

SICKNESS AND ACCIDENT — RELATED ABSENTEEISM IN POLAND BETWEEN 1984 AND 1986

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Abstract. An evaluation of sickness-related absenteeism of the employees of the social economy was performed using a 15% sample of certificates of temporary incapacity for work¹ issued between 1984 and 1986 in Poland. Annually, about 39 million certificates are issued. In 1986, per one employee 15.8 days of incapacity for work due to diseases and about 0.94 days due to accidents were recorded. The lost time rate due to sickness and accidents was 5.26%. The main reasons for sickness-related absenteeism between 1984 and 1986 were respiratory system diseases (26% of the overall number of days of incapacity for work caused by disease), circulatory system diseases (13%), nervous system and sense organ diseases (12%), digestive system diseases (10%). Sickness-related absenteeism of females was twice that males'. Accident-related absenteeism among males was twice that among females.

MATERIAL AND METHOD

The source material for the analysis in question is a 15% random sample of copies of certificates of temporary incapacity for work sent to the Institute of Occupational Medicine in Lodz by the institutions of the social health service from the whole country. This test makes it possible to estimate the number of days of incapacity for work in the working population according to sex, age and causes, using the International Classification of Diseases, Injuries and Causes of Death, and also to evaluate absenteeism by reference to particular branches of the national economy and industry. Sickness-related lost time rates are estimated using a division into days (count of days):

¹ In Poland, every absence from work caused by disease or accident must be justified by a special medical certificate, regardless of the duration of a disease.

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$$\text{lost time rate} = \frac{\text{number of days of incapacity for work}}{\text{average number of employees} \times 365} \times 100\%$$

The data concerning employment are obtained from the Central Statistical Office and for that reason, the division into age groups differs from that recommended by WHO. The structure of employment by age in the national economy is presented in Table 1. The structure of employees according to age has not changed since 1981 (1). Persons of 20–39 years prevail, constituting about 60% of the total number of employees.

TABLE 1. Structure of Employees of the National Economy in 1986 by Sex and Age in Percentage

Age group	Total	Males	Females
—19	4.1	4.1	4.1
20—29	31.0	30.2	32.0
30—39	29.6	29.3	29.9
40—49	20.9	20.5	21.4
50—59	11.7	12.7	10.5
60—	2.7	3.2	2.1
Total	100.0	100.0	100.0

RESULTS AND DISCUSSION

Between 1984 and 1986 mean sickness-related absenteeism per one employee was 13.3 days: 13.2 among males and 19.8 among females. Including accidents, 19.6 days annually per one employee were reported: 17.5 days among males and 22.5 among females. The sickness-related lost time rate was 4.40 : 3.60 for males and 5.42 for females. In general,

TABLE 2. Absenteeism of Employees in Poland by Reasons of Medical Certificates of Temporary Disability to Work Between 1984 and 1986

	Year	Lost time rate caused by:			
		diseases	occupational accidents	other accidents	maternity leave
Total	1984	4.54	0.09	0.89	
	1985	4.35	0.09	0.87	
	1986	4.32	0.10	0.84	
Males	1984	3.57	0.13	1.06	—
	1985	3.52	0.13	1.05	—
	1986	3.72	0.14	1.05	—
Females	1984	5.79	0.04	0.66	2.68
	1985	5.40	0.04	0.65	2.47
	1986	5.08	0.04	0.57	2.07

the sickness- and accident-related lost time rate was 5.36 (27% higher among females than among males) (Table 2). As compared to the period between 1981 and 1983 sickness-related absenteeism of males has, slightly decreased (ca 2%), while sickness-related absenteeism of females has decreased by ca 14% (1).

