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Symptoms by Age and Sex

The Population Studies of Men and Women in Gothenburg, Sweden

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Symptoms by age and sex were studied in two population studies from Gothenburg, Sweden. In general, men and women showed the same age-related pattern. The prevalence of the following symptoms increased with age – sleeping disturbances, pain in the joints, pain in the legs, breathlessness, and impaired hearing. Six symptoms decreased with age – general fatigue, abdominal pain, nausea, diarrhoea, cough, and headache. A group of symptoms showed a curvilinear shape with a peak at the age of 50. In general, women presented more symptoms than men. This was especially true for symptoms of depression and tension. A possible explanation is that women are more attentive to their internal state. A more probable explanation, supported by our study, is that the mental symptoms are related to the woman's situation in life with double work (responsible for both work and family).

Key words: epidemiology, symptoms, men, women.

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Symptoms are our painful or uncomfortable experiences of a part of the body or body in general. It is difficult to overestimate the impact on society of people's experiences of symptoms. We consume millions of Swedish crowns seeking relief from physical symptoms such as headache, back pain, and post-nasal drip. Symptoms restrict our activities many days a year and they steer our way to the doctor. The symptom can be a part of a disease but may also be due to the physiological effect of anxiety or other emotions arising from a personal problem. The symptom can be a vague feeling without biomedical foundation but used by the patient as a way of communicating personal stress. Experiences from out-patient clinics show that in spite of careful examination half of the patients with chest pain, abdominal pain, and dysuria will be without diagnosis. What is behind these no-disease conditions?

It is our belief that the natural history of symptoms is an important research field for family medicine and primary care. The purpose of this study was to establish the prevalence in an urban pop-

ulation of the 30 most common physical and mental symptoms by age and sex.

SUBJECTS AND METHODS

Table I gives an overview of study periods and number of participants in the different age cohorts.

A population study of men was carried out in Gothenburg, Sweden, in 1963 (1). The same men were re-studied in 1973 (2) and in 1980 at the ages of 60 and 67 years, respectively. The 50-year-old men were studied in 1973. A systematically sampled number of sons of the men participating in the initial study in 1963, aged about 30 (age range 28-37), were invited to the study in 1973 (4). A population study of women was initially carried out in 1968-69 (5). These women were re-studied in 1974-75 (6) and in 1980-81 (7). In 1980-81, new samples of 26-year-old and 38-year-old women were selected.

Due to the sampling (based on pre-determined dates of birth) and high participation rates (80-90%), the men aged 50, 60, and 67, and all the

Table I. Age, study period and number of the participants in the different age cohorts of men and women presented in this paper.

Age yrs	Men		Women	
	Study period	n	Study period	n
26	—	—	1980–81	85
28–37	1973	130	—	—
38	—	—	1980–81	122
50	1973	225	1980–81	355
60	1973	814	1974–75	163
66	—	—	1974–75	65
67	1980	705	—	—

female age-groups, were representative of men and women on the same ages in the general population. The men aged about 30 were sampled in another way (sons of one of the age-groups of men), but this group of men is also considered to be representative of men of the same age in the general population.

In the studies of men, the purpose was to follow the development of chronic diseases in the cohorts born in 1913 and in 1923. In the studies of women, the main purpose was to study the menopause, and different age-groups were therefore selected. That explains why the age-groups were not always well matched.

All participants answered a standardized self-administered questionnaire, which included 30 questions about different symptoms (Table II) (8, 9). The participants were asked: "Have you been troubled by any of the following symptoms during the last three months? Try to answer the question even if you are in doubt!"

It is important to emphasize that men in the age-groups 30, 50, and 60 were examined in 1973, and age group 67 in 1980. Among females age-groups 26, 38, and 50 were examined in 1980–81, and 60 and 66 in 1974–75. This means that secular changes must be taken into consideration when comparisons between different groups are made (Table I).

Statistical methods

The invited participants can be regarded as the total population fulfilling the selection criteria – born in a fixed year and a fixed date. The study is descriptive and has no experimental design. Conclusions will be drawn only when dramatic differences are presented between different groups of age and sex. The hy-

pothesis of no differences in frequencies between two groups was tested with the chi-square test.

RESULTS

The influence of age on symptoms among men and women was studied in the following groups of symptoms: depression, tension, gastrointestinal-urinary tract, musculoskeletal, metabolic, heart and lung, and head symptoms. The numbers studied are presented in Table I and the results are presented in Tables II–III and in Figs. 1–7.

