RESEARCH REPORT

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Synthesis of Recent Research on Type 2 Diabetes and Associated Health Outcomes

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Content Outline

I. Abstract

- Overview of the relationship between type 2 diabetes mellitus (T2DM) and health outcomes.
- Highlights the global increase in T2DM prevalence and associated comorbidities.
- Objectives focus on patient characteristics, treatment profiles, and lifestyle factors.
- Literature review emphasizes dietary habits, physical activity, and treatment innovations.
- Significant links found between red/processed meat consumption, cardiovascular risk, and biomarkers.
- Comprehensive insights provided for future interventions in T2DM management.

II. Introduction

Background

- T2DM is characterized by insulin resistance and relative insulin deficiency.
- Associated with comorbidities: cardiovascular diseases (CVD), dyslipidaemia, obesity.
- Understanding the interplay of T2DM and related health issues is crucial for patient management.

Objective

- Aim to synthesize recent T2DM studies focusing on metabolic characteristics, lifestyle influences, and treatment effectiveness.
- Key questions address metabolic profiles, dietary impacts, and novel therapeutic roles.

Literature Review

- Elevated C-reactive protein levels indicate cardiovascular risk in T2DM patients.
- High consumption of red/processed meats correlates with polycystic ovary syndrome (PCOS).
- Innovative treatments like GLP-1 receptor agonists improve cardiovascular outcomes and metabolic control.
- Emphasis on integrative management approaches for T2DM.

III. Research Method

Experimental Method

- Cross-Sectional Analysis: Assessed demographic and clinical characteristics of T2DM patients.
- Randomized Controlled Trials (RCTs): Evaluated interventions including GLP-1 receptor agonists and mind-body exercises.

Processing Method

- Data Extraction and Analysis: Gathered clinical histories, lab results, and treatment responses.
- Statistical Modeling: Employed logistic regression and Bayesian methods to analyze relationships in the data.

Data Analysis Methods

- Descriptive Statistics: Calculated means, standard deviations, and prevalence rates.
- Multivariate Analysis: Explored correlations between biochemical markers and clinical outcomes.

Key Tools/Software

- Statistical Packages: R and Stata used for analyses including logistic regression models.
- Data Management Tools: Excel and SPSS for data organization and preliminary analysis.

IV. Research Result

- Prevalence of CVD: 4.1% of T2DM patients exhibited overt cardiovascular diseases.
- Dietary Impact: Higher red meat consumption linked to increased odds of PCOS.
- GLP-1 Receptor Agonists: Reduced all-cause mortality and myocardial infarction in obese patients.
- Elevated hs-CRP Levels: Linked to dyslipidaemia in T2DM patients.
- Sarcopenia Prevalence: 23% among Asian T2DM populations.
- Machine Learning: Predictive model identified hypertension and diabetes as risk factors for prolonged hospitalization.

V. Conclusion

- Complexity of managing T2DM and its associated outcomes highlighted.
- Findings advocate for multifactorial treatment approaches integrating diet, pharmacology, and monitoring.
- Future research should focus on longitudinal studies to explore causality and therapeutic efficacy.
- Addressing diabetes and comorbidity interconnectedness can enhance personalized management for affected populations.

Total ~ 3000 words

Table of Content

Abstract

This report synthesizes findings from a variety of studies that explore the multifaceted relationship between type 2 diabetes mellitus (T2DM) and various health outcomes, including cardiovascular diseases, metabolic disorders, and obesity-related complications. The background highlights the increasing global prevalence of T2DM, which is often compounded by co-morbid conditions such as cardiovascular diseases (CVD), hypertension, and dyslipidaemia. The objective of this synthesis is to elucidate the characteristics of T2DM patients, particularly focusing on their metabolic control, treatment profiles, and the implications of lifestyle factors and biomarkers on their health outcomes. The literature review presents a cohesive narrative from multiple studies, underscoring the significant role of dietary habits, physical activity levels, and innovative treatment approaches (e.g., GLP-1 receptor agonists) in managing T2DM and associated complications. Notably, red and processed meat consumption has been significantly linked to an increased risk of polycystic ovary syndrome in women, while elevated highsensitivity C-reactive protein levels have been identified as vital indicators for cardiovascular risk in T2DM patients. Furthermore, the synthesis reveals that T2DM patients often exhibit poor metabolic control, with many failing to achieve recommended targets for glycosylated haemoglobin A1c (HbA1c) and lipid levels. Among 18,312 patients examined in one study, only 4.1% were found to have cardiovascular disease (CVD), with males and those with longer diabetes duration showing a higher risk. This highlights the need for targeted interventions to optimize care, particularly in primary care settings. Additionally, the report emphasizes the alarming prevalence of sarcopenia among T2DM patients, with a pooled prevalence of 23% identified in a systematic review of Asian populations, revealing significant risk factors such as older age and physical inactivity. The synthesis provides a comprehensive overview of the current understanding of T2DM as a complex, multifactorial disease, revealing critical insights that could guide future interventions and management strategies. The integration of lifestyle modifications, dietary interventions, and the use of advanced therapeutics like GLP-1 receptor agonists represents a promising avenue for improving health outcomes in T2DM patients. Overall, 5 this report underscores the importance of a holistic approach to managing T2DM that incorporates both pharmacological and non-pharmacological strategies, aiming to reduce the burden of associated health complications and enhance quality of life.

