

SS-001 — Sedentary Living and Social Disconnection: A Hidden Catalyst of the Global Health Crisis

Sedanter Yaşam ve Sosyal İzolasyon: Acil Tablolardan Kronik Hastalıklara Derinleşen Küresel Sağlık Krizi

Yazarlar / Authors (onaylı sıra): Mehmet Gün

Sunumu yapan / Presenting author: Mehmet Gün

Çalışma türü / Manuscript type: Anlatsal derleme / Narrative review

Bilim ve Yayın Kurullarının kabul ettiği tam metin. İçerik ve kaynakçalar gönderilen metinlere dayanır.

Title

Sedentary Living and Social Disconnection: A Hidden Catalyst of the Global Health Crisis

Author- Dr. Mehmet Gün

Affiliation Maltepe University Faculty of Medicine, Department of Emergency Medicine, Istanbul, Türkiye

Corresponding Author Dr. Mehmet Gün Şile State Hospital Istanbul, Turkey Email: mehmet.gun@maltepe.edu.tr

The author declares no conflicts of interest.

No funding was received for this study.

No real patient data were used; therefore, ethical approval was not required.

This manuscript has not been previously published and is not under consideration for publication elsewhere.

Sedentary Living and Social Disconnection: A Hidden Catalyst of the Global Health Crisis

Abstract

Background: Sedentary behavior and social disconnection are increasingly recognized as important and potentially modifiable contributors to the global burden of chronic disease and poor mental health. Modern lifestyles, digitalization, urban environments, and changing work patterns have contributed to reduced physical activity and social participation.

Methods: A narrative literature review was conducted using PubMed, Google Scholar, and World Health Organization databases. Relevant literature published between 2020 and 2026 was identified using terms related to sedentary behavior, physical inactivity, social isolation, loneliness, non-communicable diseases, mental health, and public health. Relevant peer-reviewed studies, systematic reviews, meta-analyses, and international health reports were synthesized.

Results: Globally, approximately 1.8 billion adults are insufficiently physically active, while more than 1 billion people are living with obesity. Insufficient physical activity is associated with cardiovascular disease, type 2 diabetes, cancer, reduced mobility, and premature mortality. Social isolation and loneliness are associated with depression, anxiety, cognitive decline, cardiovascular risk, and increased mortality. The coexistence of these factors may compound health risks and contribute to clinical presentations requiring medical evaluation, including acute exacerbations of chronic cardiometabolic and mental health conditions.

Conclusion: Sedentary living and social disconnection represent interconnected public health challenges extending from chronic disease prevention to clinical and acute care settings. Addressing these risks requires coordinated strategies involving active urban design, physical activity promotion, social participation, community-based interventions, and the integration of lifestyle and social determinants of health into primary care, medical education, and public health policies.

Özet

Giriş ve Amaç: Sedanter davranış ve sosyal kopukluk, kronik hastalık yükü ve kötü ruh sağlığına katkıda bulunan, giderek daha fazla önem kazanan ve değiştirilebilir halk sağlığı sorunlarıdır. Modern yaşam biçimleri, dijitalleşme, kentsel çevreler ve değişen çalışma düzenleri fiziksel aktivitenin ve sosyal katılımın azalmasına katkıda bulunmaktadır.

Yöntem: Bu anlatsal derlemede PubMed, Google Scholar ve Dünya Sağlık Örgütü (DSÖ) veri tabanları kullanılarak 2020–2026 yılları arasında yayımlanan ilgili literatür taranmıştır. Aramalarda sedanter davranış, fiziksel inaktivite, sosyal izolasyon, yalnızlık, bulaşıcı olmayan hastalıklar, ruh sağlığı ve halk sağlığı ile ilişkili anahtar kelimeler kullanılmıştır. Konuyla ilişkili hakemli çalışmalar, sistematik derlemeler, meta-analizler ve uluslararası sağlık raporları değerlendirilmiştir.

Bulgular: Küresel olarak yaklaşık 1,8 milyar yetişkinin yeterli düzeyde fiziksel aktivite yapmadığı, 1 milyardan fazla kişinin ise obezite ile yaşadığı bildirilmektedir. Yetersiz fiziksel aktivite; kardiyovasküler hastalık, tip 2 diyabet, kanser, hareket kısıtlılığı ve erken mortalite ile ilişkilidir. Sosyal izolasyon ve yalnızlık ise depresyon, anksiyete, bilişsel gerileme, kardiyovasküler risk ve

artmış mortalite ile ilişkilendirilmektedir. Bu faktörlerin birlikte bulunması sağlık risklerini artırabilir ve kardiyometabolik hastalıkların akut alevlenmeleri ile ruhsal sağlık sorunları dahil olmak üzere tıbbi değerlendirme gerektiren klinik başvurulara katkıda bulunabilir.

