Epidemiology

1-Epidemiology of Cancer

By Schwartz, SM (Schwartz, Stephen M.) [1] , [2], Source CLINICAL CHEMISTRY, Volume 70, Issue 1, Page 140-149, DOI: 10.1093/clinchem/hvad202, Published: JAN 4 2024, Indexed: 2024-02-16, Document Type Review

Abstract

Background Cancers are a large and heterogeneous group of malignant tumors that collectively accounted for approximately 600 000 US deaths in 2020; only heart disease claimed more lives. A large amount of knowledge has accumulated regarding the epidemiology of most cancer types, including their causes.Content The cancer types most frequently diagnosed among adults in most high-income countries are lung, colorectal, female breast, cutaneous melanoma, and prostate. In general cancer incidence and mortality is very low in children and adolescents, rising exponentially with increasing age during adulthood. There is marked international variation in the incidence of most cancers. The most important causes of cancer are tobacco use (primarily cigarette use), excess alcohol consumption, obesity, lack of physical activity, diets low in fruits and vegetables, infectious agents, and sun exposure. Early detection can reduce the chances that a person will die of cancers of the female breast, uterine cervix, colon and rectum, lung, and prostate. Summary Although the most common cancers in the United States continue to have a substantial impact on public health, they are caused in whole or part by factors over which people and governments have control through choices they make. Among these are tobacco and alcohol use, obesity, diets low in fruits and vegetables and lack of physical activity, and sun exposure. Thus, a very large proportion of cancer's impact could be ameliorated if more people avoided these exposures.

Keywords

Keywords Plus

OVARIAN-CANCERRISKSTATISTICSTHERAPYBREAST

Epidemiology

2-Global epidemiology of heart failure

By Khan, MS (Khan, Muhammad Shahzeb) [1] ; Shahid, I (Shahid, Izza) [2] ; Bennis, A (Bennis, Ahmed) [3] ; Rakisheva, A (Rakisheva, Amina) [4] ; Metra, M (Metra, Marco) [5] , [6] ; Butler, J (Butler, Javed) [7] , [8] (provided by Clarivate), Source: NATURE REVIEWS CARDIOLOGY, Volume: 21, Issue: 10 Page: 717-734, DOI: 10.1038/s41569-024-01046-6, Published: OCT 2024, Early Access: JUN 2024, Indexed: 2024-07-02, Document Type: Review

Abstract

Heart failure (HF) is a heterogeneous clinical syndrome marked by substantial morbidity and mortality. The natural history of HF is well established; however, epidemiological data are continually evolving owing to demographic shifts, advances in treatment and variations in access to health care. Although the incidence of HF has stabilized or declined in high-income countries over the past decade, its prevalence continues to increase, driven by an ageing population, an increase in risk factors, the effectiveness of novel therapies and improved survival. This rise in prevalence is increasingly noted among younger adults and is accompanied by a shift towards HF with preserved ejection fraction. However, disparities exist in our epidemiological understanding of HF burden and progression in low-income and middle-income countries owing to the lack of comprehensive data in these regions. Therefore, the current epidemiological landscape of HF highlights the need for periodic surveillance and resource allocation tailored to geographically vulnerable areas. In this Review, we highlight global trends in the burden of HF, focusing on the variations across the spectrum of left ventricular ejection fraction. We also discuss evolving population-based estimates of HF incidence and prevalence, the risk factors for and aetiologies of this disease, and outcomes in different geographical regions and populations.

In this Review, Khan and colleagues explore the evolving global epidemiology of heart failure (HF), focusing on changes in incidence and prevalence across the spectrum of left ventricular ejection fraction. The authors highlight the disparities in our understanding of HF epidemiology in low-income and middle-income countries, affirming the need for improved surveillance and resource allocation in vulnerable areas and populations.

Heart failure (HF) is a major global health concern, with an increasing prevalence driven by ageing populations, better treatment outcomes and improved survival.HF risk factors include advancing age, sex, inherited cardiomyopathies, hypertension, diabetes mellitus and obesity, highlighting the importance of targeted prevention strategies.Data from Europe and North America indicate a decline in the age-specific incidence of HF, with a notable shift towards HF with preserved ejection fraction among women, highlighting the evolving epidemiology of HF.The incidence and prevalence of HF and the mortality from HF are higher among Black individuals than in other racial or ethnic groups.Age-adjusted mortality in young adults (aged 15-44 years) increased from 2.36 in 1999 to 3.16 in 2019, a greater rise than in older

adults (aged >= 75 years).Geographical disparities in epidemiological HF data, especially the deficit of data from Africa and South Asia, limit the development of targeted health-care strategies, public policy initiatives and interventions in these regions.

Keywords

Keywords Plus

PRESERVED EJECTION FRACTIONOBSTRUCTIVE HYPERTROPHIC CARDIOMYOPATHYIN-HOSPITAL OUTCOMESBODY-MASS INDEXATRIAL-FIBRILLATIONCARDIOVASCULAR-DISEASEFOLLOW-UPAMERICAN-COLLEGEEUROPEAN-SOCIETYHEALTH-STATUS

3-The epidemiology of Parkinson's disease

By Ben-Shlomo, Y (Ben-Shlomo, Yoav) [1] ; Darweesh, S (Darweesh, Sirwan) [2] ; Llibre-Guerra, J (Llibre-Guerra, Jorge) [3] ; Marras, C (Marras, Connie) [4] ; San Luciano, M (San Luciano, Marta) [5] ; Tanner, C (Tanner, Caroline) [5], (provided by Clarivate) , **Source: LANCET, Volume: 403 Issue: 10423, Page: 283-292, DOI: 10.1016/S0140-6736(23)01419-8, Published: JAN 20 2024, Early Access: JAN 2024, Indexed: 2024-02-29, Document Type: Article**

Abstract

The epidemiology of Parkinson's disease shows marked variations in time, geography, ethnicity, age, and sex. Internationally, prevalence has increased over and above demographic changes. There are several potential reasons for this increase, including the decline in other competing causes of death. Whether incidence is increasing, especially in women or in many low-income and middle -income countries where there is a shortage of high -quality data, is less certain. Parkinson's disease is more common in older people and men, and a variety of environmental factors have been suggested to explain why, including exposure to neurotoxic agents. Within countries, there appear to be ethnic differences in disease risk, although these differences might reflect differential access to health care. The cause of Parkinson's disease is multifactorial, and involves genetic and environmental factors. Both risk factors (eg, pesticides) and protective factors (eg, physical activity and tendency to smoke) have been postulated to have a role in Parkinson's disease, although elucidating causality is complicated by the long prodromal period. Following the establishment of public health strategies to prevent cardiovascular diseases and some cancers, chronic neurodegenerative diseases such as Parkinson's disease and dementia are gaining a deserved higher priority. Multipronged prevention strategies are required that tackle population -based primary prevention, high -risk targeted secondary prevention, and Parkinson's disease -modifying therapies for tertiary prevention. Future international collaborations will be required to triangulate evidence from basic, applied, and epidemiological research, thereby enhancing the understanding and prevention of Parkinson's disease at a global level.