Sickness-related absenteeism of both males and females demon-

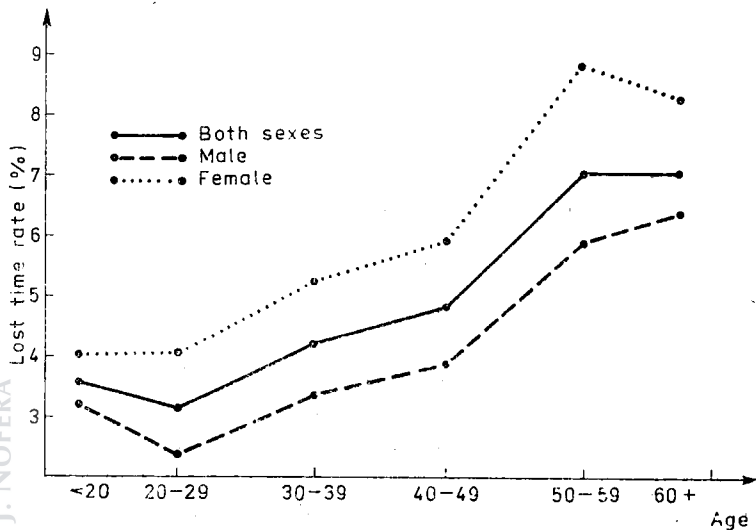


Fig. 1. Sickness absence in Poland according to sex and age in 1984-1986 (average).

strates a systematic increase as age increases (Fig. 1). Sickness-related absenteeism of females between 1984 and 1986 increased annually by 50% on average, as compared to male absenteeism. The highest lost time rates among both males and females have been observed in the group of persons aged 50 to 59. The increase of sickness-related absenteeism in this age group was ca 50% higher than the one in the group of people aged 40 to 49. The extent of absenteeism in this age group was conditioned by a great number of persons receiving disability pension after long-term periods of temporary disability to work. The lowest lost time rates of both males and females have been observed in the group of persons aged 20 to 29.

Absenteeism due to non-occupational accidents in Poland during the analysed period was annually ca 66% higher among males than among females (Fig. 2). This absenteeism is an important problem in the group of males constituting 1/5 of the total sickness- and accident-related absenteeism. In the group of males, a decrease of lost time rate values

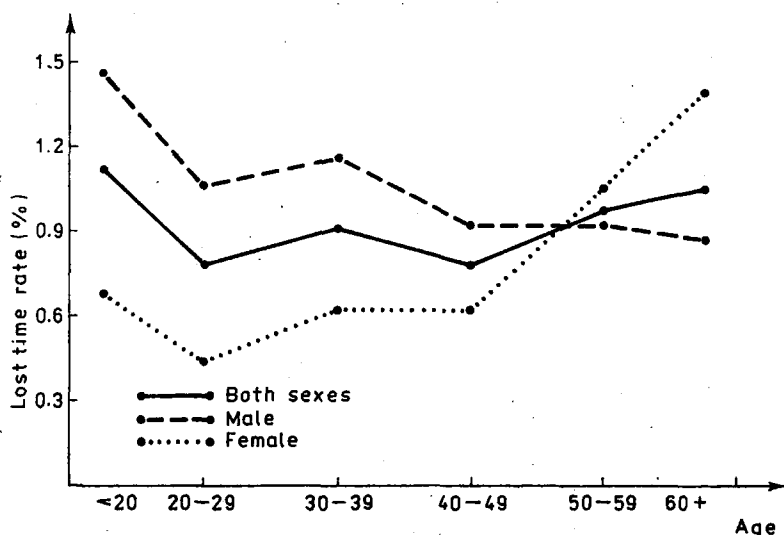


Fig. 2. Absence due to non-occupational accidents in Poland according to sex and age in 1984—1986 (average).

is observed as age increases; among females, an opposite phenomenon can be found, i.e. an increase of the rate value as age increases.

An analogous phenomenon has been reported in the case of absenteeism due to occupational accidents (Fig. 3). Comparing periods 1981—1983 and 1984—1986 one can state that lost time rates due to non-

