



### E16 Causes of Death in Patients Under the Age of 65 at the Bari Polyclinic

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**Learning Overview:** The goal of this presentation is to identify the main causes of death in patients under the age of 65 years, demonstrating how some diseases are stratified by gender and age, probably in relation to specific risk factors, while others affect the study population almost transversely, placing legitimate doubt of environmental influences in the determining of events.

**Impact on the Forensic Science Community:** This presentation will impact the forensic science community by demonstrating how some diseases are stratified by gender and age, while others affect the study population almost transversely. The stratification of mortality due to death is one of the most reliable epidemiological indicators aimed at monitoring the health status of a population.

According to the latest Italian National Institute of Statistics (ISTAT) report of 2012, beyond congenital pathologies and hematological malignancies that mainly concern childhood, in Italy, the main causes of death in subjects under the age of 65 years are cardiac diseases (16%) and tracheal, bronchial, and pulmonary neoplasms (12%). It is interesting to note that the heart diseases and the neoplastic pathologies—considered as a whole—are equivalent in the male sex, while cardiopathies are much less frequent in the female sex. Remaining in the field of oncological diseases, there is a clear preponderance of broncho-pulmonary and colon-rectal involvement in both sexes, with the addition of the high frequency of breast cancer in women.

The present analysis was conducted through a careful review of the ISTAT cards of patients who died in the Bari Polyclinic in 2017. The data were assessed in relation to the demographic characteristics of the patients (according to sex and age), the cause of death, and the department of hospitalization.

The patients who died in the Polyclinic in 2017, out of a total of 60,012 hospital discharge records, correspond to 1,200 units, of which 22% (268 units) were under 65 years of age. Analyzing the data regarding the sex of patients, among those under 65 years of age, there is a clear prevalence of mortality among male subjects compared to females (61% vs. 39%). The most reoccurrences, in relation to the intrinsic critical situations of patients at the time of admission, correspond to reanimation (33%) and internal medicine (11%). The stratification in relation to the causes of deaths emphasized the role of oncological pathologies in the determinism of deaths in the age group considered: in the Bari Polyclinic, 43% of the deaths in patients under 65 years of age are linked to neoplastic pathologies, followed by cardiovascular diseases (18%) and infections (18%).

Analyzing the neoplasms more specifically, the leading causes of death in the study population, leukemia and lymphomas, represent the most frequent neoplasms (20%), especially in the age group between 40 and 65 years of age; gastrointestinal and female genital-tract cancers are represented by 18% and 16%, respectively. Considering the different distribution of neoplasms in the two sexes, females have a higher mortality linked to tumors of the genital apparatus (41%) and colon-rectal and hematological (36% overall) tumors, while in the male sex it is interesting to note that, in addition to the prevalence of hematological tumors (20%), there is an exclusivity of pulmonary (14%) and hepatic tumors (12%).

Despite the small sample considered, the review conducted allows one to dwell on some peculiarities that partially differ from the national and international trend. First, there is an evident prevalence of neoplastic pathologies compared to heart disease, as well as a significant recurrence of causally related infections with deaths; moreover, in the field of neoplastic pathologies, the main role played by the diseases of the blood and of the blood and lymphatic organs is clear. A possible explanation for these particularities, in light of the risk factors of leukemia and lymphoma (solvents, ionizing radiation, in addition to drugs and congenital deficits), could result from further epidemiological studies related to environmental characteristics of the city and the province. Last, the pulmonary and hepatic neoplasms, exclusively in the case of the male sex, could be part of a still partially consolidated difference in lifestyle, relative to voluptuous habits.

#### Mortality, Patients, Neoplasms