Keywords

Keywords Plus

RISK-FACTORSDIAGNOSTIC-CRITERIAPHYSICAL-ACTIVITYTIME TRENDSPREVALENCEPOPULATIONAGEMORTALITYMETAANALYSISASSOCIATION

Epidemiology

4-Global epidemiology of epithelial ovarian cancer

By Webb, PM (Webb, Penelope M.) [1] , [2] ; Jordan, SJ (Jordan, Susan J.) [2] , (provided by Clarivate)
Source: NATURE REVIEWS CLINICAL ONCOLOGY, Volume: 21, Issue: 5, Page: 389-400, DOI: 10.1038/s41571-024-00881-3, Published: MAY 2024: Early Access: MAR 2024, Indexed: 2024-04-07
Document Type: Review

Abstract

Globally, ovarian cancer is the eighth most common cancer in women, accounting for an estimated 3.7% of cases and 4.7% of cancer deaths in 2020. Until the early 2000s, age-standardized incidence was highest in northern Europe and North America, but this trend has changed; incidence is now declining in these regions and increasing in parts of eastern Europe and Asia. Ovarian cancer is a very heterogeneous disease and, even among the most common type, namely epithelial ovarian cancer, five major clinically and genetically distinct histotypes exist. Most high-grade serous ovarian carcinomas are now recognized to originate in the fimbrial ends of the fallopian tube. This knowledge has led to more cancers being coded as fallopian tube in origin, which probably explains some of the apparent declines in ovarian cancer incidence, particularly in high-income countries; however, it also suggests that opportunistic salpingectomy offers an important opportunity for prevention. The five histotypes share several reproductive and hormonal risk factors, although differences also exist. In this Review, we summarize the epidemiology of this complex disease, comparing the different histotypes, and consider the potential for prevention. We also discuss how changes in the prevalence of risk and protective factors might have contributed to the observed changes in incidence and what this might mean for incidence in the future.
Ovarian cancer, accounting for 4.7% of cancer deaths in women in 2020, remains highly prevalent globally. Nonetheless, owing to changes in environmental exposures, the approach to preventive measures and disease classification, both incidence and mortality have been declining in economically developed countries since the early 2000s. Conversely, parts of Asia and eastern Europe have seen increases in the incidence of ovarian cancer over this period of time. In this Review, the authors summarize the epidemiology of ovarian cancer, including the roles of the various risk factors and the potential for prevention. The disease we call 'ovarian' cancer encompasses a wide range of tumour types, including cancers that arise in the fallopian tube; changes in coding and reporting make incidence trends over the past decade difficult to interpret.Between 1920 and 1960, successive birth cohorts had lower risk of developing ovarian cancer, although incidence might be increasing again in women born after about 1970.With the recognition that high-grade serous cancers originate in the fallopian tube, salpingectomy (opportunistic or targeted) offers the opportunity for prevention and could delay the need for oophorectomy among women with a high genetic risk.Hormonally related factors, including pregnancy, oral contraceptive use and breastfeeding, reduce the risk of ovarian cancer, particularly the endometrioid and clear cell histotypes; the benefits of newer contraceptive formulations are less clear.Lifestyle exposures, including smoking, obesity and, potentially, sedentary behaviour or inactivity, all increase the risk of a woman developing the less common histotypes but do not appear to affect the risk of developing the most common high-grade serous cancers.If current trends continue, the incidence of ovarian cancer

might start to increase, although widespread uptake of salpingectomy and expanded identification and interventions targeting BRCA mutation carriers have the potential to reduce incidence.

Keywords

Keywords Plus

PELVIC-INFLAMMATORY-DISEASEORAL-CONTRACEPTIVE USEPOOLED ANALYSISTUBAL-LIGATIONRISK EVIDENCEWOMENASSOCIATIONSALPINGECTOMYSUBTYPESPOPULATION

5-Epidemiology and management of gestational diabetes

By Sweeting, A (Sweeting, Arianne) [1] ; Hannah, W (Hannah, Wesley) [2] ; Backman, H (Backman, Helena) [3] ; Catalano, P (Catalano, Patrick) [4] ; Feghali, M (Feghali, Maisa) [5] ; Herman, WH (Herman, Willliam H.) [6] ; Hivert, MF (Hivert, Marie-France) [7] , [8] ; Immanuel, J (Immanuel, Jincy) [9] , [10] ; Meek, C (Meek, Claire) [11] ; Oppermann, ML (Oppermann, Maria Lucia) [12] ; (provided by Clarivate) , Source: LANCET, Volume: 404, Issue: 10448, Page: 175-192
DOI: 10.1016/S0140-6736(24)00825-0, Published: JUL 13 2024, Early Access: JUL 2024, Indexed 2024-07-27, Document Type: Article

Abstract

Gestational diabetes is defined as hyperglycaemia first detected during pregnancy at glucose concentrations that are less than those of overt diabetes. Around 14% of pregnancies globally are affected by gestational diabetes; its prevalence varies with differences in risk factors and approaches to screening and diagnosis; and it is increasing in parallel with obesity and type 2 diabetes. Gestational diabetes direct costs are US$16 billion in the USA alone, largely due to complications including hypertensive disorders, preterm delivery, and neonatal metabolic and respiratory consequences. Between 30% and 70% of gestational diabetes is diagnosed in early pregnancy (ie, early gestational diabetes defined by hyperglycaemia before 20 weeks of gestation). Early gestational diabetes is associated with worse pregnancy outcomes compared with women diagnosed with late gestational diabetes (hyperglycaemia from 24 weeks to 28 weeks of gestation). Randomised controlled trials show benefits of treating gestational diabetes from 24 weeks to 28 weeks of gestation. The WHO 2013 recommendations for diagnosing gestational diabetes (one-step 75 gm 2-h oral glucose tolerance test at 24-28 weeks of gestation) are largely based on the Hyperglycemia and Adverse Pregnancy Outcomes Study, which confirmed the linear association between pregnancy complications and latepregnancy maternal glycaemia: a phenomenon that has now also been shown in early pregnancy. Recently, the Treatment of Booking Gestational Diabetes Mellitus (TOBOGM) trial showed benefit in diagnosis and treatment of early gestational diabetes for women with risk factors. Given the diabesity epidemic, evidence for gestational diabetes heterogeneity by timing and subtype, and advances in technology, a life course precision medicine approach is urgently needed, using evidence-based prevention, diagnostic, and treatment strategies.

Keywords

Keywords Plus

INCREASED FETAL ADIPOSITYFASTING PLASMA-GLUCOSEDIAGNOSTIC-CRITERIAPERINATAL OUTCOMESPREGNANCY OUTCOMESGLYCEMIC CONTROLRISK-FACTORSCOST-EFFECTIVENESSINSULIN-TREATMENTGLYCATED ALBUMIN

Epidemiology

6-Colorectal Cancer: Epidemiology, Risk Factors, and Prevention

By Roshandel, G (Roshandel, Gholamreza) [1] ; Ghasemi-Kebria, F (Ghasemi-Kebria, Fatemeh) [1] ; Malekzadeh, R (Malekzadeh, Reza) [2] (provided by Clarivate) , **Source CANCERS, Volume: 16, Issue: 8, DOI: 10.3390/cancers16081530, Article Number: 1530, Published APR 2024, Indexed: 2024-05-19, Document Type: Review**

Abstract

Simple Summary In 2020, more than 1.9 million cases of colorectal cancer (CRC) occurred, and almost 0.9 million patients died due to CRC throughout the world. There are differences in distribution and time variations in CRC between different countries. This diversity is mainly due to differences in risk factors among populations. CRC may be prevented by primary and secondary prevention methods. Primary prevention includes avoiding risk factors, e.g., alcohol consumption, and increasing protective factors, e.g., physical activity. The secondary prevention method, called CRC screening, consists of diagnosis and treatment of precancerous lesions of the colorectum. Although a large amount of evidence is available for different aspects of CRC, controversies remain regarding the most important factors and most effective control programs for CRC in different populations. In this review, we will present the most updated evidence regarding CRC's distribution, related factors, and preventive methods.Abstract Colorectal cancer (CRC) is the third most common cancer and the second most common cause of cancer mortality worldwide. There are disparities in the epidemiology of CRC across different populations, most probably due to differences in exposure to lifestyle and environmental factors related to CRC. Prevention is the most effective method for controlling CRC. Primary prevention includes determining and avoiding modifiable risk factors (e.g., alcohol consumption, smoking, and dietary factors) as well as increasing protective factors (e.g., physical activity, aspirin). Further studies, especially randomized, controlled trials, are needed to clarify the association between CRC incidence and exposure to different risk factors or protective factors. Detection and removal of precancerous colorectal lesions is also an effective strategy for controlling CRC. Multiple factors, both at the individual and community levels (e.g., patient preferences, availability of screening modalities, costs, benefits, and adverse events), should be taken into account in designing and implementing CRC screening programs. Health policymakers should consider the best decision in identifying the starting age and selection of the most effective screening strategies for the target population. This review aims to present updated evidence on the epidemiology, risk factors, and prevention of CRC.