Sonuç: Sedanter yaşam ve sosyal kopukluk, kronik hastalıkların önlenmesinden klinik ve acil bakım süreçlerine kadar uzanan, birbiriyle ilişkili halk sağlığı sorunlarıdır. Bu risklerin azaltılması; aktif kentsel tasarım, fiziksel aktivitenin teşvik edilmesi, sosyal katılımın artırılması, toplum temelli müdahaleler ve yaşam tarzı ile sosyal belirleyicilerin birinci basamak sağlık hizmetlerine, tıp eğitime ve halk sağlığı politikalarına entegre edilmesini içeren koordineli stratejiler gerektirmektedir.

1.Introduction

In today's hyper-connected yet physically inactive world, people move less than ever before. Lifestyle changes have replaced many forms of daily physical activity. Meals are delivered rather than prepared. Entertainment is streamed instead of experienced in public spaces like cinemas. Children play indoors on screens rather than outdoors with peers. Even physical activity is increasingly confined to home fitness routines, or, for many, neglected altogether. This shift, while efficient, fuels a lifestyle that is both sedentary and socially isolating [1]. According to the World Health Organization (2024), over 1.8 billion adults globally are at risk of developing chronic conditions due to insufficient physical activity [2].

These lifestyle-driven health burdens extend beyond obesity to include cardiovascular disease, diabetes, and other non-communicable diseases. At the same time, rising levels of social isolation—particularly among youth and older adults—are associated with depression, anxiety, cognitive decline, cardiovascular risk, and even premature mortality . Together, sedentary behavior and social disconnection form a dual public health challenge, reinforcing one another and amplifying risks to physical, mental, and societal well-being [3,4].

Sedentary behavior and social isolation are not only the result of personal choices but are also shaped by factors such as digitalization, urban design, and modern work patterns [5]. These factors are often linked to making inactivity and isolation more prevalent aspects of daily life. Physical inactivity and social isolation have often been studied separately in public health, but today they increasingly overlap and, when considered together, represent a significant risk factor for population health.

However, the impact of these factors is not uniform across societies. The drivers and health consequences of sedentary behavior and social isolation differ depending on socioeconomic status, cultural norms, and geography[6]. In high-income cities, sedentary behavior is often linked to technology use and office-based occupations, whereas in low- and middle-income regions, it may be more associated with limited access to safe public spaces or cultural restrictions on outdoor activities. Evidence also indicates that individuals experiencing social isolation are more likely to engage in sedentary lifestyles and less likely to maintain regular physical activity, compounding health risks[7.] At the same time, urban environments reveal striking inequities, with social and structural conditions amplifying vulnerabilities in certain populations. Similarly, social isolation can look different across societies, driven by aging populations in some regions, and by urban migration or economic hardship in others. However, current research still largely reflects high-income contexts, with less attention to the diversity of experiences in lower-resource environments.

This review aims to synthesize recent evidence on sedentary living and social isolation as converging determinants of the global health crisis. It moves beyond fragmented findings to underscore the urgent need for prevention strategies and public health policies that simultaneously address this dual risk.

2.Methods

This study was conducted as a narrative review. The aim was to synthesize recent evidence on sedentary behavior and social isolation as dual determinants of global health.

Relevant sources were identified through targeted searches of PubMed, Google Scholar, and the World Health Organization (WHO) online databases. **Search terms included:** “sedentary behavior,” “sedentary lifestyles,” “physical inactivity,” “social isolation,” “social disconnection,” “loneliness,” “non-communicable diseases,” “obesity,” “cardiovascular disease,” “hypertension,” “type 2 diabetes,” “cancer,” “mental health,” “depression,” “anxiety,” “sleep disturbances,” “cognitive decline,” “Alzheimer’s disease,” “premature mortality,” “digitalization,” “urban design,” “active transport,” “remote work,” “public health policy,” and “urban environments.”

The search was limited to publications between 2020 and 2025, in order to capture post-pandemic lifestyle trends and the most up-to-date global health reports. Priority was given to peer-reviewed journal articles, systematic reviews, meta-analyses, and WHO publications. Reference lists of selected articles were also screened to identify additional relevant sources.

