Health Behavior

1-Wearable Collar Technologies for Dairy Cows: A Systematized Review of the Current Applications and Future Innovations in Precision Livestock Farming

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By Lamanna, M (Lamanna, Martina) [1] ; Bovo, M (Bovo, Marco) [2] ; Cavallini, D (Cavallini, Damiano) [1] (provided by Clarivate) **Source ANIMALS Volume 15 Issue 3 DOI 10.3390/ani15030458 Article Number 458 Published FEB 2025 Indexed 2025-02-17 Document Type Review**

Abstract

Wearable collar technologies have become integral to the advancement of precision livestock farming, revolutionizing how dairy cattle are monitored in terms of their behaviour, health status, and productivity. These devices leverage cutting-edge sensors, including accelerometers, RFID tags, GPS receivers, microphones, gyroscopes, and magnetometers, to provide non-invasive, real-time insights that enhance animal welfare, optimize resource use, and support decision-making processes in livestock management. This systematized review focuses on analyzing the sensors integrated into collar-based systems, detailing their functionalities and applications. However, significant challenges remain, including the high energy consumption of some sensors, the need for frequent recharging, and limited parameter coverage by individual devices. Future developments must focus on integrating multiple sensor types into unified systems to provide comprehensive data on animal behaviour, health, and environmental interactions. Additionally, advancements in energy-efficient designs, longer battery life, and cost-reduction strategies are essential to enhance the practicality and accessibility of these technologies. By addressing these challenges, wearable collar systems can play a pivotal role in promoting sustainable, efficient, and responsible livestock farming, aligning with global goals for environmental and economic sustainability. This paper underscores the transformative potential of wearable collar technologies in reshaping the livestock industry and driving the adoption of innovative farming practices worldwide.

Keywords

Author Keywords

precision livestock monitoringsensor technologyanimal behaviour trackingsmart farmingdigital dairy management

Keywords Plus

ACTIVITY MONITORING-SYSTEMREPRODUCTIVE-PERFORMANCETRIAXIAL ACCELEROMETERSRUMINATION ACTIVITYESTROUS EXPRESSIONHOLSTEIN HEIFERSJAW MOVEMENTSGRASS INTAKEESTRUSPASTURE

Health Behavior

2-Regional variations in Mediterranean diet adherence: a sociodemographic and lifestyle analysis across Mediterranean and non-Mediterranean regions within the MEDIET4ALL project

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By Boujelbane, MA (Boujelbane, Mohamed Ali) [1] , [2] ; Ammar, A (Ammar, Achraf) [1] , [2] , [3] ; Salem, A (Salem, Atef) [1] , [2] ; Kerkeni, M (Kerkeni, Mohamed) [2] , [4] ; Trabelsi, K (Trabelsi, Khaled) [4] , [5] ; Bouaziz, B (Bouaziz, Bassem) [6] , [7] ; Masmoudi, L (Masmoudi, Liwa) [2] ; Heydenreich, J (Heydenreich, Juliane) [8] ; Schallhorn, C (Schallhorn, Christiana) [9] ; Müller, G (Mueller, Gabriel) [1] ; **(provided by Clarivate) Source FRONTIERS IN PUBLIC HEALTH Volume 13 DOI 10.3389/fpubh.2025.1596681 Article Number 1596681 Published JUN 10 2025 Indexed 2025-06-28 Document Type Article**

Abstract

Introduction The Mediterranean diet (MedDiet) is acknowledged for its health advantages; however, compliance with its principles differs by region and is influenced by geographical, cultural, economic, and life-style factors. This research examines regional differences in sociodemographic and lifestyle factors between Mediterranean (MC) and non-Mediterranean (NMC) countries, with a particular focus on adherence to the Mediterranean diet and lifestyle, as well as the associated barriers in each region.Methods The MEDIET4ALL international survey was conducted across 10 countries, and data were collected from 4,010 participants. Dietary adherence was assessed via the MedLife Index, and additional lifestyle measures included physical activity (IPAQ-SF), sleep patterns (PSQI), mental health (DASS-21), and social participation (SSPQL). Statistical analyses included chi-square tests, Mann-Whitney U tests, and standardized residual analyses to identify significant regional variations.Results The study revealed distinct dietary patterns, with MC participants showing stronger adherence to traditional MedDiet components (legumes, fish) while NMC participants favored modern adaptations (whole grains). Both regions exhibited low physical activities dominance (60%-62%), although MC participants engaged more (21.1% vs. 18.5%) in moderate physical activity. MC maintained higher proportions of "sometimes socially active" individuals, NMC showed greater representation in the "always socially active" category. Sleep quality was poorer in MC (45% below recommended duration vs. 40% in NMC), while NMC reported higher insomnia rates. Mental health symptoms were comparable (33%-35% moderate depression/anxiety in both), reflecting post-pandemic global trends. Barriers differed regionally with MC faced economic/access constraints while NMC struggled with knowledge gaps and time limitations.Conclusion Our findings highlight that while Mediterranean regions maintain traditional dietary patterns, globalization and modern lifestyle shifts are narrowing regional health behaviors. Public health strategies should address region-specific barriers, including economic constraints in MC regions and knowledge gaps in NMC regions, while promoting MedDiet adherence. Future research should explore the impact of cultural, socio-economic, and digital factors on dietary behaviors and mental health to develop tailored, effective interventions for improving overall well-being.