Keywords

Author Keywords

colorectal cancerepidemiologyrisk factorspreventionscreening

Keywords Plus

Epidemiology

FECAL IMMUNOCHEMICAL TESTOCCULT BLOOD-TESTSSUSCEPTIBILITY GENE-MUTATIONSPHYSICAL-ACTIVITYCOLON-CANCERCIGARETTE-SMOKINGALCOHOL-DRINKINGCT COLONOGRAPHYFAMILY-HISTORYSCREENING COLONOSCOPY

Epidemiology

7-Atrial fibrillation: epidemiology, screening and digital health

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By Linz, D (Linz, Dominik) [1] , [2] , [3] , [16] ; Gawalko, M (Gawalko, Monika) [1] , [2] , [4] ; Betz, K (Betz, Konstanze) [1] , [2] , [5] ; Hendriks, JM (Hendriks, Jeroen M.) [6] , [7] , [8] ; Lip, GYH (Lip, Gregory Y. H.) [9] , [10] , [11] , [14] ; Vinter, N (Vinter, Nicklas) [11] , [12] , [15] ; Guo, YT (Guo, Yutao) [13] ; Johnsen, S (Johnsen, Soren) (provided by Clarivate) **Source: LANCET REGIONAL HEALTH-EUROPE, Volume: 37, DOI: 10.1016/j.lanepe.2023.100786, Article Number: 100786, Published: FEB 2024, Early Access: FEB 2024, Indexed: 2024-03-31, Document Type: Article**

Abstract

Atrial fibrillation (AF) is highly prevalent with a lifetime risk of about 1 in 3-5 individuals after the age of 45 years. Between 2010 and 2019, the global prevalence of AF has risen markedly from 33.5 million to 59 million individuals living with AF. Early detection of AF and implementation of appropriate treatment could reduce the frequency of complications associated with AF. International AF management guidelines recommend opportunistic and systematic screening for AF, but additional data are needed. Digital approaches and pathways have been proposed for early detection and for the transition to early AF management. Mobile health (mHealth) devices provide an opportunity for digital screening and should be part of novel models of care delivery based on integrated AF care pathways. For a broad implementation of mHealth-based, integrated care for patients with chronic diseases as AF, further high quality evidence is necessary. In this review, we present an overview of the present data on epidemiology, screening techniques, and the contribution of digital health solutions to the integrated management of AF. We also provide a systemic review on current data of digital and integrated AF management.

Keywords
Author Keywords
Atrial fibrillationEpidemiologyScreeningDigital healthMobile health

Keywords Plus
DECISION-SUPPORTLIFETIME RISKGLOBAL BURDENINTEGRATED CARETECHNOLOGYPREVALENCEAFELECTROCARDIOGRAMPROJECTIONSPLATFORM

Epidemiology

8-Epidemiology of metabolic dysfunction-associated steatotic liver disease

By Younossi, ZM (Younossi, Zobair M.) [1] , [2] , [3] ; Kalligeros, M (Kalligeros, Markos) [4] ; Henry, L (Henry, Linda) [1] , [2] , [3], (provided by Clarivate) , Source: CLINICAL AND MOLECULAR HEPATOLOGY
Volume: 31, Supplement: S, DOI: 10.3350/cmh.2024.0431, Published: FEB 2025, Indexed: 2025-04-25
Document Type: Review

Abstract

As the rates of obesity and type 2 diabetes (T2D) continue to increase globally, so does the prevalence of metabolic dysfunction-associated steatotic liver disease (MASLD). Currently, 38% of all adults and 7-14% of children and adolescents have MASLD. By 2040, the MASLD prevalence rate for adults is projected to increase to more than 55%. Although MASLD does not always develop into progressive liver disease, it has become the top indication for liver transplant in the United States for women and those with hepatocellular carcinoma (HCC). Nonetheless, the most common cause of mortality among patients with MASLD remains cardiovascular disease. In addition to liver outcomes (cirrhosis and HCC), MASLD is associated with an increased risk of developing de novo T2D, chronic kidney disease, sarcopenia, and extrahepatic cancers. Furthermore, MASLD is associated with decreased health-related quality of life, decreased work productivity, fatigue, increased healthcare resource utilization, and a substantial economic burden. Similar to other metabolic diseases, lifestyle interventions such as a heathy diet and increased physical activity remain the cornerstone of managing these patients. Although several obesity and T2D drugs are available to treat co-morbid disease, resmetirom is the only MASH-targeted medication for patients with stage 2-3 fibrosis that has approved by the Food and Drug Administration for use in the United States. This review discusses MASLD epidemiology and its related risk factors and outcomes and demonstrates that without further global initiatives, MASLD incidence could continue to increase. (Clin Mol Hepatol 2025;31(Suppl):S32-S50)

Keywords

Author Keywords

MASLDInsulin resistanceType 2 diabetesMetabolic syndrome

Keywords Plus

NONALCOHOLIC FATTY LIVERINSULIN-RESISTANCECARDIOVASCULAR-DISEASEGLOBAL PREVALENCEPRACTICE GUIDANCEFIBROSIS STAGERISKSTEATOHEPATITISMANAGEMENTOUTCOMES

Epidemiology

9-Osteoarthritis year in review 2024: Epidemiology and therapy

By Courties, A (Courties, Alice) [1] , [2] ; Kouki, I (Kouki, Ines) [1] , [2] ; Soliman, N (Soliman, Nadine) [2] ; Mathieu, S (Mathieu, Sylvain) [3] ; Sellam, J (Sellam, Jeremie) [1] , [2] (provided by Clarivate) , **Source: OSTEOARTHRITIS AND CARTILAGE, Volume: 32, Issue: 11, Page: 1397-1404 DOI: 10.1016/j.joca.2024.07.014, Published: NOV 2024, Early Access: OCT 2024, Indexed 2024-11-08, Document Type: Article**

Abstract

This "Year in Review" presents a curated selection of research themes and individual studies within the clinical osteoarthritis (OA) field, focusing on epidemiology and therapy. The search was conducted in electronic database MEDLINE from March 4, 2023, to March 31, 2024, specifically targeting English-language articles involving human participants. Inclusions were based on perceived importance and relevance to identifying risk factors or advancing OA treatments. A total of 6539 studies were screened by the 5 authors, resulting in 157 studies considered for potential inclusion. Ultimately, 44 studies were selected, uncovering six key OA-related themes: i) the burden of OA (mostly from Global Burden of Disease studies), ii) pain drivers and trajectories, iii) impacts of sex/gender, iv) OA risk factors, and treatments for v) hand and vi) knee OA. The prevalence of OA continues to rise, particularly affecting women, with unclear distinctions in risk factors and treatment responses between sexes. Associations with atopy were demonstrated in two significant databases. Notably, the authors were particularly interested in recent high-quality methodology randomized controlled trials focusing on hand (methotrexate, denosumab, colchicine, topical betamethasone) and knee OA with conflicting results about stem cell injection. These findings collectively contribute to show the growing burden of OA, but also to help the understanding of OA pathophysiology and inform ongoing efforts to enhance management for people with OA.