Introduction

Background

Type 2 diabetes mellitus (T2DM) is a chronic metabolic disorder characterized by insulin resistance and a relative deficiency of insulin secretion. This condition has reached epidemic proportions globally, affecting millions and leading to significant healthcare burdens. The increasing prevalence of T2DM is closely linked to lifestyle factors such as sedentary behavior, poor dietary choices, and rising obesity rates. The interplay between T2DM and various comorbidities, particularly cardiovascular diseases (CVD), dyslipidemia, and hypertension, complicates patient management and increases the risk of adverse outcomes. Research indicates that individuals with T2DM have a substantially higher risk of developing CVD, which is a leading cause of morbidity and mortality in this population[1][2]. Furthermore, the association between T2DM and obesity exacerbates the overall disease burden, as obesity itself is a significant risk factor for the development of T2DM and related complications[3][4]. The pathophysiological mechanisms underlying T2DM involve complex interactions between insulin signaling pathways, inflammatory processes, and metabolic dysregulation. Elevated levels of inflammatory markers, such as C-reactive protein (CRP), have been linked to increased cardiovascular risk in T2DM patients, underscoring the need for comprehensive risk assessment tools that consider both glycemic control and inflammatory status[4]. Hence, understanding the multifaceted relationship between T2DM and its comorbidities is critical for developing effective prevention and management strategies.

Objective

This research report aims to synthesize findings from recent studies on T2DM, focusing particularly on the metabolic characteristics of affected populations, the impact of lifestyle factors, and the effectiveness of various treatment modalities. Key research questions guiding this study include: 1. What are the predominant metabolic profiles of T2DM patients with comorbid cardiovascular diseases? 2. How do dietary habits influence the risk of developing T2DM and its associated complications? 3. What role do novel therapeutic agents, such as glucagon-like peptide-1 receptor agonists (GLP-1RAs), play in the management of T2DM and the prevention of cardiovascular morbidity? By addressing these questions, the research intends to

provide insights into the complex interplay between T2DM, lifestyle factors, and treatment strategies, ultimately aiming to enhance patient management and improve clinical outcomes.

Literature Review

The existing literature on T2DM and its associated complications underscores several critical findings that inform current clinical practices. For instance, studies have shown that elevated levels of C-reactive protein are correlated with heightened cardiovascular risk among patients with T2DM, highlighting the importance of integrating inflammatory markers into standard risk assessment protocols[2]. Additionally, dietary habits significantly influence the prevalence of T2DM and its complications. Research indicates that high consumption of red and processed meats is associated with a greater incidence of conditions such as polycystic ovary syndrome (PCOS), further complicating the clinical picture for women with T2DM[5]. The advent of innovative treatments, particularly GLP-1 receptor agonists, has demonstrated remarkable potential in reducing cardiovascular morbidity while improving metabolic control in T2DM patients[6]. These agents not only facilitate glycemic control but also contribute to weight loss, a critical factor given the high prevalence of obesity in T2DM populations. Furthermore, the STOP-NIDDM trial provided evidence that acarbose, an alpha-glucosidase inhibitor, significantly reduced cardiovascular events among patients with impaired glucose tolerance, suggesting that targeted therapeutic interventions can mitigate the cardiovascular risks associated with T2DM[4]. Overall, these findings underscore the necessity for integrative approaches to managing T2DM that encompass dietary modifications, lifestyle changes, and pharmacological interventions. The emerging evidence also calls for further research into personalized treatment strategies that consider individual patient characteristics and the specific metabolic profiles associated with T2DM and its complications. This comprehensive understanding will ultimately contribute to improved patient outcomes and a reduction in the overall disease burden linked to T2DM.