Keywords
Author Keywords

Mediterranean regions differencesMedLife Indexphysical activitymental healthpublic healthpsychological distresshealth predictors

Keywords Plus

PHYSICAL-ACTIVITYSLEEPRISKINSTRUMENTEDUCATIONBARRIERSBEHAVIORINDEX

3. Facilitating Positive Health Behaviors and Well-being to Improve Health Outcomes: Standards of Care in Diabetes-2025

By [Anonymous] (provided by Clarivate) Source DIABETES CARE Volume 48 Page S86-S127 Supplement 1 DOI 10.2337/dc25-S005 Published JAN 2025 Indexed 2025-01-27 Document Type Review

Abstract

The American Diabetes Association (ADA) "Standards of Care in Diabetes" includes the ADA's current clinical practice recommendations and is intended to provide the components of diabetes care, general treatment goals and guidelines, and tools to evaluate quality of care. Members of the ADA Professional Practice Committee, an interprofessional expert committee, are responsible for updating the Standards of Care annually, or more frequently as warranted. For a detailed description of ADA standards, statements, and reports, as well as the evidence-grading system for ADA's clinical practice recommendations and a full list of Professional Practice Committee members, please refer to Introduction and Methodology. Readers who wish to comment on the Standards of Care are invited to do so at professional.diabetes.org/SOC.

Keywords

Keywords Plus

SELF-MANAGEMENT EDUCATIONQUALITY-OF-LIFECARDIOVASCULAR RISK-FACTORSALL-CAUSE MORTALITYSERIOUS MENTAL-ILLNESSRANDOMIZED CONTROLLED-TRIALSMAJOR DEPRESSIVE DISORDERLOW-CALORIE SWEETENERSRESTLESS LEGS SYNDROMEPOOR GLYCEMIC CONTROL

Health Behavior

4.2025 Heart Disease and Stroke Statistics: A Report of US and Global Data From the American Heart Association

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By Martin, SS (Martin, Seth S.) [1] ; Aday, AW (Aday, Aaron W.) [3] ; Allen, NB (Allen, Norrina B.) [4] ; Almarzooq, ZI (Almarzooq, Zaid I.) [5] ; Anderson, CAM (Anderson, Cheryl A. M.) [6] ; Arora, P (Arora, Pankaj) [7] ; Avery, CL (Avery, Christy L.) [8] ; Baker-Smith, CM (Baker-Smith, Carissa M.) [9] ; Bansal, N (Bansal, Nisha) [10] ; Beaton, AZ (Beaton, Andrea Z.) [11] ; Group Authors Amer Heart Assoc Council (Amer Heart Assoc Council) ; Prevention Stat Comm (Prevention Stat Comm) ; Stroke Stat Comm (Stroke Stat Comm) **(provided by Clarivate) Source CIRCULATION Volume 151 Issue 8 Page e41-e660 DOI 10.1161/CIR.0000000000001303 Published FEB 25 2025 Indexed 2025-03-09 Document Type Review**

Abstract

BACKGROUND:The American Heart Association (AHA), in conjunction with the National Institutes of Health, annually reports the most up-to-date statistics related to heart disease, stroke, and cardiovascular risk factors, including core health behaviors (smoking, physical activity, nutrition, sleep, and obesity) and health factors (cholesterol, blood pressure, glucose control, and metabolic syndrome) that contribute to cardiovascular health. The AHA Heart Disease and Stroke Statistical Update presents the latest data on a range of major clinical heart and circulatory disease conditions (including stroke, brain health, complications of pregnancy, kidney disease, congenital heart disease, rhythm disorders, sudden cardiac arrest, subclinical atherosclerosis, coronary heart disease, cardiomyopathy, heart failure, valvular disease, venous thromboembolism, and peripheral artery disease) and the associated outcomes (including quality of care, procedures, and economic costs). METHODS:The AHA, through its Epidemiology and Prevention Statistics Committee, continuously monitors and evaluates sources of data on heart disease and stroke in the United States and globally to provide the most current information available in the annual Statistical Update with review of published literature through the year before writing. The 2025 AHA Statistical Update is the product of a full year's worth of effort in 2024 by dedicated volunteer clinicians and scientists, committed government professionals, and AHA staff members. This year's edition includes a continued focus on health equity across several key domains and enhanced global data that reflect improved methods and incorporation of approximate to 3000 new data sources since last year's Statistical Update. RESULTS:Each of the chapters in the Statistical Update focuses on a different topic related to heart disease and stroke statistics. CONCLUSIONS:The Statistical Update represents a critical resource for the lay public, policymakers, media professionals, clinicians, health care administrators, researchers, health advocates, and others seeking the best available data on these factors and conditions.