Depression symptoms

In general, women had considerably more depression symptoms than men. General fatigue decreased with age in both sexes in a dramatic way. Sleep disturbances increased considerably in both sexes with age. Most depressive symptoms decreased between 60 and 67 in both sexes (Fig. 1).

Tension symptoms

Tension symptoms increased up to the age of 50 and thereafter declined. This was most pronounced between 60 and 67 (Fig. 2).

Gastrointestinal-urinary tract symptoms

Abdominal pain was common in both young men and women. There was a considerable decrease with age. The same decrease was seen in the other symptoms, but constipation in men increased with age. Anorexia was rare in both sexes. Difficulty in passing urine increased with age, particularly in men (Fig. 3).

Musculoskeletal symptoms

The three symptoms increased with age, with a slight decline between 60 and 67 (Fig. 4).

Metabolic symptoms

For men, all the symptoms increased with age to 60, followed by a slight decline. Among women, the symptom feeling cold decreased with age; sweating showed a dramatic increase at about the age of 50. Loss of weight was rare in both sexes (Fig. 5).

Heart and lung symptoms

Cough declined with age, particularly in women. Breathlessness increased with age. The prevalence

Table II. Prevalences (per cent) of 30 symptoms in the studied age groups of men and women.

Sex (Males, Females) Years old	M 30	F 26	F 38	M 50	F 50	M 60	F 60	M 67	F 66
Depression									
cries easily	4	24	21	7	32	11	23	11	23
depression	11	39	42	24	47	24	38	18	32
general fatigue	32	56	58	29	54	28	41	12	32
sleep disturbance	2	14	17	17	35	19	40	18	32
exhaustion	15	21	29	15	22	14	21	5	9
Tension									
irritability	23	42	40	28	38	23	30	17	20
nervousness	8	11	16	18	30	18	26	9	23
impaired concentration	7	19	22	11	21	11	20	6	14
difficulty in relaxing	10	34	32	23	37	18	33	11	22
restlessness	15	31	25	19	28	15	25	13	16
Gastrointestinal-urinary tract									
difficulty in passing urine	3	4	7	3	3	7	3	12	8
anorexia	2	8	4	6	4	6	6	4	5
nausea	10	20	16	7	15	7	13	6	5
diarrhoea	18	19	11	12	9	8	8	7	6
constipation	4	16	11	4	14	7	14	8	12
abdominal pain	20	39	35	26	25	19	21	12	17
Musculoskeletal									
pain in the joints	9	7	21	23	30	24	31	19	29
backache	25	32	32	32	39	37	39	26	28
pain in the legs	11	16	25	25	36	32	29	25	37
Metabolism									
feeling cold	3	29	21	11	27	12	18	11	17
sweating	10	12	12	21	42	18	25	10	14
loss of weight	0	4	4	3	2	7	6	3	5
overweight	16	21	20	25	39	25	36	20	26
Heart-lung									
breathlessness	5	11	11	20	23	24	20	20	28
chest pain	12	8	13	18	21	17	17	15	14
cough	28	36	23	19	23	19	14	18	11
Head									
dizziness	3	26	24	11	29	13	19	14	22
headache	33	58	50	23	45	16	29	12	20
impaired hearing	6	5	9	19	13	27	16	32	27
eye-problem	9	24	16	18	26	18	23	17	37

of chest pain was very similar and was not related to age (Fig. 6).

Head symptoms

Impaired hearing showed a striking increase with age, and headache a striking decrease, in both sexes. Eye-problems and dizziness increased with age in

men. In the women these symptoms were more common and without striking relationship to age (Fig. 7).

Summary of age-related change in symptoms

Table III summarizes the findings related to age. Out of 30 symptoms as many as 18 showed a specific

Table III. Age and symptoms.

Increase with age in both sexes:

sleep disturbance
pain in the joints
pain in the legs
breathlessness
impaired hearing

Decrease with age in both sexes:

general fatigue
abdominal pain
nausea
diarrhoea
cough
headache

Peak prevalence around 50 years in both sexes:

depression
difficulty in relaxing
impaired concentration
nervousness
overweight
sweating
chest pain

age-pattern in both sexes. Sleep disturbances, pain in the joints, pain in the legs, breathlessness and impaired hearing all showed a definite increase with age. General fatigue, abdominal pain, nausea, diarrhoea, cough and headache decreased with age. There is a group of symptoms which increase to the age of 50 and then decline, e.g. depression, difficulty in relaxing, impaired concentration, nervousness, overweight, sweating and chest pain.