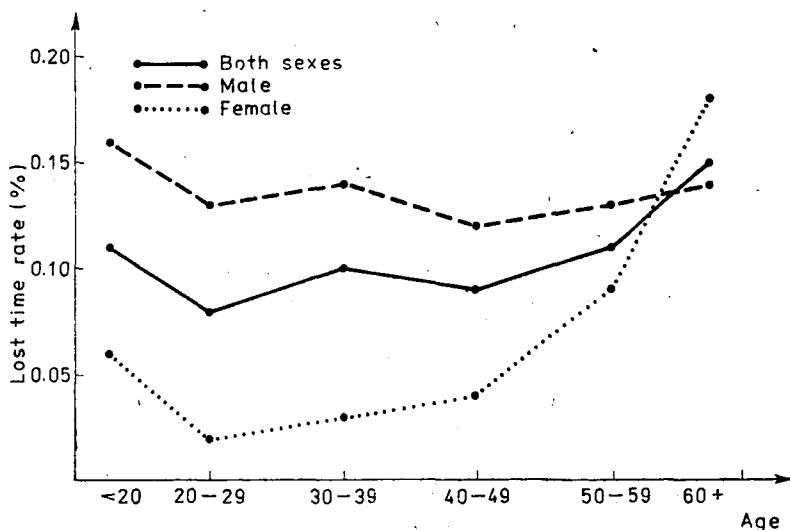


Fig. 3. Absence due to occupational accidents in Poland according to sex and age in 1984—1986 (average).

—occupational accidents have remained at the same level and that the rates have increased by about one third of their value in the group of females. Lost time rates due to occupational accidents display a decrease by about $\frac{1}{3}$ as compared to the previous period (1).

The main reasons for sickness-related absenteeism between 1984 and 1986 were: respiratory system diseases, circulatory system diseases, nervous system and sense organs diseases, digestive system diseases. They constituted in total ca 70% of sickness-related absenteeism (Tables 3 and 4).

Respiratory system diseases caused the total number of 50.2 million days of absence from work, i.e. about 3.6 days per one male worker and 5.0 days per one female worker. These diseases resulted in 26% of all days of absence, while in age groups their percentage ranged from 60% in the group of the youngest males to about 18% in the group of the oldest male workers.

Respiratory system diseases are the main reason for absenteeism in persons under the age of 50, both among females and males. Lost time rate per one year was about 1.15 in all: 0.98 among males and 1.37 among females. Acute chronic diseases of the respiratory system constitute 85% of absenteeism in general in the whole group of chronic diseases of this system. This percentage oscillates between 93% in the youngest age groups to more than 50% (in males about 67%) in the oldest age groups. An increase by about 27% of lost time rates as compared to the period 1981—1983 caused by these kind of chronic diseases can be observed among females.

Circulatory system diseases are the second most important reason for sickness-related absenteeism in the group of males, and the third in the group of females, whereas among both males and females over the age of 50 they are the main reason for absenteeism (Tables 3 and 4). Between 1984 and 1986, these diseases resulted in the loss of 24.4 million days. 1.9 days of absenteeism per one male and 2.2 days of absenteeism per one female resulted from these diseases. The percentage of circulatory system diseases in general sickness-related absenteeism was 12.7 (males — 14.4%, females — 11.3%). The lost time rate due to circulatory system diseases in the analysed period was 0.56. This rate was 17% higher among females than in males at 0.61.

In the age groups, sickness-related lost time rates due to circulatory system diseases increase very fast with age. The greatest increase (more than two-fold) can be observed in the group of employees at the age between 50 and 59 as compared to the younger group (Fig. 4). In the age group of the oldest employees, the increase is three times greater

TABLE 3. Main Reasons of Sickness-Related Absenteeism of Males in Poland Between 1984 and 1986 in Particular Age Group

No	Total	Age groups				
		under 19	20-29	30-39	40-49	50-59
1.	respiratory system diseases (0.98)	respiratory system diseases (1.91)	respiratory system diseases (0.91)	respiratory system diseases (0.98)	respiratory system diseases (0.83)	respiratory system diseases (1.59)
2.	circulatory system diseases (0.52)	digestive system diseases (0.29)	digestive system diseases (0.34)	nervous system and sense organs diseases (0.57)	circulatory system diseases (0.68)	respiratory system diseases (1.09)
3.	nervous system and sense organ diseases (0.50)	nervous system and sense organ diseases (0.22)	nervous system and sense organ diseases (0.31)	digestive system diseases (0.49)	nervous system and sense organ diseases (0.62)	osteomuscular system diseases (0.90)
4.	digestive system diseases (0.45)	skin diseases (0.22)	osteomuscular system diseases (0.18)	osteomuscular system diseases (0.37)	osteomuscular system diseases (0.59)	nervous system and sense organ diseases (0.72)
5.	osteomuscular system diseases (0.43)	tuberculosis and other infectious diseases (0.21)	skin diseases (0.16)	circulatory system diseases (0.27)	digestive system diseases (0.48)	digestive system diseases (0.58)
x	80.0%	88.8%	79.5%	79.1%	81.6%	82.9%
x/percentage of the mentioned five groups in the structure of sickness-related absenteeism						
						81.7%

