



Multimorbidity among patients with digestive cancers patients in Chile: a nationwide database study

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Abstract

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Background Multimorbidity, the presence of two or more chronic diseases in one individual, affects an increasing number of patients worldwide, creating one of the main challenges in global public health. Multimorbidity results in higher mortality, lower quality of life, and individual risks, such as polypharmacy and exposure to complex therapeutic regimens. In Chile, five of the top ten cancers with the highest mortality rates affect the digestive system. To our knowledge, this is the first study based on a national-wide database focused on multimorbidity in patients with cancer in Chile. Our objective was to characterise multimorbidity and establish the chronic diseases and combinations thereof that most contribute to multimorbidity in patients with digestive cancers in Chile.

Methods Hospital discharge data for this study were taken from a national database based on Diagnosis-Related Groups through International Classification of Diseases, 10th revision (ICD-10) codes. Multimorbidity was defined as the presence of two or more (from a list of 45 chronic diseases) in addition to digestive cancer. Frequencies of chronic diseases were calculated and the patterns of multimorbidity in patients with multimorbidity and in different digestive cancers were described.

Findings The hospital discharge records of 1464884 patients, with a total of 1933386 hospitalisation events (defined as admission and discharge from the hospital), were screened. Hospital admissions between Nov 1, 2018, and Dec 31, 2020 were considered. We found 18678 patients aged 15 years or older and diagnosed with digestive cancers as per ICD-10 codes (colorectal [C18–C19.0, C20, and C21–C21.8], stomach [C16–C16.9], pancreatic [C25–C25.9], liver [C22–C22.4 and C22.7–C22.9], oesophageal [C15–C15.9], gallbladder and biliary tract cancers [C23–C24.9], or small intestine [C17]). 7861 (42.1%) of 18678 patients had colorectal cancer, 5917 (31.7%) had stomach cancer, 1727 (9.2%) had pancreatic cancer, 1663 (8.9%) had liver cancer, 1162 (6.2%) had oesophageal cancer, 515 (2.8%) had gallbladder and biliary tract cancer, and 28 (0.1%) had small intestine cancer. We found that 9391 (50.3%) of all patients with digestive cancers were affected by multimorbidity (3770 [47.9%] of 7861 patients with colorectal cancer, 2860 [48.3%] of 5917 patients with stomach cancer, 903 [52.3%] of 1727 patients with pancreatic cancer, 1132 [68.1%] of 1663 patients with liver cancer, 516 [44.4%] of 1162 patients with oesophageal cancer, 284 [55.1%] of 515 patients with gallbladder and biliary tract cancer, and 14 [50.0%] of 28 patients with small intestine cancer). Frequency of multimorbidity increases with age. High blood pressure (in 8306 [44.5%] of 18678 patients), diabetes (in 4084 [21.9%] of 18678 patients), non-malignant thyroid disease (in 3773 [20.2%] of 18678 patients), anaemia (in 2653 [14.2%] of 18678 patients), and liver disease (in 2454 [13.1%] of 18678 patients) were the five most frequent chronic diseases identified. Chronic conditions affecting patients with cancer was highly variable with cancer type: for example, the diagnosis of diabetes was found to be more common in all patients diagnosed with liver cancer (594 [35.7%] of 1663) than in patients diagnosed with stomach cancer (1162 [19.1%] of 5917); the diagnosis of anaemia was more common in all patients diagnosed with stomach cancer (1096 [18.5%] of 5917) than in all patients diagnosed with oesophageal cancer (87 [7.5%] of 1162) or that in all patients diagnosed with gallbladder and biliary tract cancer (45 [8.7%] of 515); and the diagnosis of dementia (68 [13.2%] of 515) and thyroid disease (115 [22.3%] of 515) were more common in all patients diagnosed with gallbladder and biliary tract cancer than in patients with other digestive cancers. The most frequent multimorbidity pattern in all patients with digestive cancers was high blood pressure and diabetes (in 1308 [13.9%] of 9391 multimorbidity patients).

Interpretation This study is, to the best of our knowledge, the first characterisation of multimorbidity in Chilean patients with digestive cancers. The presentation of chronic diseases in patients with digestive cancers is heterogeneous and varies with the digestive organ affected by cancer. Protocols that include the evaluation of multimorbidity during primary and hospital care of patients with cancer need to be developed. Patient-centred approaches that can manage and respond to the needs of patients with complex health conditions while contributing to comprehensive care are necessary to improve outcomes in patients with cancer.

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Declaration of interests
We declare no competing interests.