Sex differences

From Figs. 1–7 it is clear that most symptoms were more common among women. Figs. 8 and 9 show that these findings were more pronounced among the younger age-groups, but many of the symptoms related to depression and tension in the older age-groups were significantly more prevalent in the women ($p < 0.05$).

DISCUSSION

Before discussing the result of the present study, it is important to deal with all problems related to symptom research. Physical and mental symptoms are by definition private and subjective experiences. In studying symptoms we must distinguish between encoding, awareness, and reporting of internal state, since each can be influenced by different processes. We are constantly processing information about sensations from the body (symptoms). Some of them are available to consciousness. In most cases we are not aware of them until we are asked to become aware of them. Although sensation encoding is occurring continuously, our awareness and subsequent reporting of symptoms are dependent on psychological processes. Our awareness is a function of the magnitude of internal stimuli but also of external information and the beliefs of causation of the symptom. From symptom awareness to symptom reporting – a step which implicates either not reported or overreported – depends on, among other things, reinforcement or punishment.

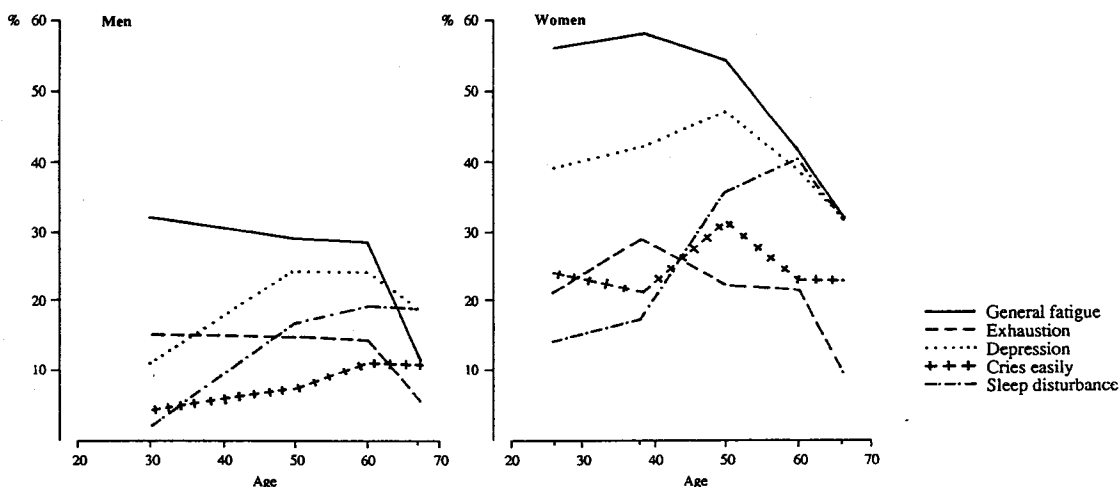


Figure 1. Depression symptoms.