Keywords
Author Keywords
OsteoarthritisClinical trialRandomizedPainEpidemiology

Keywords Plus
KNEE OSTEOARTHRITIS

Epidemiology

10-Brucellosis: epidemiology, pathogenesis, diagnosis and treatment-a comprehensive review

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By Qureshi, KA (Qureshi, Kamal A.) [1] , [2] , [11] ; Parvez, A (Parvez, Adil) [3] ; Fahmy, NA (Fahmy, Nada A.) [4] , [5] ; Hady, BHA (Hady, Bassant H. Abdel) [4] ; Kumar, S (Kumar, Shweta) [6] ; Ganguly, A (Ganguly, Anusmita) [7] ; Atiya, A (Atiya, Akhtar) [8] ; Elhassan, GO (Elhassan, Gamal O.) [1] ; Alfadly, SO (Alfadly, Saeed O.) [9] ; Parkkila, S (Parkkila, Seppo) [2] , [9] , [10] ; (provided by Clarivate)
Source : ANNALS OF MEDICINE, Volume: 55, Issue: 2, DOI: 10.1080/07853890.2023.2295398, Article Number: 2295398, Published: DEC 12 2023, Indexed: 2024-01-11, Document Type: Review

Abstract

Background: Brucellosis is a pervasive zoonotic disease caused by various Brucella species. It mainly affects livestock and wildlife and poses significant public health threats, especially in regions with suboptimal hygiene, food safety, and veterinary care standards. Human contractions occur by consuming contaminated animal products or interacting with infected animals.Objective: This study aims to provide an updated understanding of brucellosis, from its epidemiology and pathogenesis to diagnosis and treatment strategies. It emphasizes the importance of ongoing research, knowledge exchange, and interdisciplinary collaboration for effective disease control and prevention, highlighting its global health implications.Methods: Pathogenesis involves intricate interactions between bacteria and the host immune system, resulting in chronic infections characterized by diverse clinical manifestations. The diagnostic process is arduous owing to non-specific symptomatology and sampling challenges, necessitating a fusion of clinical and laboratory evaluations, including blood cultures, serological assays, and molecular methods. Management typically entails multiple antibiotics, although the rise in antibiotic-resistant Brucella strains poses a problem. Animal vaccination is a potential strategy to curb the spread of infection, particularly within livestock populations.Results: The study provides insights into the complex pathogenesis of brucellosis, the challenges in its diagnosis, and the management strategies involving antibiotic therapy and animal vaccination. It also highlights the emerging issue of antibiotic-resistant Brucella strains.Conclusions: In conclusion, brucellosis is a significant zoonotic disease with implications for public health. Efforts should be directed towards improved diagnostic methods, antibiotic stewardship to combat antibiotic resistance, and developing and implementing effective animal vaccination programs. Interdisciplinary collaboration and ongoing research are crucial for addressing the global health implications of brucellosis.

Keywords
Author Keywords
Brucellosiszoonotic diseaseBrucellalivestock and wildlifepublic health threatsantibiotic-resistant strains

Keywords Plus
BETA-CARBONIC ANHYDRASEIN-VITRO INHIBITIONRISK-FACTORSPROTECTIVE IMMUNITYCONFERS PROTECTIONORAL IMMUNIZATIONVIRULENCE FACTORSPLASMID DNASINGLE-TUBEMELITENSIS

Epidemiology

11-ESKAPE pathogens: antimicrobial resistance, epidemiology, clinical impact and therapeutics

By Miller, WR (Miller, William R.) [1] , [2] , [3] ; Arias, CA (Arias, Cesar A.) [1] , [2] , [3]
(provided by Clarivate) Source: NATURE REVIEWS MICROBIOLOGY, Volume: 22, Issue: 10 Page: 598-616, DOI: 10.1038/s41579-024-01054-w, Published: OCT 2024, Early Access: JUN 2024 Indexed: 2024-06-08, Document Type: Review

Abstract

The rise of antibiotic resistance and a dwindling antimicrobial pipeline have been recognized as emerging threats to public health. The ESKAPE pathogens - Enterococcus faecium, Staphylococcus aureus, Klebsiella pneumoniae, Acinetobacter baumannii, Pseudomonas aeruginosa and Enterobacter spp. - were initially identified as critical multidrug-resistant bacteria for which effective therapies were rapidly needed. Now, entering the third decade of the twenty-first century, and despite the introduction of several new antibiotics and antibiotic adjuvants, such as novel beta-lactamase inhibitors, these organisms continue to represent major therapeutic challenges. These bacteria share several key biological features, including adaptations for survival in the modern health-care setting, diverse methods for acquiring resistance determinants and the dissemination of successful high-risk clones around the world. With the advent of next-generation sequencing, novel tools to track and combat the spread of these organisms have rapidly evolved, as well as renewed interest in non-traditional antibiotic approaches. In this Review, we explore the current epidemiology and clinical impact of this important group of bacterial pathogens and discuss relevant mechanisms of resistance to recently introduced antibiotics that affect their use in clinical settings. Furthermore, we discuss emerging therapeutic strategies needed for effective patient care in the era of widespread antimicrobial resistance.

In this Review, Miller and Arias summarize recent advances in understanding ESKAPE pathogens, focusing on their molecular epidemiology, clinical impact, emerging mechanisms of resistance and novel therapeutic approaches.

Keywords

Keywords Plus

BLOOD-STREAM INFECTIONACINETOBACTER-BAUMANNII COMPLEXCASSETTE CHROMOSOME MECSTAPHYLOCOCCUS-AUREUSPSEUDOMONAS-AERUGINOSAENTEROCOCCUS-FAECIUMKLEBSIELLA-PNEUMONIAESURVEILLANCE PROGRAMIN-VIVOMOLECULAR EPIDEMIOLOGY

Epidemiology

12-Diabetes in China part 1: epidemiology and risk factors

By Xu, Y (Xu, Yu) [1] , [2] ; Lu, JL (Lu, Jieli) [1] , [2] ; Li, M (Li, Mian) [1] , [2] ; Wang, TE (Wang, Tiange) [1] , [2] ; Wang, K (Wang, Kan) [1] , [2] ; Cao, QY (Cao, Qiuyu) [1] , [2] ; Ding, Y (Ding, Yi) [1] , [2] ; Xiang, Y (Xiang, Yu) [1] , [2] ; Wang, SY (Wang, Siyu) [1] , [2] ; Yang, QQ (Yang, Qianqian) [1] , [2] ; (provided by Clarivate) , Source: LANCET PUBLIC HEALTH, Volume: 9, Issue: 12 Page: e1089-e1097, DOI: 10.1016/S2468-2667(24)00250-0, Published: DEC 2024, Early Access: DEC 2024, Indexed: 2024-12-18, Document Type: Review

Abstract

The prevalence of diabetes in China is rapidly increasing. China now has the largest number of people living with diabetes worldwide, accounting for approximately one-quarter of the global diabetes population. Since the late 1970s, China has experienced profound changes and rapid economic growth, leading to shifts in lifestyle. Changing dietary patterns, reduced physical activity, and stress have contributed to the growing prevalence of overweight and obesity, which are important determinants potentiating the link between insulin resistance and diabetes. Social and environmental factors, such as education, air pollution, and exposure to endocrine-disrupting chemicals, have also contributed to the growing diabetes epidemic in China. The country has one of the fastest ageing populations in the world, which forecasts continued increases in the prevalence of diabetes and its complications. This Review provides an overview of the ongoing diabetes epidemic and risk factors, providing evidence to support effective implementation of public health interventions to slow and prevent the diabetes epidemic in China.

