

Liver and digestive disorders are major global health concerns.

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Received : August 08, 2023

Accepted: August 09, 2023

Published : September 07, 2023

Abstract

As one of the leading causes of morbidity and a significant contributor to death in Iran, gastrointestinal and liver disorders (GILD) have far-reaching economic ramifications. Our goal is to gather data and provide up-to-date statistics on hospital stays, doctor visits, and fatalities related to common GILD in Iran.

METHODS : The Office of Health Statistics of the Iranian Ministry of Health provided information on the main causes of death. (Excluding deaths from the Bam earthquake) From March 2003 to February 2004, a total of 213,322 deaths were reported, or 4.4 deaths per 1000 inhabitants. 36,575 of these were the result of mishaps. The International Classification of Diseases, 10th revision, used as the foundation for reporting the causes of death (ICD-10; 1992).

One of the biggest and most well-known gastroenterology referral facilities in Iran, Shariati Hospital, provided the database used to compile the list of the most common reasons for hospitalisation. Similar findings were reported from a sizable multi-physician outpatient clinic in Tehran about the primary reasons for outpatient referrals.

RESULTS : Gastric cancer, hepatobiliary cancer, liver cirrhosis, esophageal cancer, and colorectal cancer were the five most common gastrointestinal causes of death, ranked by frequency of occurrence. In the GILD ward of Shariati Hospital, hepatitis, peptic ulcer disease, cholecystitis and cholangitis, and colorectal cancer were the top five reasons for hospitalisation. Gastroesophageal reflux disease was the most common outpatient diagnosis, followed by chronic hepatitis B (HBV), non-ulcer dyspepsia, duodenal ulcer (DU), and irritable bowel syndrome (IBS).

FINAL VERDICT : The primary cause of GILD hospitalisations and deaths in Iran is chronic liver disease, followed by malignancies of the liver and stomach. The most common diagnosis among GILD outpatients are chronic HBV, IBS, and gastroesophageal reflux illness.

Keywords : *Digestive; Liver; Diseases; Statistics; Iran*

INTRODUCTION

In Iran, liver and digestive disorders (GILD) are among the most prevalent causes of morbidity, accounting for a significant share of mortality and having a profoundly negative economic impact on the nation. In Iran, around 40% of all cancers are digestive in nature.¹ Furthermore, there is proof that the prevalence of some liver and intestinal disorders is rising.

We must first ascertain the patient population afflicted in order to reduce the burden of these diseases. It is important to ascertain how these illnesses affect societal resources, finances, and health. Iran does not have population-based statistics, nor have published data on common digestive disease types been made available.

Our goal was to gather and disseminate up-to-date data on doctor visits, hospital stays, and fatalities brought on by prevalent liver and gastrointestinal conditions.

Authors, grant candidates, funding organisations, and policy makers can all greatly benefit from having access to such information. Comprehending and measuring the impact of various ailments is also crucial for devising a practical medical education programme. Future studies can also be guided by this data. To give academics and health planners a handy resource, data from multiple sources have been combined. In order to spot patterns in the incidence, prevalence, and mortality of various diseases—trends that have significant ramifications for the formulation of health policy—the statistics should be updated on a regular basis.

There is too much to cover in this paper to do justice to the whole breadth of GILD. As a result, we have only looked at GILD for which current, trustworthy data is available. We present the incidence and impact of GILD on Tehran's populace. 20% of Iran's urban population resides in the country's capital.

MATERIALS AND METHODS

The primary causes of death were taken from the Ministry of Health's Comprehensive Statistics on Overall Mortality for the Iranian year 1382 (March 2003 to February 2004). Thirteen These figures were taken from three main sources: the Ministry of Health's Mortality Registration Programme, records kept by rural health centres, and the National Registry. In addition to overseeing health-related operations, rural health centres conduct an annual population census and keep track of all fatalities that occur within their boundaries.

The initial report's causes of death were listed using the International Classification of Diseases, Tenth Revision (ICD-10). The World Health Organisation released ICD-10 codes in 1992, and since 1999, these codes have been used to categorise and code causes of death. All phrases pertaining to gastrointestinal illnesses were highlighted, and relevant proportions were recalculated, in order to determine the frequency of gastrointestinal causes of mortality. The database of Shariati Hospital provided the top reasons for hospitalisation between 2000 and 2004.