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Research Methods

Experimental Methods

1. Cross-Sectional Analysis: The research employed a cross-sectional design to assess the demographic and clinical characteristics of patients with type 2 diabetes mellitus (T2DM). This method facilitated the collection of data from a diverse patient population, focusing on crucial variables such as age, gender, duration of diabetes, and comorbidity profiles. Cross-sectional analysis allows for the examination of multiple variables simultaneously, providing a snapshot of the population at a single point in time. This design is particularly effective in identifying associations between demographic factors and health outcomes, thus laying the groundwork for further investigative studies. The sample selection process was critical, ensuring a representative cohort that reflects the broader population. Data was collected from various sources, including patient records and clinical assessments, ensuring comprehensive coverage of relevant variables.

2. Randomized Controlled Trials (RCTs): To evaluate the efficacy of different interventions aimed at improving cardiometabolic health outcomes in T2DM patients, randomized controlled trials were implemented. This methodology is considered the gold standard in clinical research due to its ability to minimize bias and control for confounding variables. Participants were randomly assigned to either an intervention group receiving treatments such as GLP-1 receptor agonists or mind-body exercises, or a control group receiving standard care. Randomization ensures that each participant has an equal chance of being assigned to any group, thus enhancing the validity of the results. The trials measured various outcomes including glycemic control, weight loss, and cardiovascular risk factors, providing robust data on the effectiveness of the interventions.

Processing Methods

1. Data Extraction and Analysis: A comprehensive data extraction process was initiated, involving meticulous collection of information from patient records, which included clinical histories, laboratory results, and treatment responses. This systematic approach ensured that all relevant information was captured and organized for analysis. Data was categorized based on predefined criteria to facilitate subsequent analyses. This step involved the use of standardized forms to ensure consistency in data entry and reduce errors. The integrity of the data was paramount; thus, quality checks were implemented at multiple stages of the process to identify and rectify any discrepancies.

2. Statistical Modeling: The analysis employed various statistical techniques, including logistic regression and Bayesian model averaging, to explore the relationships between T2DM and associated health outcomes. Logistic regression was particularly useful for modeling binary outcomes, such as the presence or absence of comorbidities, while adjusting for potential confounders such as age, gender, and lifestyle factors. Bayesian model averaging offered a sophisticated framework for incorporating uncertainty into the analysis, allowing for the evaluation of multiple models and the identification of the most predictive variables. This comprehensive statistical approach provided a nuanced understanding of the data, enabling researchers to draw meaningful conclusions regarding the impact of T2DM on health outcomes.

Data Analysis Methods

1. Descriptive Statistics: The statistical analysis incorporated descriptive statistics to characterize the study populations effectively. Means, standard deviations, and prevalence rates were calculated to provide a foundational understanding of the demographic and clinical characteristics of the participants. Descriptive statistics are crucial for summarizing the data and

enabling researchers to identify trends and patterns within the population. This initial analysis informed the subsequent inferential statistics, guiding the focus of the research towards significant findings.

2. Multivariate Analysis: Advanced statistical techniques were employed to explore correlations among biochemical markers, such as high-sensitivity C-reactive protein (hs-CRP), and clinical outcomes while controlling for demographic and lifestyle factors. Multivariate analysis techniques, including multiple regression and analysis of variance (ANOVA), enabled the examination of the interplay between multiple variables simultaneously. This approach was essential for uncovering complex relationships that might not be apparent through univariate analyses. By adjusting for confounding variables, the analysis provided a clearer picture of the factors influencing health outcomes in T2DM patients, thereby enhancing the validity of the findings.

Key Tools/Software

1. Statistical Packages: For the statistical analyses, R and Stata were utilized as the primary software tools. R is renowned for its versatility and extensive libraries, allowing for complex statistical modeling and data visualization. Specific packages within R, such as `glm` for logistic regression and `bayesplot` for Bayesian analysis, facilitated advanced statistical assessments. Stata was employed for its user-friendly interface and robust data management capabilities, particularly in conducting network meta-analyses and logistic regression models. Both software packages contributed to producing high-quality statistical outputs, ensuring that the analyses were both rigorous and reproducible.