Keywords

Keywords Plus

BODY-MASS INDEXMIDDLE-INCOME COUNTRIESPHYSICAL-ACTIVITYLIFE-STYLEOBESITYADULTSASSOCIATIONDEPRESSIONDISEASETRENDS

Epidemiology

13-Depression in Alzheimer's Disease: Epidemiology, Mechanisms, and Treatment

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By Huang, YY (Huang, Yu-Yuan) [1] , [2] , [3] ; Gan, YH (Gan, Yi-Han) [1] , [2] , [3] ; Yang, L (Yang, Liu) [1] , [2] , [3] ; Cheng, W (Cheng, Wei) [2] , [4] , [5] ; Yu, JT (Yu, Jin-Tai) [1] , [2] , [3] (provided by Clarivate) , **Source: BIOLOGICAL PSYCHIATRY, Volume: 95, Issue: 11, Page: 992-1005**
DOI: 10.1016/j.biopsych.2023.10.008, Published: JUN 1 2024, Early Access: MAY 2024, Indexed 2024-06-13, Document Type: Review

Abstract

Depression and Alzheimer's disease (AD) are substantial public health concerns. In the past decades, a link between the 2 disease entities has received extensive acknowledgment, yet the complex nature of this relationship demands further clarification. Some evidence indicates that midlife depression may be an AD risk factor, while a chronic course of depression in late life may be a precursor to or symptom of dementia. Recently, multiple pathophysiological mechanisms have been proposed to underlie the bidirectional relationship between depression and AD, including genetic predisposition, immune dysregulation, accumulation of AD-related biomarkers (e.g., amyloid-b and tau), and alterations in brain structure. Accordingly, numerous therapeutic approaches, such as pharmacology treatments, psychotherapy, and lifestyle interventions, have been suggested as potential means of interfering with these pathways. However, the current literature on this topic remains fragmented and lacks a comprehensive review characterizing the association between depression and AD. In this review, we aim to address these gaps by providing an overview of the co-occurrence and temporal relationship between depression and AD, as well as exploring their underlying mechanisms. We also examine the current therapeutic regimens for depression and their implications for AD management and outline key challenges facing the field.

Keywords

Keywords Plus

LATE-LIFE DEPRESSIONMILD COGNITIVE IMPAIRMENTDOUBLE-BLINDAMYLOID-BETAOLDER-ADULTSFUNCTIONAL CONNECTIVITYPSYCHOLOGICAL SYMPTOMSPSYCHIATRIC-DISORDERSDEMENTIARISK

Epidemiology

14-Global trends in hepatocellular carcinoma epidemiology: implications for screening, prevention and therapy

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Abstract

Hepatocellular carcinoma (HCC) mortality rates are increasing globally, and particularly in the Western world. Cirrhosis remains the predominant risk factor for HCC. However, epidemiological shifts in the incidence of HCC from patients with virus-related liver disease to those with non-viral aetiologies, including alcohol-associated and metabolic dysfunction-associated steatotic liver disease, have important implications for prevention, surveillance and treatment. Hepatitis B vaccination and antiviral therapy for hepatitis B and C are effective for primary prevention of virus-related HCCs, but chemoprevention strategies for non-viral liver disease remain an unmet need. Emerging data suggest associations between aspirin, statins, metformin and coffee and reduced HCC incidence, although none has been proved to be causally related. Secondary prevention of HCC via semi-annual surveillance is associated with improvements in early detection and thus reduced mortality; however, current tools, including abdominal ultrasonography, have suboptimal sensitivity for the detection of early stage HCC, particularly in patients with obesity and/or non-viral liver disease. Promising blood-based or imaging-based surveillance strategies are emerging, although these approaches require further validation before adoption in clinical practice. In the interim, efforts should be focused on maximizing use of the existing surveillance tools given their prevalent underuse globally. Remarkable advances have been made in the treatment of HCC, including expanded eligibility for surgical therapies, improved patient selection for locoregional treatments and increased systemic treatment options, including immune-checkpoint inhibitors. In this Review, we discuss trends in the epidemiology of HCC and their implications for screening, prevention and therapy.

Hepatocellular carcinoma (HCC) is among the most common causes of cancer-related death globally, and despite improvements in prevention and treatment strategies, continued increases in HCC incidence and mortality are predicted. Cirrhosis remains the major risk factor for HCC, although the underlying aetiology is shifting from virus-related to non-viral liver diseases. In this Review, the authors discuss the changing trends in HCC epidemiology and their implications for screening, prevention and therapy, including opportunities to further improve the management of patients with, or at high risk of, HCC.

An epidemiological shift has occurred in hepatocellular carcinoma (HCC) risk factors from virus-related to non-viral liver disease, including alcohol-associated and metabolic dysfunction-associated steatotic liver disease.Although effective interventions are available for primary prevention of virus-related cirrhosis and HCC, chemoprevention for non-viral liver disease remains an unmet need.Secondary prevention via semi-annual ultrasonography-based surveillance of patients with cirrhosis is associated with improvements in early detection of HCC and reduced HCC-related mortality; however, the current tools have lower sensitivity for the detection of early stage HCC in patients with obesity and/or non-viral liver

disease.Moreover, HCC surveillance is underused in clinical practice, particularly among patients with non-viral liver disease and those followed outside of gastroenterology and/or hepatology practices, highlighting a need for multi-level interventions to increase use.Tremendous therapeutic advances have been made, including expanded eligibility for surgical therapies, improved patient selection for locoregional treatments and increased systemic treatment options.Immune-checkpoint inhibitors have revolutionized the HCC treatment landscape, for both patients with advanced-stage HCC and those with earlier stages of the disease.

Keywords

Keywords Plus

RANDOMIZED CONTROLLED-TRIALCHRONIC HEPATITIS-BATEZOLIZUMAB PLUS BEVACIZUMABINTERNAL RADIATION-THERAPYILCA WHITE PAPERLIVER-CANCERDOUBLE-BLINDTRANSARTERIAL CHEMOEMBOLIZATIONUNITED-STATESOPEN-LABEL

Epidemiology

15-Global Epidemiology of Gallstones in the 21st Century: A Systematic Review and Meta-Analysis

By Wang, X (Wang, Xin) [1] , [2] ; Yu, WQ (Yu, Wenqian) [1] , [2] ; Jiang, GH (Jiang, Guoheng) [1] , [2] ; Li, HY (Li, Hongyu) [1] , [2] ; Li, SY (Li, Shiyi) [1] , [2] ; Xie, LJ (Xie, Linjun) [1] , [2] ; Bai, X (Bai, Xuan) [1] , [2] ; Cui, P (Cui, Ping) [3] ; Chen, Q (Chen, Qi) [4] ; Lou, YM (Lou, Yanmei) [5] ;
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Early Access: JUL 2024, Indexed: 2024-08-08, Document Type: Review

Abstract

BACKGROUND & AIMS: Gallstones are common and associated with substantial health and economic burden. We aimed to comprehensively evaluate the prevalence and incidence of gallstones in the 21st century. METHODS: We systematically searched PubMed and Embase to identify studies reporting the prevalence and/or incidence of gallstones between January 1, 2000, and November 18, 2023. Pooled prevalence and incidence were calculated using DerSimonian and Laird's ' s random-effects model. We performed subgroup analyses and meta-regression based on age, sex, geographic location, population setting, and modality of detection to examine sources of heterogeneity. RESULTS: Based on 115 studies with 32,610,568 participants, the pooled prevalence of gallstones was 6.1% (95% CI, 5.6-6.5). - 6.5). Prevalence was higher in females vs males (7.6% vs 5.4%), in South America vs Asia (11.2% vs 5.1%), in upper-middle-income countries vs high-income countries (8.9% vs 4.0%), and with advancing age. On sensitivity analysis of population-based studies, the prevalence of gallstones was 5.5% (95% CI, 4.1-7.4; - 7.4; n = 44 studies), and when limiting subgroup analysis to imaging-based detection modalities, the prevalence was 6.7% (95% CI, 6.1- - 7.3; n = 101 studies). Prevalence has been stable over the past 20 years. Based on 12 studies, the incidence of gallstones was 0.47 per 100 person-years (95% CI, 0.37-0.51), - 0.51), without differences between males and females, and with increasing incidence in more recent studies. CONCLUSIONS: Globally, 6% of the population have gallstones, with higher rates in females and in South America. The incidence of gallstones may be increasing. Our fi ndings call for prioritizing research on the prevention of gallstones.