The Digestive Disease Research Centre (DDRC), which has conducted this research, is housed in this expansive university hospital in Tehran, which is also one of the main GILD referral centres. The creation of a two-page chart summary for each patient following discharge or death is a standard procedure for the GILD ward at Shariati Hospital. Each attending physician has reviewed and signed this summary.

This summary is stored at DDRC and is logged into a database in copy form. We have mapped the internal coding structure of the database to ICD-10. The database employs an internal coding scheme for diagnostic labels. Information on outpatient visits was obtained from a sizable, reputable Tehran-based multi-physician referral clinic for GILD. Patients with GILD issues from all across Iran are seen in this clinic. Information was taken from the clinic's database regarding the primary symptoms of patients treated there as well as the ultimate diagnosis. Included were patients who were first referred between 2000 and 2004. The final diagnosis in the database was not coded using ICD-10.

Examples where there was insufficient follow-up or no conclusive diagnosis were not included. The diagnosis of endoscopic results and clinical symptoms was used to diagnose gastroesophageal reflux disease (GERD). The Rome II criteria were utilised for the diagnosis of irritable bowel syndrome (IBS). Iran's

population-based cancer registries have released three distinct, recent publications with estimates of the disease's incidence and fatality rates^{1,14-16} This projected "national" rate and the estimated population for 2002 were used to compute the number of cancer cases in that year.¹⁷ The DDRC Ethics Committee examined and approved the study protocol.

Due to historical and geographic factors, Iran's population is ethnically varied, consisting of 51% Farsi (Persian), 24% Azeri, 8% Gilaki and Mazandarani, 7% Kurd, 3% Arab, 2% Lur, 2% Baluch, 2% Turkemen, and 1% other ethnic groups. Iran's capital, Tehran, is home to more than 10 million people, including those living in its suburbs. It is considered a "megacity." A total of 224 participants from Tehran (110 men and 114 women) were included in the study. 58.0% Fars, 28.1% Azeri, 7.1% Gilaki and Mazandarani, 4.5% Kurd, 0.9% Arab, 0.9% Lor, and 0.5% Baluch made up the investigated group's ethnic makeup, which was similar to the ethnic diversity of the Iranian populace.

RESULTS

Iran's population was predicted to be 63,741,000 people in 2003.¹⁷ There were 48,379,552 people living in 23 of the 28 provinces that were included in the death survey for that year. With the Bam earthquake mortality excluded, a total of 213,322 deaths were reported, or 4.4 deaths per 1000 people. Of them, 36,575 were the result of mishaps. Malignant diseases claimed the lives of 21,303 (22%) of the remaining 176,747 people. According to Table 1, GILD was roughly responsible for 14,649 death records (8.29%) (9,050 malignant and 5,599 nonmalignant). Table 2 lists the primary gastrointestinal causes of death in Iran,¹³ according to an estimate from the Ministry of Health. the final diagnosis for 2,697 patients who were admitted during the study period to the GILD unit at Shariati Hospital. In 39% of the cases, the primary diagnosis was cirrhosis. Based on 7,985 individuals' 12,000 outpatient visits, the most common gastrointestinal disorders that led to outpatient clinic visits were estimated (Table 4). GERD was the most frequently reported outpatient diagnosis, followed by chronic HBV, IBS, DU, and non-ulcer dyspepsia.

Iran is thought to have about 50,800 new cases of cancer every year¹ (Table 5). With an age-standardized incidence rate (ASR) of 93.1 per 100,000 females and 116.8 per 100,000 males, almost 53% of cases are in the male gender. The gastrointestinal tract, which accounts for more than 38% of all cancer cases, is

the organ system most frequently affected by cancer in both sexes. According to ASR, leukaemia (4.8 per 100,000) is the most frequent cancer in men, followed by stomach (26.1 per 100,000), oesophagus (17.6 per 100,000), colon and rectal (8.3 per 100,000), and bladder (8.0 per 100,000). The oesophagus (14.4 per 100,000), stomach (11.1 per 100,000), colon and rectal (6.5 per 100,000), and uterus (4.5 per 100,000) are the five most prevalent malignancies in females.

An approximate of 35,000 fatalities each year are thought to be attributable to cancer. The death to incidence ratio is almost 70% on average, with liver cancer accounting for 94% of cases and thyroid cancer for 19%. Lung, stomach, and oesophagus cancers are the leading causes of cancer-related death among men. The most common in females are the oesophagus, stomach, and breast.