As this was not a systematic review, no formal inclusion or exclusion criteria were applied. Instead, studies were included based on their relevance to the thematic scope of the paper, with emphasis on evidence linking sedentary behavior and social disconnection to physical, mental, and societal health outcomes. The review also integrated policy-oriented reports to highlight implications for prevention and intervention.

3. Review of the Evidence

3.1.The Scope of the Crisis

Sedentary lifestyles and social disconnection are often overlooked as root causes of the global health crisis. These behaviors have quietly intensified over the past two decades, particularly with the advent of mobile technology, remote work, and urban environments that deprioritize active living. According to the World Health Organization (2024), more than 1 billion people globally are living with obesity, including approximately 890 million adults. Among children and adolescents aged 5–19, obesity rates have quadrupled since 1990. This epidemic is driven not only by calorie surplus but also by an alarming lack of daily physical movement[8].

Beyond obesity, sedentary living and social isolation also affect a wide range of health outcomes, including cardiovascular disease, type 2 diabetes, cancer, depression, Alzheimer’s disease and premature mortality[9]. According to the World Health Organization, around **4–5 million deaths per year could be averted** if people were more physically active worldwide [10]. In addition, nearly **1.8 billion adults globally are now at risk of preventable diseases** due to insufficient physical activity [2]. Recent global estimates show that about **31% of adults and 80% of adolescents fail to meet recommended activity levels**, underlining the persistence of inactivity as a leading risk factor [11]. At the same time, social isolation and loneliness are consistently linked to poor health outcomes, with pooled analyses of more than 90 cohort studies showing a **1.32-fold increased risk of premature mortality** among socially isolated individuals [12]. Taken together, these findings highlight that the scope of the crisis extends far beyond obesity, encompassing both physical and psychological health burdens.

3.2 Psychosocial and Mental Health Consequences

Social isolation contributes to increased rates of depression and anxiety, both of which are well-established mental health outcomes. The World Health Organization (2021) identifies social isolation as a growing concern, especially among older adults and youth who spend more time interacting with screens than peers [13]. It is also strongly associated with **sleep** disturbances and suicidal behavior, further highlighting its psychological impact. In addition to these mental health consequences, social isolation has been linked to cognitive decline and Alzheimer’s disease, outcomes that are more accurately understood as neurological in nature, particularly in aging populations [14]. Loneliness and disconnection are now recognized as behavioral risk factors that compromise both mental health and neurological integrity [15].

3.3 Physical Health Outcomes

Prolonged inactivity affects metabolic function, circulation, musculoskeletal strength, and immune resilience. It contributes to obesity, type 2 diabetes, hypertension, and several forms of cancer, underscoring its role as a major public health concern [9,16]. The interplay between inactivity and poor mental health creates a reinforcing cycle that undermines both physical and emotional well-being [17].

3.4 Underlying Causes

- Increased reliance on digital services and entertainment
- Urban design that deprioritizes walking and active transport
- Normalization of remote work and home-based leisure
- Sedentary behavior becoming culturally accepted
- Limited public awareness of the health risks associated with inactivity and isolation

4. Public Health and Economic Implications

The economic burden of lifestyle-driven health issues is immense. Rising rates of chronic disease result in higher healthcare costs, reduced workforce productivity, and increased disability. The World Health Organization (2024) highlights the need for urgent multi-sectoral policies to promote physical activity, redesign cities for movement, and reintegrate social connection into public life.

5. Recommendations and Solutions

- Promote active urban infrastructure (parks, bike paths, pedestrian zones)
- Integrate movement breaks and social engagement in schools and workplaces
- Launch public awareness campaigns about sedentary risks and social disconnection
- Monitor physical activity levels in primary care screenings
- Support grassroots community activities that foster physical and social participation [18,19].

6. Policy Implications The growing overlap between sedentary living and social isolation highlights the need for coordinated health policies that go beyond individual behavior change. National governments and local authorities are encouraged to prioritize active urban design, support school and workplace programs that integrate physical activity with social participation, and fund community initiatives that reduce loneliness. Embedding these priorities into existing non-communicable disease prevention strategies could help reduce long-term healthcare costs, improve quality of life, and create healthier, more connected societies.