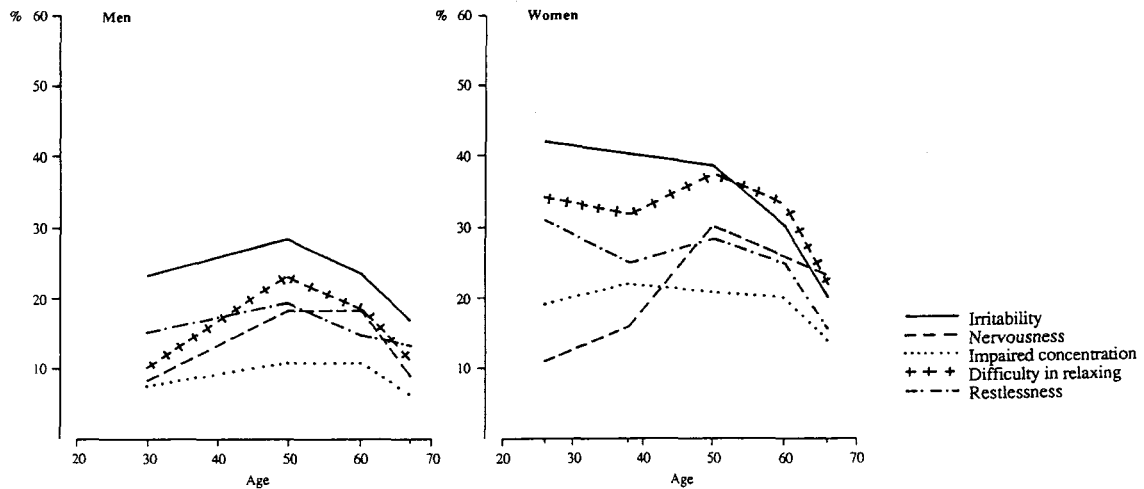


Figure 2. Tension symptoms.

With any self-report, the study of physical and mental symptoms is associated with the Heisenberg principle in physics, i.e. measuring the phenomenon may radically alter the phenomenon itself. Merely asking people what they are aware of prompts them to attend to their body in a special way.

In our study the participants were in a health examination situation and were asked to complete a questionnaire about a fixed number of symptoms. The condition was that the symptoms must have troubled the participants during the previous three months.

In the present study the different age and sex

groups were not compared at the same chronological time. In four comparisons the women were examined 7–8 years later than the men.

In a Swedish report (10) it has been possible to compare symptoms in a population examined in 1975 and 1982–83. The conclusion was that the health situation of the Swedish people hardly changed during that interval. It includes symptom-reporting of the same self-reporting type as in the present study. Our methodological limitation will therefore not invalidate our results.

In a literature review, it is stated flatly that older individuals report more symptoms than younger

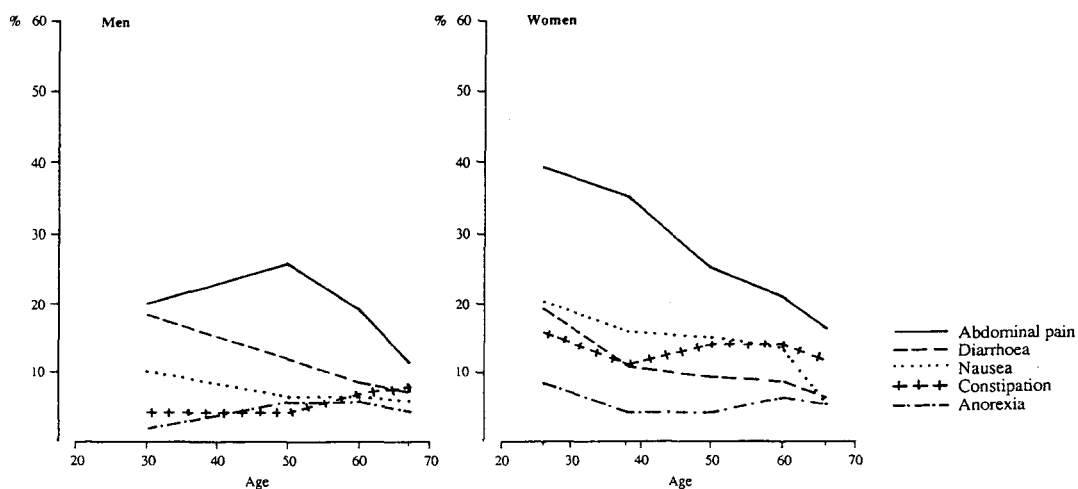


Figure 3. Gastrointestinal-urinary tract symptoms.