DISCUSSION

To determine programme priorities, the health care system needs national figures of disease mortality and morbidity. Though this study has a number of advantages. National statistics can be computed using the population-based mortality and cancer estimates. Professional gastroenterologists have confirmed and documented the diagnosis of both in-patient and out-patient cases.

This study's findings are consistent with other recent Iranian epidemiologic and screening investigations. For instance, a number of recent studies have revealed that GERD is the most prevalent GI illness treated as an outpatient. It has also been noted that IBS and duodenal ulcers are rather common in Iran. It is already established that HBV is the most common cause of end-stage liver disease and chronic hepatitis.

According to a recent study, the most frequent reason for chronically increased serum ALT in asymptomatic Iranian blood donors in Tehran is non-alcoholic steatohepatitis.¹⁰ There has been a significant rise in Crohn's disease and ulcerative colitis cases in Iran.^{11, 12} Naturally, our study has certain numerical constraints. The in-patient data came from a single hospital's GILD ward. Therefore, since many of these people proceed straight from our out-patient department to the surgical ward without admission to the GILD ward, this study may have underestimated disorders like gallstones and GI malignancies. Despite the fact that Tehran's population is diverse and Shariati Hospital serves as a major national referral facility, We might still be undervaluing illnesses that are more common in other

parts of the nation. Thus, rather than being applicable to the entire nation, your in-patient data should be primarily evaluated in relation to a Tehran tertiary referral centre.

To estimate the primary diagnoses for outpatient clinic visits, we examined the database of a multi-physician GILD sub-specialty clinic in Tehran. Once more, we should take into account the chance that we may have underestimated some diseases.

This would include illnesses that are typically treated by general practitioners and are not sent to subspecialty clinics, as well as illnesses that are more common in particular parts of the nation. Notwithstanding these drawbacks, our analysis offers important insights on GILD statistics in Iran for the first time.

Comparing our data with comparable US studies,¹⁹ we find that liver cancer is the leading cause of death from GILD in the US, followed by hepatitis C, bile duct carcinoma, and alcoholic liver disease. Gerd is the most common diagnosis made during out-patient GILD clinic visits, followed by IBS, haemorrhoids, gastroenteritis, and gastritis. While the primary diagnosis for outpatient visits are similar, the aetiologies of GILD in-patient visits vary significantly between the two nations. In Iran, the gastrointestinal tract accounts for about 40% of all cancer cases¹, but in the US, this percentage is less than 20%.^{20, 21} Iran has high incidence rates of stomach and esophageal cancer, which are significantly higher than the global norm, as well as high occurrences of lung and prostate cancer.^{low} among Iranian men, in contrast to those in wealthy nations.

Despite being the most frequent cancer among women in Iran, the country's rates of breast cancer remain low when compared to other countries, particularly those in the US and Europe. Comparably, Iran has a very low incidence of cervical cancer—even lower than in low-risk nations like China, Kuwait, and Spain.

We ought to design more extensive databases for in-patient data in the future, incorporating hospitals that are typical of every location in Iran. You can also make use of information from the recently formed family physician network. Creating a suitable database for electronic data gathering in clinics and hospitals is a requirement for this.

We think that the data in this study will aid in drawing attention to the more prevalent illnesses that send patients to physicians. Periodic revisions of this data in the future will show patterns in the cost, prevalence, and incidence of GILD; this data is essential for tracking the effectiveness of national health initiatives.

Because there is so little information in this book, the quality

of the data and the accuracy of the estimates based on the distributed resources are significantly lower than the outcomes of potential national data collection efforts. According to a recent Ministry of Health report, less than 3% of deaths are related to infectious or parasitic diseases, whereas more than 70% of deaths are caused by cancer, accidents, and cardiovascular disorders. Thirteen Liver and digestive disorders are often fatal and are linked to hospital stays and repeated doctor visits. The direct costs of treating GI problems are high and include hospital, doctor, nursing home, medication, and other services. Indirect costs associated with lost wages are just as important as direct expenses, despite the fact that they are frequently neglected. Additionally, the direct effect on patients' quality of life should be taken into account due to the chronic and debilitating nature of certain GI illnesses.

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