TABLE 4. Main Reasons of Sickness-Related Absenteeism of Females in Poland Between 1984 and 1986 in Particular Age Groups

No	Total	Age groups				
		under 19	20-29	30-39	40-49	50-59
1.	respiratory system diseases (1.37)	respiratory system diseases (1.98)	gynecological diseases, pregnancy, delivery and puerperium complications (1.36)	respiratory system diseases (1.42)	respiratory system diseases (1.31)	respiratory system diseases (2.12)
2.	gynecological diseases, pregnancy, delivery and puerperium complications (0.81)	respiratory system diseases, pregnancy, delivery and puerperium complications (0.59)	respiratory system diseases (1.17)	gynecological diseases, pregnancy and puerperium complications (0.87)	respiratory system diseases (0.89)	respiratory system diseases (1.68)
3.	circulatory system diseases (0.61)	digestive system diseases (0.33)	digestive system diseases (0.29)	nervous system and sense organ diseases (0.59)	osteomuscular system diseases (0.88)	osteomuscular system diseases (1.60)
4.	osteomuscular system diseases (0.56)	nervous system and sense organ diseases (0.21)	nervous system and sense organ diseases (0.24)	digestive system diseases (0.52)	nervous system and sense organ diseases (0.78)	nervous system and sense organ diseases (0.71)
5.	nervous system and sense organs diseases (0.55)	tuberculosis and other infectious and parasitic diseases (0.21)	tuberculosis and other infectious and parasitic diseases (0.15)	osteomuscular system diseases (0.42)	digestive system diseases (0.58)	digestive system diseases (0.75)
* 72.0%		82.2%	78.9%	72.5%	74.6%	80.6%
* percentage of the mentioned five groups in the structure of sickness-related absenteeism						83.0%

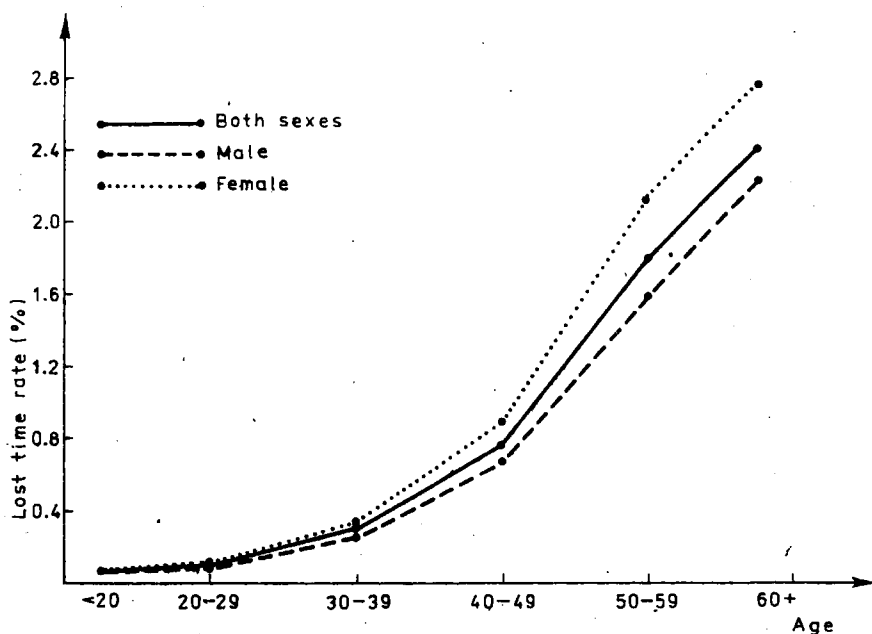


Fig. 4. Sickness absence due to diseases of the circulatory system (390—459) in Poland according to sex and age in 1984—1986 (average).

than in the group of employees aged between 40 and 46 (both among males and females).