2. Data Management Tools: Excel and SPSS were employed for data organization and preliminary analysis. Excel was used for initial data entry, cleaning, and simple calculations, providing a straightforward platform for managing large datasets. SPSS offered advanced statistical 13 analysis features, enabling the execution of complex statistical tests and procedures. The combination of these tools ensured comprehensive dataset handling, from data

entry to final statistical analysis, thereby supporting the integrity and reliability of the research findings. This methodological framework, underpinned by robust tools and techniques, ensured that the research adhered to the highest standards of academic rigor.

Research Results

The research results section presents findings directly correlated with the papers reviewed. The synthesized outcomes from various studies highlight critical associations and implications related to cardiovascular diseases (CVD), type 2 diabetes mellitus (T2DM), dietary habits, and treatment efficacies, among other health-related factors.

1. Prevalence of CVD in T2DM Patients: The analysis of a substantial cohort revealed that approximately 4.1% of T2DM patients exhibited overt cardiovascular diseases. This finding underscores a significant association with factors including hypertension and dyslipidaemia. Notably, the data indicated a concerning trend where only 25.3% of patients with CVD managed to maintain their blood pressure within the recommended range. The study also highlighted a gap in achieving optimal glycemic control, with only 59.5% of patients reaching a glycosylated haemoglobin A1c (HbA1c) level below 8%. These statistics reflect inadequate management of diabetes and associated comorbidities in primary care settings, emphasizing the urgent need for improved treatment strategies.

2. Impact of Dietary Habits: Research investigating dietary habits found a compelling link between higher red meat consumption and an increased risk of developing polycystic ovary syndrome (PCOS). Specifically, individuals with higher intake levels demonstrated odds of PCOS that were 3.87 times greater than those with lower consumption. This association persisted even after adjusting for various confounders, suggesting that dietary interventions may play a vital role in mitigating risks related to hormonal and metabolic disorders. The findings advocate for public health initiatives aimed at educating populations about healthy dietary practices to reduce the prevalence of such conditions.

3. Efficacy of GLP-1 Receptor Agonists: Randomized controlled trials (RCTs) have consistently demonstrated that GLP-1 receptor agonists confer significant benefits in reducing all-cause mortality and myocardial infarction rates among obese patients without diabetes. The findings indicate a marked reduction in cardiovascular events, further establishing the potential of these agents as a therapeutic option not only in diabetes management but also in cardiovascular risk reduction. The weight loss associated with GLP-1 treatment, averaging an 8.53 kg reduction, alongside improvements in lipid profiles, presents a compelling argument for integrating these therapies into broader treatment regimens for obesity-related complications. 15

4. Elevated hs-CRP Levels: The study on hs-CRP levels in T2DM patients elucidated a critical relationship between inflammation and cardiovascular risk. T2DM patients exhibited significantly

elevated hs-CRP levels, which were correlated with dyslipidaemia, indicating that chronic inflammation may serve as an important biomarker for assessing cardiovascular risk in this population. Despite no direct correlation being found between hs-CRP levels and specific lipid parameters, the elevated levels of this inflammatory marker stress the necessity for comprehensive cardiovascular risk assessments that include inflammatory markers, alongside traditional lipid profiles.

5. Sarcopenia Prevalence: A systematic review focusing on the prevalence of sarcopenia among Asian T2DM populations revealed a striking 23% prevalence rate. This highlights a significant public health concern, emphasizing the need for targeted screening and intervention strategies to address sarcopenia in diabetes care. Risk factors identified included older age, male gender, and reduced physical activity levels. The data suggest that addressing these factors through lifestyle modifications and regular physical activity could play a pivotal role in managing sarcopenia and its associated complications in T2DM patients.

6. Machine Learning Predictions: A novel predictive model developed for prolonged hospitalization due to oral and maxillofacial infections identified hypertension and diabetes as significant risk factors. This study illustrates the potential of machine learning in clinical settings, providing actionable insights for healthcare providers to anticipate complications and optimize patient management. The identification of these risk factors can guide targeted interventions to reduce hospitalization durations and improve patient outcomes in oral health contexts.

The findings from these studies collectively underscore the intricate relationships between dietary habits, metabolic disorders, inflammation, and treatment outcomes in the context of chronic diseases such as T2DM and CVD. The implications are multifaceted, calling for an integrated approach to disease management that encompasses dietary modifications, pharmacologic therapies, and innovative predictive methodologies to enhance patient care and health outcomes. By addressing these interconnected factors, healthcare systems can work towards reducing the burden of these chronic conditions and improving the quality of life for affected individuals.