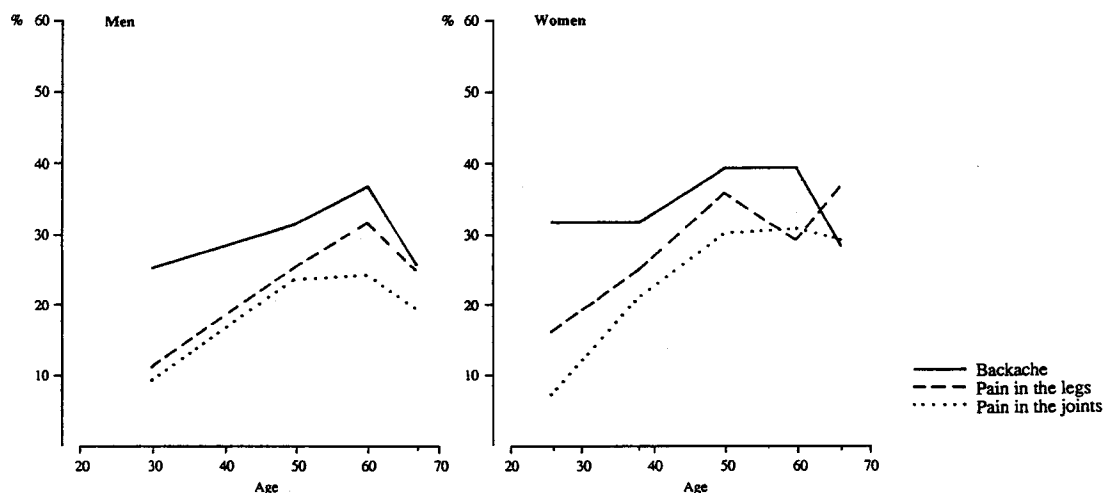


Figure 4. Musculoskeletal symptoms.

(11). The present study showed that some symptoms increased with age in both sexes, while others decreased considerably. A Swedish health survey from 1970 (12) found the same trend as ours. Sleep disturbances, pain in the joints, pain in the legs, breathlessness, and impaired hearing increased with age. Abdominal pain, nausea, diarrhoea, cough, and headache decreased with age. General fatigue showed no definite relation to age in the Swedish study.

It is easy to explain the increase of symptoms with age by the general decline of body function with age. It is more difficult to find a reason for the decline of

symptoms with age. The decrease of coughing can be explained by a decline in smoking habits, but it is necessary to find an explanation for the decrease in headache and the gastrointestinal symptoms.

The most probable explanation for the finding in the present study that many symptoms decreased between the age of 60 and 67 (e.g. tension symptoms, musculoskeletal symptoms, and most depression symptoms) is that at 65 the participants are at retiring age and can begin to live in a relaxed way.

Virtually all studies indicate that women experience more symptoms than men. This was true in the present study, but our new finding is that, though

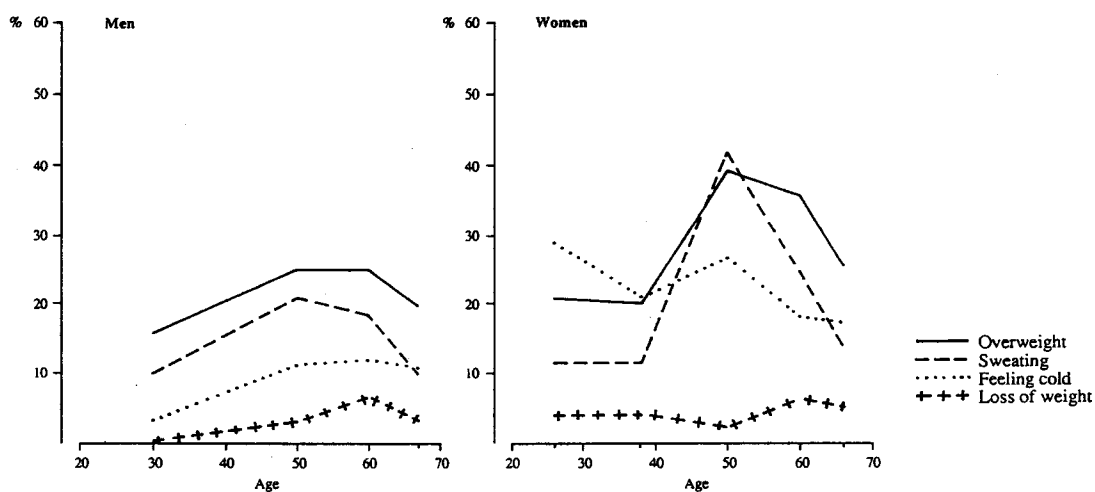


Figure 5. Metabolic symptoms.