Keywords

Author Keywords

AHA Scientific Statementscardiovascular diseasesepidemiologyrisk factorsstatisticsstroke

Health Behavior

5.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

Health Behavior

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

Health Behavior

***6.Salmonella* and Salmonellosis: An Update on Public Health Implications and Control Strategies**

By Galán-Relaño, A (Galan-Relano, Angela) [1] , [2] ; Díaz, AV (Diaz, Antonio Valero) [2] , [3] ; Lorenzo, BH (Lorenzo, Belen Huerta) [1] , [2] ; Gómez-Gascón, L (Gomez-Gascon, Lidia) [1] , [2] ; Rodríguez, MAM (Rodriguez, M. Angeles Mena) [1] , [2] ; Jiménez, EC (Jimenez, Elena Carrasco) [2] , [3] ; Rodríguez, FP (Rodriguez, Fernando Perez) [2] , [3] ; Márquez, RJA (Marquez, Rafael J. Astorga) [1] , [2] **(provided by Clarivate) Source ANIMALS Volume 13 Issue 23 DOI 10.3390/ani13233666 Article Number 3666 Published DEC 2023 Indexed 2023-12-21 Document Type Review**

Abstract

Salmonellosis is globally recognized as one of the leading causes of acute human bacterial gastroenteritis resulting from the consumption of animal-derived products, particularly those derived from the poultry and pig industry. Salmonella spp. is generally associated with self-limiting gastrointestinal symptoms, lasting between 2 and 7 days, which can vary from mild to severe. The bacteria can also spread in the bloodstream, causing sepsis and requiring effective antimicrobial therapy; however, sepsis rarely occurs. Salmonellosis control strategies are based on two fundamental aspects: (a) the reduction of prevalence levels in animals by means of health, biosecurity, or food strategies and (b) protection against infection in humans. At the food chain level, the prevention of salmonellosis requires a comprehensive approach at farm, manufacturing, distribution, and consumer levels. Proper handling of food, avoiding cross-contamination, and thorough cooking can reduce the risk and ensure the safety of food. Efforts to reduce transmission of Salmonella by food and other routes must be implemented using a One Health approach. Therefore, in this review we provide an update on Salmonella, one of the main zoonotic pathogens, emphasizing its relationship with animal and public health. We carry out a review on different topics about Salmonella and salmonellosis, with a special emphasis on epidemiology and public health, microbial behavior along the food chain, predictive microbiology principles, antimicrobial resistance, and control strategies.

Keywords
Author Keywords
Salmonellasalmonellosisanimal healthpublic healthfood chainpredictive microbiologyantimicrobial resistancecontrol strategiesone health

Keywords Plus
WATER ACTIVITY FOODSESCHERICHIA-COLIANTIMICROBIAL RESISTANCECROSS-CONTAMINATIONREDUCE SALMONELLABIOFILM FORMATIONRISK-ASSESSMENTESSENTIAL OILSSURVIVALGROWTH

Health Behavior

7.2024 Heart Disease and Stroke Statistics: A Report of US and Global Data From the American Heart Association

By Martin, SS (Martin, Seth S.) [1] ; Aday, AW (Aday, Aaron W.) [3] ; Almarzooq, ZI (Almarzooq, Zaid I.) [4] ; Anderson, CAM (Anderson, Cheryl A. M.) [5] ; Arora, P (Arora, Pankaj) [6] ; Avery, CL (Avery, Christy L.) [7] ; Baker-Smith, CM (Baker-Smith, Carissa M.) [8] ; Gibbs, BB (Gibbs, Bethany Barone) [9] ; Beaton, AZ (Beaton, Andrea Z.) [10] ; Boehme, AK (Boehme, Amelia K.) [11] ; Group Author Amer Heart Assoc Council Epidemiol Prevent Stat Comm Stroke Stat Subcomm (Amer Heart Assoc Council Epidemiol Prevent Stat Comm Stroke Stat Subcomm) (provided by Clarivate) **Source CIRCULATION Volume 149 Issue 8 Page E347-E913 DOI 10.1161/CIR.0000000000001209 Published FEB 20 2024 Indexed 2024-10-26 Document Type Article**