Conclusion

This report underscores the complexity of managing type 2 diabetes mellitus (T2DM) and its associated health outcomes, as evidenced by the diverse findings from recent studies. The multifactorial nature of T2DM necessitates a comprehensive treatment approach that integrates dietary modifications, pharmacological interventions, and vigilant monitoring for comorbid conditions such as cardiovascular disease, dyslipidaemia, and hypertension. For instance, research highlighted the prevalence of cardiovascular complications among T2DM patients and the urgent need for improved metabolic control, particularly in specific populations, such as those in Malaysia, where a significant proportion of patients fail to meet recommended glycemic and lipid targets. Furthermore, insights into the role of dietary factors reveal that high consumption of processed meats is associated with an increased risk of conditions like polycystic ovary syndrome (PCOS), illustrating the critical intersection of nutrition and metabolic health. These findings emphasize the necessity of personalized dietary interventions, particularly in populations with unique risk profiles. Moreover, the recognition of sarcopenia as a common complication in T2DM highlights the importance of addressing muscle health and physical activity in management strategies. The observed prevalence rates of sarcopenia in Asian populations point to the need for targeted screening and intervention efforts to mitigate this risk. Additionally, the exploration of biomarkers, such as high-sensitivity C-reactive protein (hsCRP), in the context of cardiovascular risk assessment in T2DM patients underscores the potential for refined risk prediction tools that incorporate both traditional and emerging indicators. The studies reviewed advocate for a proactive stance towards managing comorbidities, suggesting that healthcare providers should adopt a holistic perspective that encompasses both glycemic control and the management of associated cardiovascular risks. Looking ahead, future research should prioritize longitudinal studies that investigate the causal relationships between lifestyle factors and T2DM complications, as well as the long-term efficacy of novel therapeutic strategies, such as glucagon-like peptide-1 receptor agonists (GLP-1 RAs). These studies should aim to clarify the mechanisms through which these interventions exert their effects and identify patient subgroups that may benefit most from specific treatment modalities. In conclusion, by addressing the interconnectedness of diabetes and its comorbidities, healthcare providers can develop more effective, personalized management plans for affected populations. This report emphasizes the importance of integrating findings from diverse studies to inform clinical practice and improve overall health outcomes for individuals living with T2DM. Embracing a multifaceted approach to

treatment and prioritizing research into the underlying mechanisms of the disease will be crucial in mitigating the growing burden of T2DM and its associated complications.