Keywords
Author Keywords
GallstonesPrevalenceIncidenceMeta-Analysis

Keywords Plus
GALLBLADDER-DISEASECANCER
MORTALITYRISKPOPULATIONCHOLELITHIASISCHOLECYSTECTOMYLIVERHISTORYSTONESPREVALENCE

Epidemiology

16-Differences in the epidemiology, management and outcomes of kidney disease in men and women

By Chesnaye, NC (Chesnaye, Nicholas C.) [1] , [2] ; Carrero, JJ (Carrero, Juan Jesus) [3] , [4] ; Hecking, M (Hecking, Manfred) [5] , [6] ; Jager, KJ (Jager, Kitty J.) [1] , [2] (provided by Clarivate) , **Source: NATURE REVIEWS NEPHROLOGY, Volume: 20, Issue: 1, Page: 7-20, DOI: 10.1038/s41581-023-00784-z Published: JAN 2024, Early Access: NOV 2023, Indexed: 2023-12-03, Document Type: Review**

Abstract

Improved understanding of differences in kidney disease epidemiology, management and outcomes in men and women could help nephrologists to better meet the needs of their patients from a sex- and gender-specific perspective. Evidence of sex differences in the risk and outcomes of acute kidney injury is mixed and dependent on aetiology. Women have a higher prevalence of chronic kidney disease (CKD) stages 3-5 than men, whereas men have a higher prevalence of albuminuria and hence CKD stages 1-2. Men show a faster decline in kidney function, progress more frequently to kidney failure and have higher mortality and risk of cardiovascular disease than women. However, the protective effect of female sex is reduced with CKD progression. Women are less likely than men to be aware of, screened for and diagnosed with CKD, started on antiproteinuric medication and referred to nephrologist care. They also consistently report a poorer health-related quality of life and a higher symptom burden than men. Women experience greater barriers than men to access the waiting list for kidney transplantation, particularly with respect to older age and obesity. However, women also have longer survival than men after transplantation, which may partly explain the comparable prevalence of transplantation between the sexes. Improved understanding of kidney disease from a sex- and gender-specific perspective is needed to improve patient care. Here, the authors discuss differences in the epidemiology, management and outcomes of acute kidney injury, chronic kidney disease and kidney failure in men and women.

The evidence for sex differences in risk and outcomes of acute kidney injury in the inpatient setting is mixed and related to aetiology.The prevalence of chronic kidney disease (CKD) stages 3-5 is higher in women, whereas the prevalence of CKD stages 1-5 may be higher in men owing to their greater prevalence of albuminuria.The cut-offs given by the current Kidney Disease: Improving Global Outcomes to define the stages of CKD are not sex specific and overestimate the prevalence of albuminuria in women; consequently, the sex difference in albuminuria may be larger than is apparent from current data.Men tend to experience a faster decline in kidney function than women, resulting in a higher risk of kidney failure; this faster decline is partly caused by a greater prevalence of unhealthy lifestyle behaviours and is reflected by the higher levels of albuminuria found in men.Women with CKD are less likely than men to be aware of their condition, screened for and diagnosed with CKD and referred to nephrologist care and are more likely to experience adverse drug reactions.Women may experience more barriers than men to access the transplant waiting list but have better survival than men after transplantation, which may contribute to the similar prevalence of transplantation between the sexes.

Keywords
Keywords Plus

Epidemiology

QUALITY-OF-LIFESTAGE RENAL-DISEASEGENDER-DIFFERENCESSEX-DIFFERENCESRISK-FACTORSNATIONAL-HEALTHREPLACEMENT THERAPYATRIAL-FIBRILLATIONUNITED-STATESOLDER MEN

Epidemiology

17-Heart Failure Epidemiology and Outcomes Statistics: A Report of the Heart Failure Society of America

By Bozkurt, B (Bozkurt, Biykem) [1] ; Ahmad, T (Ahmad, Tariq) [2] ; Alexander, KM (Alexander, Kevin M.) [3] ; Baker, WL (Baker, William L.) [4] ; Bosak, K (Bosak, Kelly) [5] ; Breathett, K (Breathett, Khadijah) [6] ; Fonarow, GC (Fonarow, Gregg C.) [7] ; Heidenreich, P (Heidenreich, Paul) [3] ; Ho, JE (Ho, Jennifer E.) [8] ; Hsich, E (Hsich, Eileen) [9] ; **(provided by Clarivate) , SourceL: JOURNAL OF CARDIAC FAILURE, Volume: 9, Issue: 10, Page: 1412-1451, DOI: 10.1016/j.cardfail.2023.07.006, Published: OCT 2023, Early Access: OCT 2023, Indexed: 2023-12-07, Document Type: Article**

Keywords
Author Keywords
Heart failureepidemiologyprevalenceincidencemortalityoutcomes

Keywords Plus
AGE-SPECIFIC TRENDSATHEROSCLEROSIS RISKTEMPORAL TRENDSUNITED-STATESLIFETIME RISKPOPULATIONMORTALITYPREVALENCEDISPARITIESHOSPITALIZATIONS

Epidemiology

18-Salmonellosis: An Overview of Epidemiology, Pathogenesis, and Innovative Approaches to Mitigate the Antimicrobial Resistant Infections

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By Lamichhane, B (Lamichhane, Bibek) [1] ; Mawad, AMM (Mawad, Asmaa M. M.) [2] ; Saleh, M (Saleh, Mohamed) [1] ; Kelley, WG (Kelley, William G.) [1] ; Harrington, PJ II (Harrington II, Patrick J.) [1] ; Lovestad, CW (Lovestad, Cayenne W.) [1] ; Amezcua, J (Amezcua, Jessica) [1] ; Sarhan, MM (Sarhan, Mohamed M.) [3] ; El Zowalaty, ME (El Zowalaty, Mohamed E.) [4] ; Ramadan, H (Ramadan, Hazem) [5] ; (provided by Clarivate) , **Source: ANTIBIOTICS-BASEL, Volume: 13, Issue 1, DOI: 10.3390/antibiotics13010076, Article Number: 76, Published: JAN 2024, Indexed: 2024-02-05**
Document Type: Review

Abstract

Salmonella is a major foodborne pathogen and a leading cause of gastroenteritis in humans and animals. Salmonella is highly pathogenic and encompasses more than 2600 characterized serovars. The transmission of Salmonella to humans occurs through the farm-to-fork continuum and is commonly linked to the consumption of animal-derived food products. Among these sources, poultry and poultry products are primary contributors, followed by beef, pork, fish, and non-animal-derived food such as fruits and vegetables. While antibiotics constitute the primary treatment for salmonellosis, the emergence of antibiotic resistance and the rise of multidrug-resistant (MDR) Salmonella strains have highlighted the urgency of developing antibiotic alternatives. Effective infection management necessitates a comprehensive understanding of the pathogen's epidemiology and transmission dynamics. Therefore, this comprehensive review focuses on the epidemiology, sources of infection, risk factors, transmission dynamics, and the host range of Salmonella serotypes. This review also investigates the disease characteristics observed in both humans and animals, antibiotic resistance, pathogenesis, and potential strategies for treatment and control of salmonellosis, emphasizing the most recent antibiotic-alternative approaches for infection control.

