

Workers in the Finnish Food Industry are at Risk for Cancer

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Description

The processing, conversion, preparation, preservation, and packaging of foodstuffs are all parts of the food industry. Most of the time, the raw materials that are used are of vegetable or animal origin and come from farming, breeding, and fishing. Among the most prevalent occupational health issues in the food industry are musculoskeletal disorders, hearing impairment, skin diseases, and allergies to food. The food industry was the second largest manufacturing sector in the European Union (EU25) after the metal industry, employing 4.4 million people in 2001 and adding a value of EUR 175.6 billion, according to structural business statistics. At the same time, 19,000 Finns were working in typical jobs in the food industry. Between 1990 and 1993, the International Information System on Occupational Exposure to Carcinogens (CAREX) found that 14% of employees in the beverage industry and 12% of employees in the food manufacturing industry in the EU (EU15) could have been exposed to carcinogens. Exposure data for 55 industrial classes of agents evaluated by the International Agency for Research on Cancer (IARC) are included in CAREX. According to CAREX, asbestos, chromium VI compounds, environmental tobacco smoke, nickel compounds, polycyclic aromatic hydrocarbons, radon, and solar radiation were the most common carcinogenic exposures in the food manufacturing industry. Except for the production of smoked foods, carcinogens are rarely used in manufacturing. Instead, they are mostly exposed through service and maintenance (chromium, nickel, and asbestos) or through the environment (radon in indoor work in some areas and solar radiation in regular outdoor work) [1].

A few examinations on the connection between occupations in the food business and malignant growth have been performed, yet just ideas of word related openness as a causal variable have been found. The present study aimed to determine whether working in Finland's typical food industry jobs is associated with various cancers. We were particularly interested in respiratory cancers because the food industry's possible carcinogenic exposures are primarily inhalatory. We additionally examined all super different destinations of disease among food industry laborers as theory age. International Information System on Workplace Exposure to Carcinogens, also known as CAREX; Confidence interval, or CI; Chronic lymphatic leukemia, or CLL; EU15, European Association with 15 part states; The 25-member European Union, or EU25; Finnish Cancer Registry, or FCR; Finnish Job-Exposure Matrix, or FINJEM; The International Agency for Cancer Research, or IARC; Organization for International Labor (ILO), the average amount of exposure among those who were exposed; N, number of people; O, the number of cases observed; P, the number of people who were exposed; Personal identifier, or PID; SES, economic standing; Standardized incidence ratio, or SIR [2].

All economically literate Finns born between 1906 and 1945 who were

included in the national population census on December 31, 1970 (including 667,121 men; 513,110 women). Statistics Finland maintains and updates the census files for vital status, allowing for precise person-year calculations. The records of the 1970 Population Census were used to obtain information on the occupation held for the longest period. The International Standard Classification of Occupations (ISCO), which was published in 1958 by the International Labor Organization (ILO), serves as the foundation for the Nordic Classification of Occupations. The financial status (SES) for each subject depended regarding the matter's own occupation. The SES was divided into farmers, higher white-collar, clerical, skilled blue-collar, and unskilled workers in our analyses.

Since 1953, the Finnish Cancer Registry (FCR) has kept track of every cancer case that was found in Finland. Every cancer case that comes to their attention must be reported to the FCR by all physicians, hospitals, and other institutions, as well as by all of the country's pathological, cytological, and hematological laboratories. Additionally, Statistics Finland provides a computerized file of death certificates containing information about cancer every year. The accuracy of the data is high and the FCR coverage is nearly complete. The incident cases of all cancers diagnosed in people born between 1906 and 1945 were retrieved from the FCR and linked to the Statistics Finland Population Census 1970 file for this study. Since 1967, every resident of Finland has been given a unique personal identifier (PID) with 11 digits. This makes it easier to link reliable computerized records [3].

The Finnish job-exposure Matrix (FINJEM), which covers major occupational exposures in Finland since 1945 by occupation and calendar time, was used to describe the cohort's occupational exposure. The proportion of people exposed (P) and the average level of exposure (L) among those exposed in each occupation define exposure. Estimates are based on occupational hygienists' judgments, hazard surveys, and measurements of exposure. The FINJEM exposure period used in this study was 1960–84. The major FINJEM exposures of the jobs in the food industry are discussed. For each 5-year calendar period, 5-year birth cohort, gender, and SES, the observed and expected numbers of all cancer cases at all sites for each occupation in the food industry were calculated. By multiplying the number of person-years with the incidence rate of each cancer site in the economically active Finnish population of each stratum, the expected number was determined. The normalized occurrence proportion (SIR) was characterized as the proportion of seen to anticipated number of cases. The SIR's confidence interval (CI) of 95% was calculated. Nasal, laryngeal, and lung cancer were the respiratory cancers studied. There were 32 main types of cancer in our selection of all sites [4,5].

Conclusion

In the cohort, there were 1537 cases of cancer among women and 989 cases among men. Men had a SIR of 1.02 (CI=0.96–1.09) for all cancers, while women had a SIR of 0.97 (CI=0.93–1.02). Male workers in the food industry had higher rates of kidney cancer (1.51, 1.16–1.94) and pancreatic cancer (SIR=1.50, CI=1.13–1.96), but there were no statistically significant increases in these rates among female workers. Men (but not women) in "other occupations in the food industry" had the only significant increase in overall cancer incidence among specific food industry occupations. This class covers jobs in the refrigeration staff and the processing of margarine, yeast, cocoa, coffee, spice, macaroni, fish, and poultry products. Men had an increased risk of kidney cancer.

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Conflict of Interest

None.

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