As compared to the period between 1981 and 1983, the lost time rate due to circulatory system diseases remained at the same level, while in females, the rate has slightly increased (by 15%). The greatest increase is observable among males at the age of 30—39 and over 60 (by 12% in each group).

30% of the absenteeism due to circulatory system diseases is attributed to arterial hypertension (25% in males and 34% in females). The lost time rate due to hypertension was 0.17 (0.13-males, 0.21-females). As age increases, differences between absenteeism of females and males due to these diseases are seen to intensify. And thus, in the group of persons aged 40—49, absenteeism due to hypertension increases in males more than twice, and in females more than three times as compared to the younger age group. In employees aged 50—59 absenteeism among males doubles and among females increases 2.5 times. The highest lost time rates due to hypertension are found among the oldest persons (among males — 0.47, among females — 0.99).

Nervous system and sense organ diseases constitute the third major cause of absenteeism, resulting annually in 22.7 million days of absen-

teeism. 1.9 days of absenteeism per one employee have been reported: 1.9 days per one male and 2.0 days per one female. These diseases caused 12% of the total sickness-related absenteeism (13.9% among males and 10.1% among females). The lost time rate was 0.53 : 0.50 among males and 0.55 among females. No changes have been revealed in comparison with the previous period (1).

In the analysed period, osteomuscular system diseases have caused 21.1 million days of absenteeism per year. Annually, per one employee, 1.8 days of absenteeism have been reported (1.6 days among males and 2.0 days among females). Their percentage in the structure of sickness-related absenteeism was 11% (males — 11.9%, females — 10.3%) The lost time rate was 0.48 (0.43 among males and 0.56 among females). As far as the age groups are concerned, the greatest increase (almost two-fold) has been observed in females at the age of 40 and over, as compared to young females (Fig. 5). Among females a 30% increase of lost time rate

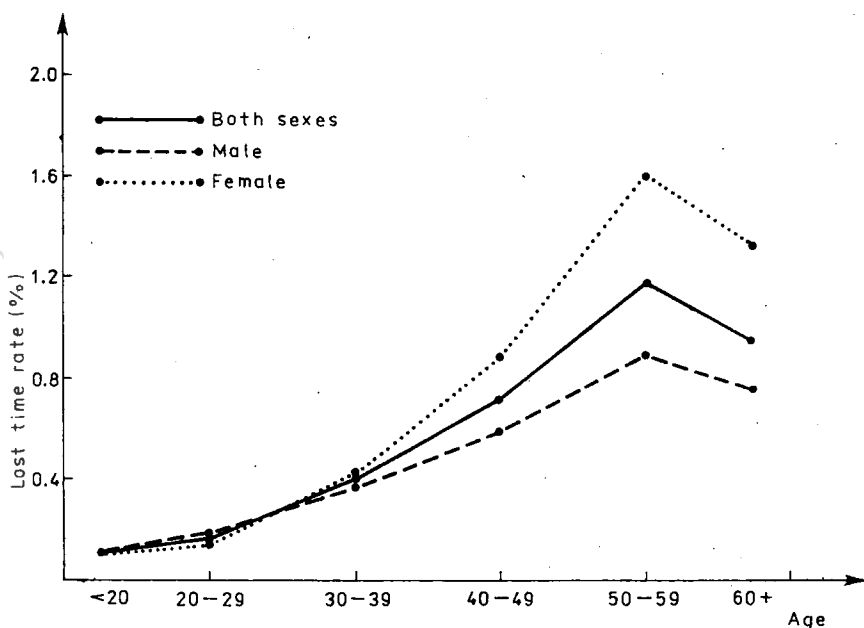


Fig. 5. Sickness absence due to diseases of the musculoskeletal system and connective tissue (710—739) in Poland according to sex and age in 1984—1986 (average).

value due to osteomuscular system diseases, as compared to the period between 1981 and 1983, has been observed.

Digestive system diseases are one of five main reasons of sickness-related absenteeism (Table 3 and 4) resulting annually in 21 million days of absenteeism in the analysed period, i.e. 1.7 days per one employee

(1.6 — males, 1.8 — females). These diseases caused 10.5% of all days of sickness-related absenteeism (12.5% — males and 8.9% — females). Annually the lost time rate was 0.46 (0.45 — males and 0.48 — females).