Keywords
Author Keywords
SalmonellaFoodborne pathogensantibioticsantibiotic resistanceantibiotic-alternatives

Keywords Plus
ENTERICA SEROVAR TYPHIMURIUMIII SECRETION SYSTEMORAL TYPHOID VACCINETOLL-LIKE RECEPTORESSENTIAL OILSORGANIC-ACIDSUNITED-STATESBIOFILM FORMATIONCONJUGATE VACCINEESCHERICHIA-COLI

Epidemiology

19-Comorbidity between major depressive disorder and physical diseases: a comprehensive review of epidemiology, mechanisms and management

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By Berk, M (Berk, Michael) [1] ; Köhler-Forsberg, O (Kohler-Forsberg, Ole) [2] , [3] ; Turner, M (Turner, Megan) [1] ; Penninx, BWJH (Penninx, Brenda W. J. H.) [4] , [5] ; Wrobel, A (Wrobel, Anna) [1] ; Firth, J (Firth, Joseph) [6] , [7] ; Loughman, A (Loughman, Amy) [1] ; Reavley, NJ (Reavley, Nicola J.) [8] ; Mcgrath, JJ (Mcgrath, John J.) [9] , [10] , [11] ; Momen, NC (Momen, Natalie C.) [12] , [13] ; (provided by Clarivate) , **Source: WORLD PSYCHIATRY, Volume: 22, Issue: 3 Page: 366-387, DOI: 10.1002/wps.21110, Published: OCT 2023, Indexed: 2023-11-05**
Document Type: Review

Abstract

Populations with common physical diseases - such as cardiovascular diseases, cancer and neurodegenerative disorders - experience substantially higher rates of major depressive disorder (MDD) than the general population. On the other hand, people living with MDD have a greater risk for many physical diseases. This high level of comorbidity is associated with worse outcomes, reduced adherence to treatment, increased mortality, and greater health care utilization and costs. Comorbidity can also result in a range of clinical challenges, such as a more complicated therapeutic alliance, issues pertaining to adaptive health behaviors, drug-drug interactions and adverse events induced by medications used for physical and mental disorders. Potential explanations for the high prevalence of the above comorbidity involve shared genetic and biological pathways. These latter include inflammation, the gut microbiome, mitochondrial function and energy metabolism, hypothalamic-pituitary-adrenal axis dysregulation, and brain structure and function. Furthermore, MDD and physical diseases have in common several antecedents related to social factors (e.g., socioeconomic status), lifestyle variables (e.g., physical activity, diet, sleep), and stressful live events (e.g., childhood trauma). Pharmacotherapies and psychotherapies are effective treatments for comorbid MDD, and the introduction of lifestyle interventions as well as collaborative care models and digital technologies provide promising strategies for improving management. This paper aims to provide a detailed overview of the epidemiology of the comorbidity of MDD and specific physical diseases, including prevalence and bidirectional risk; of shared biological pathways potentially implicated in the pathogenesis of MDD and common physical diseases; of socio-environmental factors that serve as both shared risk and protective factors; and of management of MDD and physical diseases, including prevention and treatment. We conclude with future directions and emerging research related to optimal care of people with comorbid MDD and physical diseases.

Keywords
Author Keywords
Depressionphysical diseasescomorbiditycardiovascular diseasescancerinflammationlifestyle factorschildhood traumacollaborative caredigital technologies
Keywords Plus

Epidemiology

CORONARY-HEART-DISEASESEROTONIN REUPTAKE INHIBITORSCOGNITIVE-BEHAVIOR THERAPYSUBSTANCE USE DISORDERSPOST STROKE DEPRESSIONBONE-MINERAL DENSITYQUALITY-OF-LIFEMENTAL-DISORDERSMITOCHONDRIAL DYSFUNCTIONMEDICATION ADHERENCE

Epidemiology

20-The Global Epidemiology of Nonalcoholic Fatty Liver Disease and Nonalcoholic Steatohepatitis Among Patients With Type 2 Diabetes

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By Younossi, ZM (Younossi, Zobair M.) [1] , [2] , [3] ; Golabi, P (Golabi, Pegah) [1] , [2] , [3] ; Price, JK (Price, Jillian Kallman) [1] , [2] ; Owrangi, S (Owrangi, Soroor) [1] ; Gundu-Rao, N (Gundu-Rao, Nagashree) [3] ; Satchi, R (Satchi, Romona) [3] ; Paik, JM (Paik, James M.) [1] , [2] , [3]
(provided by Clarivate) , Source: CLINICAL GASTROENTEROLOGY AND HEPATOLOGY
Volume: 22, Issue: 10, Page: 1999-2010, DOI: 10.1016/j.cgh.2024.03.006, Published: OCT 2024
Early Access: SEP 2024, Indexed: 2024-10-05, Document Type: Review

Abstract

BACKGROUND & AIMS: Nonalcoholic fatty liver disease (NAFLD), now known as metabolic dysfunction associated steatotic liver disease (MASLD), is closely associated with type 2 diabetes (T2D). Our aim was to estimate the most recent global prevalence of NAFLD/MASLD, nonalcoholic steatohepatitis (NASH), now known as metabolic dysfunction associated steatohepatitis (MASH), advanced fibrosis, and mortality among patients with T2D. METHODS: We systematically searched PubMed and Ovid MEDLINE for terms including NAFLD, NASH, and T2D published in 1990-2023 according to PRISMA. The meta-analysis was conducted using a random-effects model. Assessment of bias risk used the Joanna Briggs Institute appraisal tool. RESULTS: From 3134 studies included in the initial search, 123 studies (N = 2,224,144 patients with T2D) were eligible. Another 12 studies (N = 2733 T2D patients with liver biopsy) were eligible for histologic assessments. The global pooled prevalence of NAFLD/MASLD among patients with T2D was 65.33% (95% confidence interval, 62.35%-68.18%). This prevalence increased from 55.86% (42.38%-68.53%) in 1990-2004 to 68.81% (63.41%-73.74%) in 2016-2021 (P = .073). The highest NAFLD/MASLD prevalence among T2D patients was observed in Eastern Europe (80.62%, 75.72%-84.73%), followed by the Middle East (71.24%, 62.22%-78.84%), and was lowest in Africa (53.10%, 26.05%-78.44%). Among patients with liver biopsy data, the global pooled prevalence of NASH/MASH, significant fibrosis, and advanced fibrosis was 66.44% (56.61%-75.02%), 40.78% (24.24%-59.70%), and 15.49% (6.99%-30.99%), respectively. The pooled all-cause mortality was 16.79 per 1000 person-years (PY) (10.64-26.40), 4.19 per 1000 PY (1.34-7.05) for cardiac-specific mortality; 6.10 per 1000 PY (0.78-4.88) for extrahepatic cancer-specific fi c mortality; and 2.15 per 1000 PY (0.00-2.21) for liver-specific mortality. CONCLUSIONS: The prevalence of NAFLD/MASLD among T2D is high and growing. The majority of NAFLD/MASLD patients with T2D have NASH/MASH, and a significant fi cant proportion have advanced fibrosis.

Keywords
Author Keywords
NAFLDMASLDNASHMASHSteatotic Liver DiseaseT2D
Keywords Plus
BURDENMETAANALYSISFIBROSISRISKPREVALENCEREGRESSIONNASHBIAS

Epidemiology

21-Epidemiology, Clinical Significance, and Diagnosis of Respiratory Viruses and Their Co-Infections in the Post-COVID Era

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By Contes, KM (Contes, Kaia M.) [1] ; Liu, BM (Liu, Benjamin M.) [2] , [3] , [4] , [5] , [6] , [7] (provided by Clarivate) , **Source: PATHOGENS, Volume: 14, Issue: 3, DOI: 10.3390/pathogens14030262 Article Number: 262, Published: MAR 7 2025, Indexed: 2025-03-31, Document Type: Review**

Abstract

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a novel human coronavirus, emerged in late 2019 and rapidly evolved into a pandemic around the world. The coronavirus disease (COVID-19) pandemic has dramatically changed the epidemiology and seasonality of other traditional respiratory viruses, e.g., influenza, respiratory syncytial virus, enterovirus, etc. These traditional respiratory viruses have transmission mode and clinical symptoms similar to SARS-CoV-2 but may differ in clinical outcomes and management. Co-infection between SARS-CoV-2 and one or more traditional respiratory viruses have been reported in the literature but have shown mixed evidence in clinical outcomes. With SARS-CoV-2 evolving into mild Omicron variants, it is believed that SARS-CoV-2 co-circulates with other respiratory viruses, which in turn affect the epidemiology and clinical course of respiratory viral infections. In response to these changes, multiplex molecular tests for SARS-CoV-2 and one or more traditional respiratory viruses are attracting more attention in the field and have been developed into a variety of testing modalities. In this review, we describe the seasonality (i.e., in the Northern Hemisphere), epidemiology, and clinical significance of traditional respiratory viruses and their co-infection with SARS-CoV-2 in the post-COVID era. Furthermore, we review commonly used multiplex molecular tests and their applications for the detection of respiratory viruses and their co-infections. Altogether, this review not only sheds light on the epidemiology and clinical significance of respiratory viral infections and co-infections in the post-COVID era, and but also provides insights into the laboratory-based diagnoses of respiratory viral infections using multiplex molecular testing.