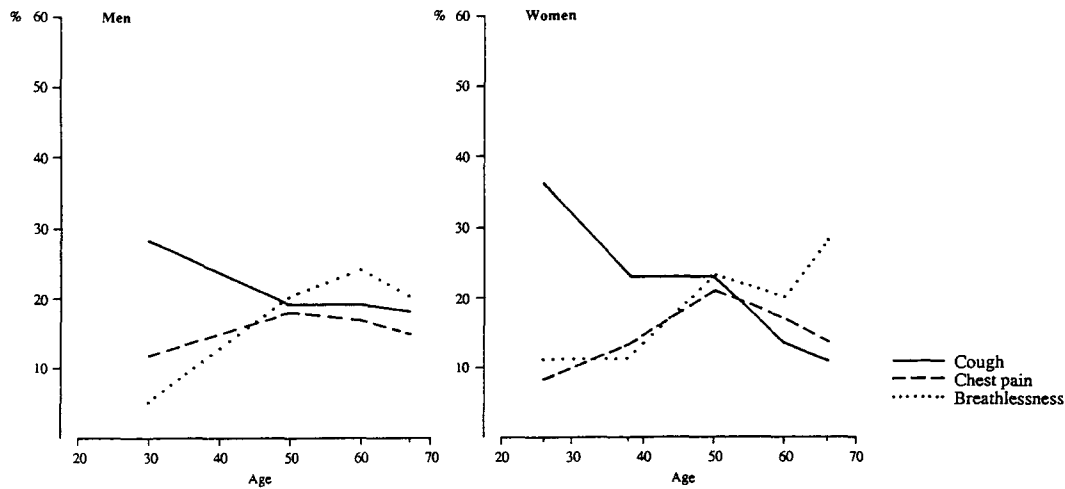


Figure 6. Heart and lung symptoms.

the difference between the sexes declines with age, it is still present, especially for depression and tension symptoms. Women at all ages report more symptoms, take more prescribed and non-prescribed medication, and visit physicians more often than men (11). Nevertheless, men have a shorter life expectancy and higher diagnosed rates of IHD (13), stroke, and many forms of cancer. In other words, the higher prevalence of serious diseases in men would indicate that they should, in fact, have greater patho-physiological stimuli than women. An explanation, proposed by Pennebaker, is that women are more attentive to their internal state, and that they

subsequently seek medical attention based on their perceptions of their symptoms. Our finding that this increased attention to the internal state was mostly limited to mental symptoms argues against this theory. There was no significant difference between the sexes in favour of women in any age-group concerning difficulty in passing urine, anorexia, diarrhoea, backache, breathlessness, chest pain, cough, or impaired hearing.

Another explanation, built on our results, is that the overreporting of symptoms by women is mostly limited to tension and depression. The explanation may relate more to the life-style of Swedish women –

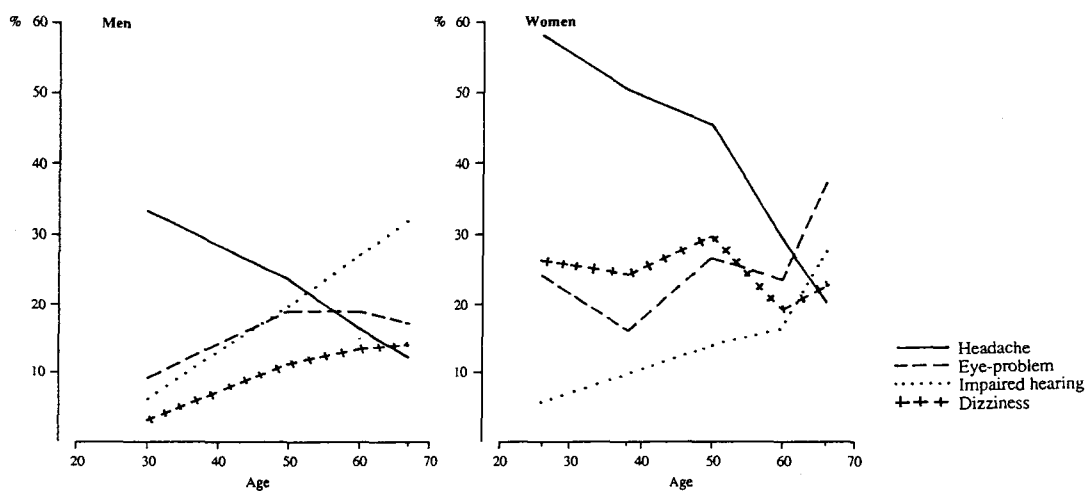


Figure 7. Head symptoms.

