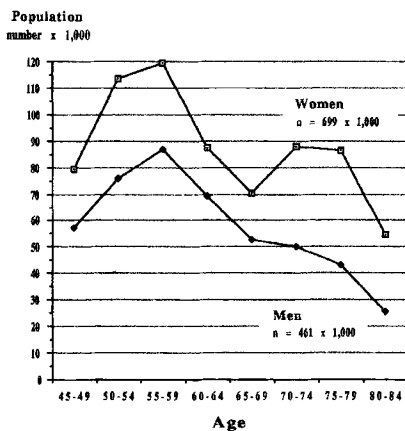


Figure 5. Estimated number of men and women with joint complaints in the year 2000.

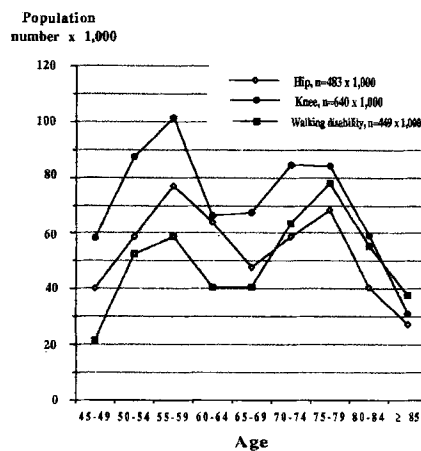


Figure 6. Population in the year 2000 with hip and knee complaints, as well as a walking disability.

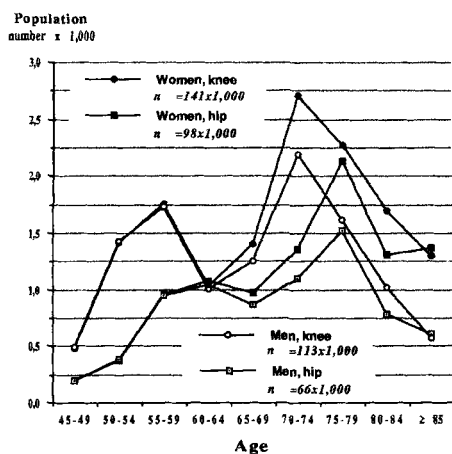


Figure 7. Population of men and women in the year 2000 with clinical diagnoses of degenerative hip or knee disease.

for the category who had reported no joint complaints as well. Statistical analyses of the frequencies of various diagnoses revealed no differences between the three samples of individuals other than fewer joint complaints in the last-mentioned category.

In 1986, Sweden had 3.285 million inhabitants in the age group aged 45 years and older—1.5 men and 1.8 women. The official estimation for the same age group in the year 2000 (SCB, Statistiska Centralbyrån 1987) is 1.7 men and 2.0 women, totaling 3.694 million inhabitants 45 years and older. In the following text, the estimated data for the year 2000 are based on these estimated population figures related to age classes and the prevalence figures for joint disorders found in our population survey.

## Results

For the year 2000, the frequency of joint complaints in the adult population aged 45 years and over can be estimated at 35 percent (41 percent for women and 31 percent for men, giving the ratio 1.35:1). For this adult category, the age- and sex-related prevalence can be estimated as shown in Figure 1. The estimated prevalence of joint complaints in relation to site is shown in Figure 2. Based upon the results of our clinical survey, degenerative joint disease can be estimated at 14 percent and an extraarticular joint disorder at 12 percent. The prevalence of classic, definitive destructive rheumatoid arthritis (ARA criteria 5-8) can be estimated at 0.65 percent of the total population (all ages): 0.76 for women and 0.53 for men, sex ratio 1.4:1. The expected number of

patients and clinical diagnoses of joint disease are shown in Figure 3.

As to handicap from joint disease in those aged 45 years and over, 5 percent may have received a disability pension, and a minimum of 8 percent have received a long-term sick leave. A minimum of 15 percent may have difficulties managing work or duties at home or both.

As regards walking disability, the estimated prevalence of various age classes after aged 45 years in relation to hip, knee, ankle, or foot disorders is shown in Figure 4. Until the year 2000, the total number of persons aged 45 years and above with long-lasting joint complaints will increase by 155,000. The estimated prevalence of subjective joint disorders in relation to sex and age classes after aged 45 years is shown in Figure 5, and that of hip and knee disorders, as well as walking disability, in Figure 6. An increase of almost 20 percent is to be expected for those aged 50-55 years, as well as for those over aged 75 years. For those aged 60-70 years, a decrease of 10 percent is foreseen. The estimated prevalence of objective hip and knee diseases in relation to sex and age classes after aged 45 years is shown in Figure 7. The female predominance for knee and hip diseases shows a marked increase after aged 65 years.

## Discussion

As regards joint complaints, the total prevalence found in our survey (1986) showed a fairly good correspondence to the reports from Sweden by Allander (7, 8) and from Canada by the Canada Health Survey (1). Lower frequencies have been reported in interview surveys (5, 2). However, data collected by trained interviewers are known to represent underreporting (5). Data similar to ours have been reported from Finland (9).

Our study demonstrates strikingly higher prevalence figures for joint complaints reported for various joints when compared with the prevalence of clinically diagnosed disease of the joint in question. For the ages 45 years and above, 12 percent reported hip complaints with walking disability as compared with the prevalence of 4.6 percent clinically diagnosed degenerative hip disease. The latter prevalence shows good correspondence to the corresponding frequency of 4-6 percent of the population reported as showing clinical signs of arthrosis (8). The difference is even more striking when the prevalence of joint complaints is compared with the prevalence based on radiographic criteria. As regards the knee, 26 percent of the population aged 75-79 years reported walking

disability complaints. In comparison, the minimum prevalence of gonarthrosis from radiographic criteria has been calculated as being approximately 5-6 percent for the same age category (10). In our study, a clinical diagnosis of degenerative knee disease was made in 6.6 percent of the total population aged 45 years and over.

Obviously, impaired locomotor function in the higher ages from degenerative disease may become even more important in the near future, emphasizing the great need of not only social service, but also reconstructive joint surgery.

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