Abstract

BACKGROUND: The American Heart Association (AHA), in conjunction with the National Institutes of Health, annually reports the most up-to-date statistics related to heart disease, stroke, and cardiovascular risk factors, including core health behaviors (smoking, physical activity, nutrition, sleep, and obesity) and health factors (cholesterol, blood pressure, glucose control, and metabolic syndrome) that contribute to cardiovascular health. The AHA Heart Disease and Stroke Statistical Update presents the latest data on a range of major clinical heart and circulatory disease conditions (including stroke, brain health, complications of pregnancy, kidney disease, congenital heart disease, rhythm disorders, sudden cardiac arrest, subclinical atherosclerosis, coronary heart disease, cardiomyopathy, heart failure, valvular disease, venous thromboembolism, and peripheral artery disease) and the associated outcomes (including quality of care, procedures, and economic costs).

METHODS: The AHA, through its Epidemiology and Prevention Statistics Committee, continuously monitors and evaluates sources of data on heart disease and stroke in the United States and globally to provide the most current information available in the annual Statistical Update with review of published literature through the year before writing. The 2024 AHA Statistical Update is the product of a full year's worth of effort in 2023 by dedicated volunteer clinicians and scientists, committed government professionals, and AHA staff members. The AHA strives to further understand and help heal health problems inflicted by structural racism, a public health crisis that can significantly damage physical and mental health and perpetuate disparities in access to health care, education, income, housing, and several other factors vital to healthy lives. This year's edition includes additional global data, as well as data on the monitoring and benefits of cardiovascular health in the population, with an enhanced focus on health equity across several key domains.

RESULTS: Each of the chapters in the Statistical Update focuses on a different topic related to heart disease and stroke statistics.

CONCLUSIONS: The Statistical Update represents a critical resource for the lay public, policymakers, media professionals, clinicians, health care administrators, researchers, health advocates, and others seeking the best available data on these factors and conditions.

Keywords

Health Behavior

Author Keywords
AHA Scientific Statementscardiovascular diseasesepidemiologyrisk factorsstatisticsstroke

Keywords Plus
GENOME-WIDE ASSOCIATIONHOSPITAL CARDIAC-ARRESTIDEAL CARDIOVASCULAR HEALTHPERIPHERAL ARTERY-DISEASEBODY-MASS INDEXABDOMINAL AORTIC-ANEURYSMALL-CAUSE MORTALITYONSET ATRIAL-FIBRILLATIONCHRONIC KIDNEY-DISEASEHIGH-SCHOOL-STUDENTS

Health Behavior

8.Gut over Mind: Exploring the Powerful Gut-Brain Axis

By Petrut, SM (Petrut, Stefana-Maria) [1] ; Bragaru, AM (Bragaru, Alexandra Maria) [2] ; Munteanu, AE (Munteanu, Alice Elena) [3] , [4] ; Moldovan, AD (Moldovan, Adina-Diana) [2] , [5] ; Moldovan, CA (Moldovan, Cosmin-Alec) [3] , [6] ; Rusu, E (Rusu, Elena) [1] (provided by Clarivate)
Source NUTRIENTS Volume 17 Issue 5 DOI 10.3390/nu17050842 Article Number 842 Published MAR 2025 Indexed 2025-03-18 Document Type Review

Abstract

Background: The human gastrointestinal tract is home to a wide variety of microorganisms. For some decades now, bacteria known as probiotics have been added to various foods because of their beneficial effects for human health. Evidence indicates that probiotics significantly regulate gut microbiota, which is vital for digestion, metabolism, immune function, and mental health. Methods: We conducted a narrative review of available original research published in PubMed for the past ten years focusing on recent advancements that provide a thorough understanding of the relationship between the gastrointestinal system and the brain. Results: Recent advances in research have focused on the importance of gut microbiota in influencing mental health. The microbiota-gut-brain axis is a complex, bidirectional communication network linking the central nervous system and the gastrointestinal tract, which highlights how the gut and brain are deeply interconnected and influence each other in ways that affect our overall health, emotions, and behavior. This powerful link is a major area of research as scientists discover more about how gut health can impact mental well-being. Conclusions: A comprehensive understanding of microbiota composition and mechanisms involved in these interactions between the gut and the brain could shape future medical and therapeutic approaches. It would balance scientific explanation with clinical relevance, offering insights into how understanding the brain-gut axis can revolutionize our approach to treating mental health and gastrointestinal disorders.

Keywords
Author Keywords
gastrointestinal tractprobioticsmicrobiotamental healthgut-brain axis
Keywords Plus
LACTIC-ACID BACTERIAPERSONALIZED MEDICINEMICROBIOTASTRAINSRESISTANCEPARADIGMIMPACT