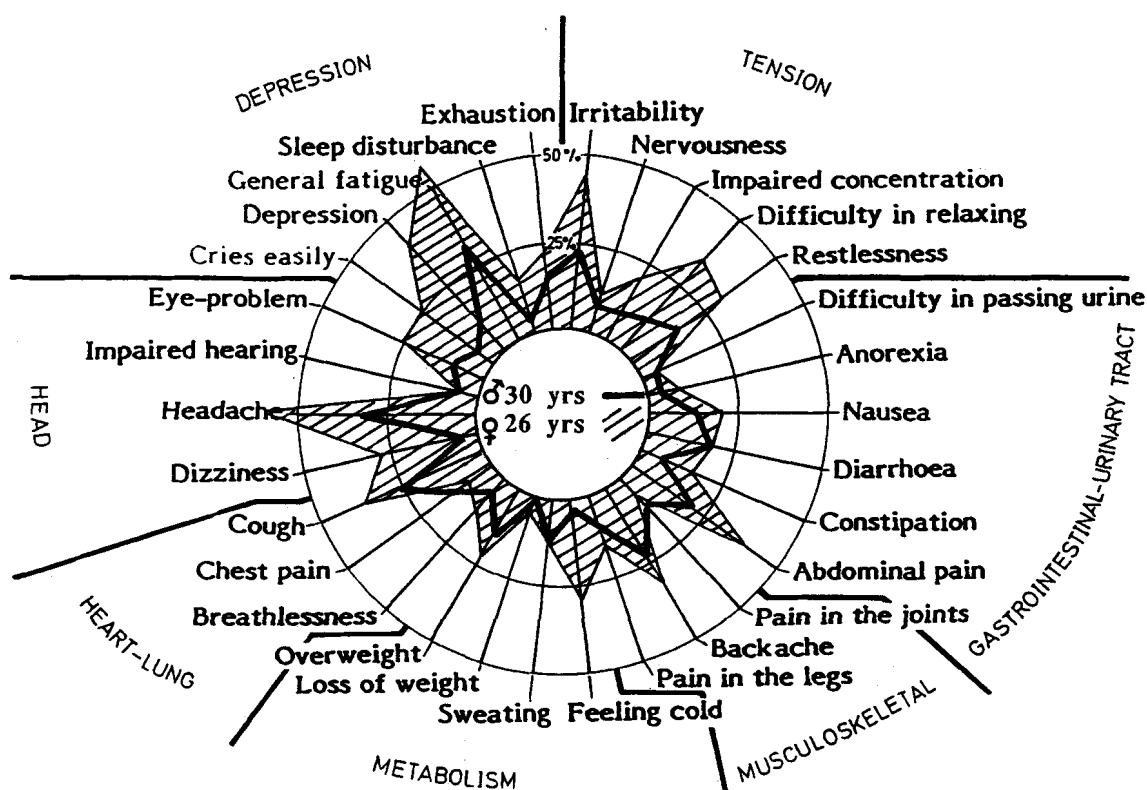


Figure 8. Symptom profiles in young adults.

the responsibility for their job, their home, and bringing up the children.

Quality-of-life-instruments are now in common use to evaluate different treatment. Self-reported symptoms are an important part of the concept of quality of life. Our finding of age and sex differences in symptom-reporting must in the future be taken into consideration.

Self-reporting of symptoms can express a cry of a sick organ. It can also be a cry for help in more general terms. Another explanation is that symptom-reporting can result from increased awareness of bodily sensations.

It is our task to find out and treat whatever cause is behind the reported symptom. In order to do that we need more knowledge about the natural history of symptoms.

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REFERENCES

1. Tibblin G. High blood pressure in men aged 50 – a population study of men born in 1913. *Acta Med Scand* 1967; Suppl 470.
2. Svärdsudd K, Tibblin G. A longitudinal blood pressure study. *J Chronic Dis* 1980; 33: 627–36.
3. Hur mår Du Sverige? Ohälsa och vårdutnyttjande i Sverige – undersökningar om levnadsförhållanden (ULF) som underlag för planering. Spri-rapport 82, 1982.
4. Welin L. Family study on IHD and its risk factors. University of Göteborg, Göteborg 1978.
5. Bengtsson C, Blohmé G, Hallberg L et al. The Study of women in Gothenburg 1968–1969 – a population study. General design, purpose and sampling results. *Acta Med Scand* 1973; 193: 311–8.
6. Bengtsson C, Hallberg L, Hällström T et al. The population study of women in Göteborg 1974–1975 – the second phase of a longitudinal study. General design, purpose and sampling results. *Scand J Soc Med* 1978; 6: 49–54.