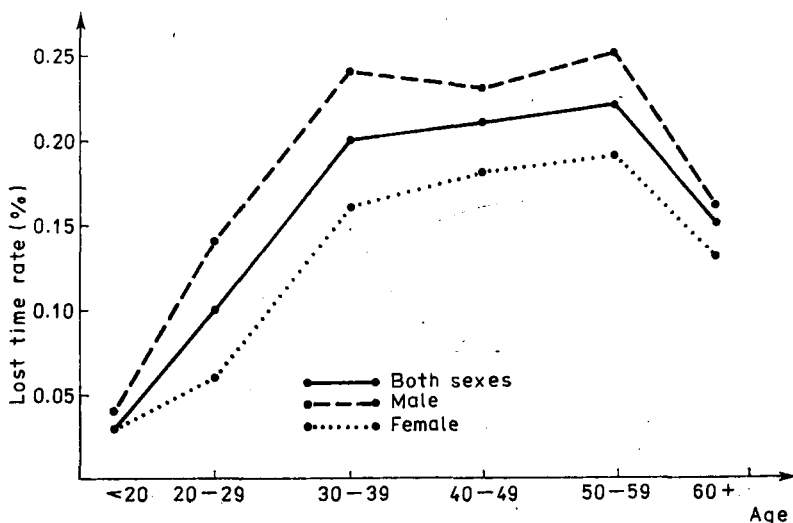


Fig. 6. Sickness absence due to ulcer of digestive organs (531—534) in Poland according to sex and age in 1984—1986 (average).

In males, absenteeism caused by digestive system diseases, chronic gastric ulcer disease and chronic duodenal ulcer disease are an important problem (Fig. 6). The percentage of these diseases in the whole group of digestive

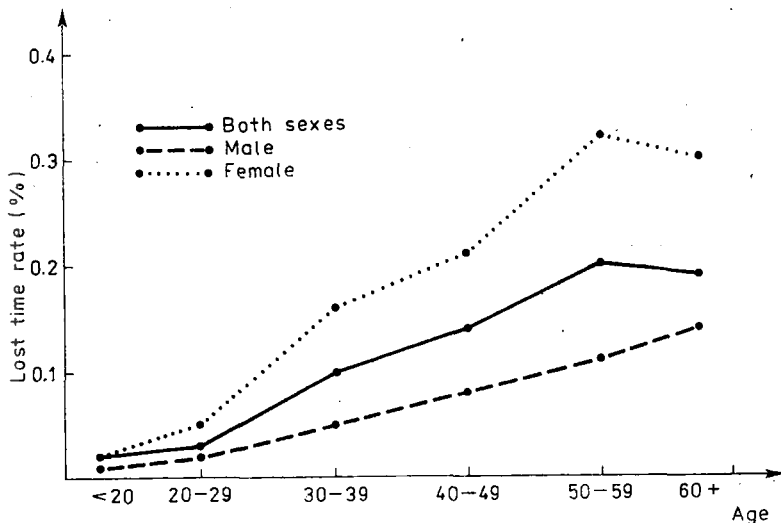


Fig. 7. Sickness absence due to liver, gall-bladder and pancreas diseases (570—577) in Poland according to sex and age in 1984—1986 (average).

system diseases among males is 42.2% (females — 27.1%). Lost time rate due to ulcer disease is 0.19 among males and 0.13 among females.

The percentage of hepatopathy and diseases of gall-bladder and pancreas amounts to 31% in females and 13.3% among males in the whole group of absenteeism due to digestive system diseases. The lost time rate from this cause is 2.5 times higher among females than among males, and amounts to 0.15 (Fig. 7).

In sickness-related absenteeism among females, the second and very important reason for time lost is gynecological diseases and pregnancy, delivery and puerperium complications (Table 4). The lost time rate in this case is 0.81. In the group of females at the age of 20—29, these diseases are the main reason for absenteeism (lost time rate = 1.36), and among persons aged 30—39 they occupy the second position.

The presented analysis indicates important differences in patterns of absenteeism by disease as well as differences in accident rates among males and females according to age.

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