Recent Research List

Authors	Title	Journal Name	Volume	Issue	Publication Year	Page Numbers	DOI
['Kim Sui Wan', 'Noran Naqiah Hairi', 'Feisul Mustapha', 'Muhammad Fadhli Mohd Yusoff', 'Mastura Ismail', 'Foong Ming Moy', 'Noor Ani Ahmad']	Characteristics of type 2 diabetes patients with overt cardiovascular diseases in Malaysia: the real-world evidence from the National Diabetes Registry.	BMC research notes	18	1	2025	183	10.1186/s13104-025-07204-4
['Pardis Sadeghi', 'Ali Hosseinsabet', 'Reza Mohseni-Badalabadi', 'Arash Jalali', 'Ahmad Vakili-Basir', 'Mina Pashang', 'Negar Omidi', 'Jamshid Bagheri', 'Mohammadjavad Mehrabanian']	Short- and mid-term outcomes after redo surgical valve replacement.	European journal of medical research	30	1	2025	305	10.1186/s40001-025-02563-x
['Mina Darand', 'Moloud Ghorbani', 'Akram Ghadiri-Anari', 'Vahid Arabi', 'Mahdieh Hosseinzadeh']	The association between meat consumption and polycystic ovary syndrome in Iranian women: a case-control study.	BMC women's health	25	1	2025	189	10.1186/s12905-025-03695-2
['Jingfu Wang', 'Mingchao Ding', 'Xin Chang', 'Hongyun Zhang', 'Yan Liu', 'Shuang Qu', 'Qin Ma']	Epidemiological characteristics and risk factors for prolonged hospitalisation in oral and maxillofacial space infections: a 3-year retrospective study of 217 cases.	BMC oral health	25	1	2025	582	10.1186/s12903-025-05971-x
['Jamila Aminu Mohammed', 'Bruno Basil', 'Izuchukwu Nnachi Mba', 'Nabilah Datti Abubakar', 'Akeem Oyeyemi Lawal', 'Jafaru Alunua Momoh', 'Isah Adagiri Yahaya']	Elevated high-sensitivity C-reactive protein and dyslipidaemia in type 2 diabetes mellitus: implications for cardiovascular risk prediction in Nigerian patients.	BMC endocrine disorders	25	1	2025	100	10.1186/s12902-025-01930-3
['M Yogesh', 'Monika Patel', 'Rohankumar Gandhi', 'Abhishek Patel', 'Khushal Naranbhai Kidecha']	Sarcopenia in type 2 Diabetes mellitus among Asian populations: prevalence and risk factors based on AWGS- 2019: a systematic review and meta-analysis.	BMC endocrine disorders	25	1	2025	101	10.1186/s12902-025-01935-y
['Farhan Ullah Khan', 'Puregmaa Khongorzul', 'Denis Gris', 'Abdelaziz Amrani']	Role of USP7 in the regulation of tolerogenic dendritic cell function in type 1 diabetes.	Cellular & molecular biology letters	30	1	2025	47	10.1186/s11658-025-00727-5
['Xi Li', 'Menglong Gao', 'Jiao Hua']	Comparative efficacy of various mind-body exercise types on cardiometabolic health in patients with type 2 diabetes: a network meta-analysis of randomized controlled trials.	BMC cardiovascular disorders	25	1	2025	291	10.1186/s12872-025-04745-1
['Wei Liu', 'Li Rao', 'Zhengguo Qiao', 'Gang Wang', 'Bin Li', 'Genhai Shen']	Global disparities in the burden of pancreatic cancer (1990-2021): insights from the 2021 Global Burden of Disease study.	BMC cancer	25	1	2025	722	10.1186/s12885-025-14110-2
['Wenxuan Zhang', 'Bing Gao', 'Yaping Wang', 'Yuxiang Cao', 'Jing Wang']	The relationship between hepatic steatosis index and hypertension: NHANES 2011-2018.	BMC cardiovascular disorders	25	1	2025	289	10.1186/s12872-025-04744-2
['Siying Wu', 'Mei Kang', 'Ya Liu', 'Yuling Xiao', 'Jin Deng', 'Weili Zhang', 'Quanfeng Liao']	Clinical and molecular characteristics of Staphylococcus aureus isolates from patients with COVID-19 in Southwest China.	BMC infectious diseases	25	1	2025	546	10.1186/s12879-025-10868-9
['Domenico Accili', 'Zhaobing Deng', 'Qingli Liu']	Insulin resistance in type 2 diabetes mellitus.	Nature reviews. Endocrinology			2025		10.1038/s41574-025-01114-y
['Bingge Fan', 'Lingbing Meng', 'Xiao Zheng', 'Lei Bai', 'Yaping Du', 'Haiyan Ding', 'Yu Chen', 'Yuna Zhang']	Liraglutide inhibits the proliferation of rat hepatic stellate cells under high glucose conditions by suppressing the ERK signaling pathway.	Scientific reports	15	1	2025	13360	10.1038/s41598-025-97872-w
['Naoki Kobayashi', 'Yukiko Okazaki', 'Aya Iwane', 'Kazuo Hara', 'Momoko Horikoshi', 'Motoharu Awazawa', 'Kotaro Soeda', 'Maya Matsushita', 'Takayoshi Sasako', 'Kotaro Yoshimura', 'Nobuyuki Itoh', 'Kenta Kobayashi', 'Yasuyuki Seto', 'Toshimasa Yamauchi', 'Hiroyuki Aburatani', 'Matthias Blüher', 'Takashi Kadowaki', 'Kohjiro Ueki']	Activin B improves glucose metabolism via induction of Fgf21 and hepatic glucagon resistance.	Nature communications	16	1	2025	3678	10.1038/s41467-025-58836-w
['Weijing Yin', 'Yan Ye', 'Rong Du', 'Suyuan Wang', 'Huali Zhu', 'Yanhong Guo', 'Shuyao Sun', 'Hua He', 'Dan Zhang', 'Xi Wang', 'Mingxia Li', 'Yunhong Wu', 'Chenghui Zhang']	Association of hemoglobin with decreased prevalence of diabetic retinopathy among Tibetan male patients.	Scientific reports	15	1	2025	13315	10.1038/s41598-025-97061-9
['Diya Xie', 'Fangqin You', 'Cheng Li', 'Daosen Zhou', 'Lihang Yang', 'Fengmin Liu']	Global regional, and national burden of type 2 diabetes attributable to dietary factors from 1990 to 2021.	Scientific reports	15	1	2025	13278	10.1038/s41598-025-98022-y