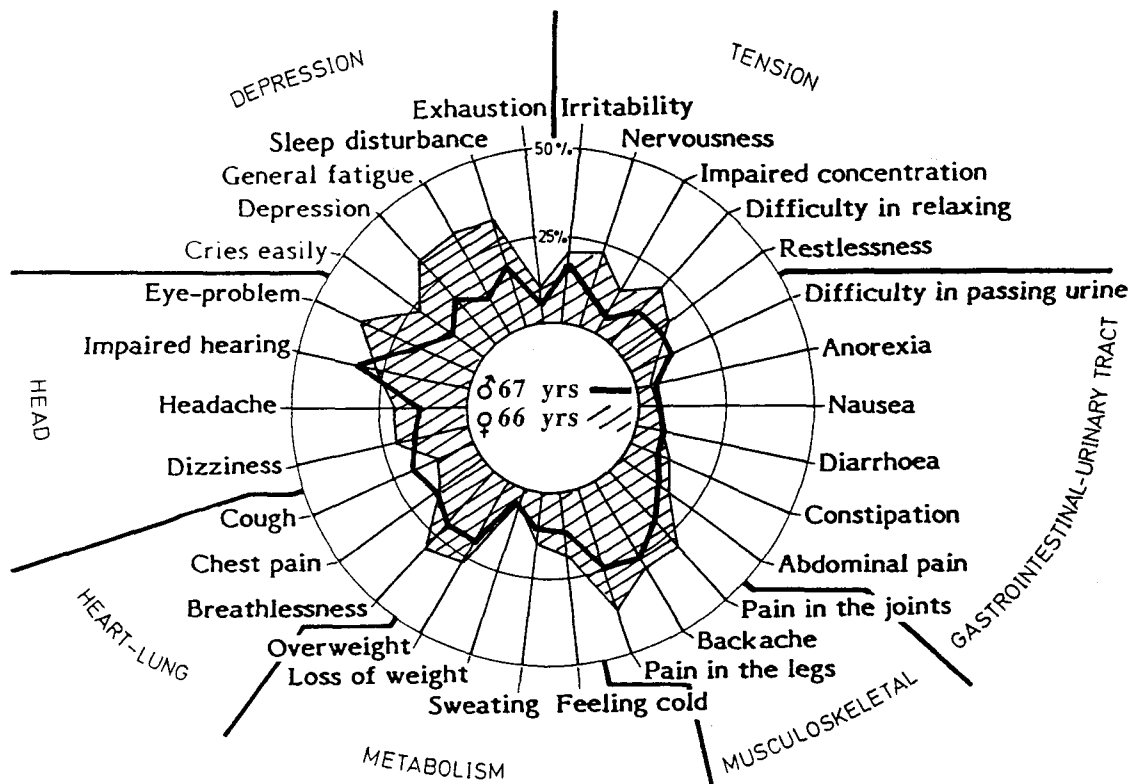


Figure 9. Symptom profiles after retirement age.

7. Lapidus L. Ischaemic heart disease, stroke and total mortality in women. Results from a prospective population study in Gothenburg, Sweden. *Acta Med Scand* 1986; Suppl 705.
8. Tibblin G. Kunskap om symptomens naturalhistoria - hjälp för läkaren i kontakten med patienten. *Läkartidningen* 1986; 83: 1186-90.
9. Bengtsson C, Edström K, Furunes B, Sigurdsson JA, Tibblin G. Prevalence of subjectively experienced symptoms in a population sample of women with special reference to women with arterial hypertension. *Scand J Prim Health Care* 1987; 5: 155-62.
10. Ohälsa och sjukvård. Rapport nr 42. Sveriges officiella statistik. Statistiska centralbyrån, Stockholm 1985.
11. Pennebaker JW. The psychology of physical symptoms 1982. Springer-Verlag, Berlin 1982.
12. Johansson S. Låginkomstutredningen: Den vuxna befolkningens hälsotillstånd. Allmänna förlaget 1970.
13. Bengtsson C. Ischaemic heart disease in women. A study based on a randomized population sample of women with myocardial infarction in Göteborg, Sweden. *Acta Med Scand* 1973; Suppl 549.

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