Keywords
Author Keywords
SARS-CoV-2respiratory virusinfluenza virusrespiratory syncytial virusenterovirusmultiplex molecular testingPCRepidemiologydiagnosis
Keywords Plus
SYNCYTIAL VIRUSTRIM56INFECTIONIMMUNEPCR

Epidemiology

22-Global, regional, and national epidemiology of nasopharyngeal carcinoma in middle-aged and elderly patients from 1990 to 2021

By Liu, QQ (Liu, Qiqi) [1] ; Wang, HY (Wang, Hanyu) [1] ; Chen, Z (Chen, Ze) [1] ; Xiong, JH (Xiong, Jiahui) [1] ; Huang, Y (Huang, Yong) [1] ; Zhang, SP (Zhang, Shipeng) [1] , [2] ; Zhang, QX (Zhang, Qinxiu) [1] , [2] , [3] , [4], (provided by Clarivate), **Source: AGEING RESEARCH REVIEWS, Volume: 104 DOI: 10.1016/j.arr.2024.102613, Article Number: 102613, Published: FEB 2025, Early Access: DEC 2024. Indexed: 2024-12-18, Document Type:**

Abstract

Background: In recent years, changes in the incidence and mortality rates of nasopharyngeal carcinoma have occurred globally, across various regions, and among different countries. As a high incidence group, it is necessary to study the prevalence trend of middle-aged and elderly people. Methods: Detailed information on NPC in middle-aged and elderly patients from 1990 to 2021 was collected from the Global Burden of Disease Database 2021 (GBD2021). Adopted incidence, mortality, disability-adjusted lifeyears (DALYs), sociodemographic index (SDI) and corresponding Estimated Annual Percentage Changes (EAPCs) to assess the burden of NPC in middle-aged and elderly patients. Additionally, a global risk attribution analysis was conducted, and a Bayesian age-period-cohort (BAPC) model was applied to project the global burden of NPC in middle-aged and elderly patients from 2021 to 2035. Findings: Globally, the incidence cases of NPC in middle-aged and elderly people increased by 58.2 %, the numbers of death increased by 33.8 %, and the DALY increased by 42.1 %. However, the EAPCs values and upper limits in incidence, mortality and DALY rates were all less than 0, indicating a decreasing trend of incidence, mortality and disease burden. Both incidence and mortality rates were decreasing in high-incidence territories. Most regions were negatively correlated with the sociodemographic index. Males had obviously higher incidence and mortality of NPC in middle-aged and elderly patients than females. The highest incidences of nasopharyngeal carcinoma in middle-aged and elderly males were in the 65-69 age group, and the incidences in females did not change much among different age groups. We found that Alcohol use, Occupational risk and Tobacco were the major risk factors for NPC-related mortality in middle-aged and elderly patients. Conclusion: Controllable etiology should be effectively controlled in the future. Data availability: The data sets generated and/or analyzed during the current study are available in the GBD repository (https://vizhub.healthdata.org/gbd-results/). Data will be made available on request.

Keywords
Author Keywords
Nasopharyngeal carcinoma (NPC)Global burden of disease (GBD)IncidenceMortalityEstimated annual percentage change (EAPC)Middle-agedElderly

Keywords Plus
MORTALITYDIAGNOSIS

Epidemiology

23-HF STATS 2024: Heart Failure Epidemiology and Outcomes Statistics An Updated 2024 Report from the Heart Failure Society of America

By Bozkurt, B (Bozkurt, Biykem) [1] ; Writing Comm (Writing Comm, Tariq) ; Ahmad, T (Ahmad, Tariq) [2] ; Alexander, K (Alexander, Kevin) [2] ; Baker, WL (Baker, William L.) [3] ; Bosak, K (Bosak, Kelly) [4] ; Breathett, K (Breathett, Khadijah) [5] ; Carter, S (Carter, Spencer) [6] ; Drazner, MH (Drazner, Mark H.) [7] ; Dunlay, SM (Dunlay, Shannon M.) [8] ; (provided by Clarivate), Source: JOURNAL OF CARDIAC FAILURE, Volume: 31, Issue: 1, Page: 66-116. DOI: 10.1016/j.cardfail.2024.07.001
Published: JAN 2025, Early Access: JAN 2025, Indexed: 2025-02-24, Document Type: Article

Keywords

Author Keywords
Heart FailureEpidemiologyPrevalenceIncidenceMortalityOutcomesHospitalizationsStatisticsAgeRaceEthnicitySexGender
Keywords Plus
REDUCED EJECTION FRACTIONAGE-SPECIFIC TRENDSATHEROSCLEROSIS RISKTEMPORAL TRENDSUNITED-STATESSCIENTIFIC STATEMENTSOCIAL DETERMINANTSMORTALITYPOPULATIONPREVALENCE

Epidemiology

24-Global, regional, national epidemiology and trends of Parkinson's disease from 1990 to 2021: findings from the Global Burden of Disease Study 2021

By Luo, YR (Luo, Yuanrong) [1] ; Qiao, LC (Qiao, Lichun) [2] ; Li, MQ (Li, Miaoqian) [2] ; Wen, XY (Wen, Xinyue) [2] ; Zhang, WB (Zhang, Wenbin) [3] ; Li, XW (Li, Xianwen) [4], (provided by Clarivate) , **Source FRONTIERS IN AGING NEUROSCIENCE, Volume: 16, DOI: 10.3389/fnagi.2024.1498756, Article Number 1498756, Published: JAN 10 2025, Indexed: 2025-01-29, Document Type: Article**

Abstract

Aims In light of the escalating global incidence of Parkinson's disease and the dearth of therapeutic interventions that can alter the disease's course, there exists an urgent necessity to comprehensively elucidate and quantify the disease's global burden.Methods This study analyzed the incidence, prevalence, and disability-adjusted life years (DALYs) of Parkinson's disease at global, regional, and national levels based on the Global Burden of Disease Study 2021. Bayesian age-period cohort (BAPC) analysis was used to predict the burden in Parkinson's disease from 2022 to 2035.Results In 2021, 11.77 million people worldwide had Parkinson's disease. Age-standardized rates of incidence, prevalence, and DALYs increased to 15.63/100,000, 138.63/100,000, and 89.59/100,000. The burden of Parkinson's disease were higher in males than in females, and showed an increase and then a slight decrease with age. The disease burden was highest in East Asia. BAPC projection showed an increase in all metrics by 2035 except for a slight decrease in the age-standardized DALYs rates.Conclusion The global burden of Parkinson's disease has risen over the past 32 years, and there is a need to focus on key populations, as well as to improve health policies to prevent and treat Parkinson's disease.

Keywords
Author Keywords
Parkinson's diseaseGlobal Burden of Disease Studydisability-adjusted life yearsDALYspopulation aging

Keywords Plus
RISK