However, while these recommendations are valuable, their applicability is not universal, as their implementation may face significant limitations. Active urban planning or community-based programs are more feasible in high-income countries, where resources and infrastructure already exist. In contrast, low- and middle-income settings may face barriers such as limited budgets, the lack of safe public spaces, and cultural constraints. Policymakers should therefore adapt interventions to local conditions to ensure that strategies are realistic, equitable, and sustainable.

The key risks, strategies, and barriers are summarized in Table 1, while their interrelations are illustrated in Figure 1.

7. Limitations

This study has several limitations. First, it is a narrative review and not a systematic one, which limits the strength of its conclusions. Second, most of the available studies are from high-income countries, so the findings may not fully reflect the situation in low- and middle-income settings. Third, the recommendations proposed here may be difficult to implement in practice, especially in resource-limited contexts, due to financial, infrastructural, and cultural barriers.

8. Conclusion

Sedentary living and social disconnection are interlinked contributors to a growing global health crisis. Their cumulative impact is reflected in rising rates of non-communicable diseases, mental health disorders, and societal fragmentation. **This review underscores the urgent need to recognize and address these behavioral risks within the global health policy agenda.** Future research should prioritize community-level strategies that simultaneously promote physical activity and meaningful social participation across the life course.

9. Declaration

The author conducted the conception, design, evaluation, and writing of this study independently. The author declares no conflicts of interest. No funding was received for this study. No real patient data were used; therefore, ethical approval was not required. Consent to Publish declaration: not applicable. Consent to Participate declaration: not applicable. This manuscript has not been previously published and is not under consideration for publication elsewhere.

References

1. World Health Organization. Social isolation and loneliness among older people: advocacy brief. Geneva: World Health Organization; 2021.
2. World Health Organization. Nearly 1.8 billion adults at risk of disease from insufficient physical activity. WHO News. 2024 Jun 26. Available from: <https://www.who.int/news/item/26-06-2024-nearly-1.8-billion-adults-at-risk-of-disease-from-not-doing-enough-physical-activity>
3. Cené CW, Beckie TM, Sims M, et al. Effects of objective and perceived social isolation on cardiovascular and brain health: a scientific statement from the American Heart Association. J Am Heart Assoc. 2022;11(16):e026493. <https://doi.org/10.1161/JAHA.122.026493>
4. Holt-Lunstad J. Social connection as a critical factor for mental and physical health: evidence, trends, challenges, and future implications. World Psychiatry. 2024;23(3):312-22. <https://doi.org/10.1111/wps.13328>
5. Stappers NEH, Bekker MPM, Jansen MWJ, et al. Effects of major urban redesign on sedentary behavior, physical activity, active transport and health-related quality of life in adults. BMC Public Health. 2023;23(1):1157. <https://doi.org/10.1186/s12889-023-16277-x>
6. Werneck AO, Araujo RH, Oyeyemi AL, Silva DR. Social isolation is associated with higher leisure-time sedentary behavior and lower physical activity practice: a multi-country analysis of data from 79 countries from the Global School-Based Student Health Survey. Prev Med. 2023;175:107677. <https://doi.org/10.1016/j.ypmed.2023.107677>
7. Cacciatore S, Mao S, Nuñez MV, et al. Urban health inequities and healthy longevity: traditional and emerging risk factors across the cities and policy implications. Aging Clin Exp Res. 2025;37(1):143. <https://doi.org/10.1007/s40520-024-02685-z>
8. World Health Organization. Obesity and overweight. WHO Fact Sheet. 2024. Available from: <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>
9. Duncan MJ, Murphy L, Oftedal S, et al. The associations between physical activity, sedentary behaviour, and sleep with mortality and incident cardiovascular disease, cancer, diabetes and mental health in adults: a systematic review and meta-analysis of prospective cohort studies. J Activity Sedentary Sleep Behav. 2023;2(1):19. <https://doi.org/10.1186/s43152-023-00019-y>
10. World Health Organization. Physical activity. Geneva: WHO; 2024. Available from: <https://www.who.int/health-topics/physical-activity>
11. Strain T, Wijndaele K, Garcia L, et al. National, regional, and global trends in insufficient physical activity among adults from 2000 to 2022, with projections to 2030: a systematic analysis of the Global Burden of Disease Study. Lancet Glob Health. 2024;12(6):e894–906.

12. Wang F, Gao Y, Han Z, Yu Y, Long Z, Jiang X, et al. A systematic review and meta-analysis of 90 cohort studies of social isolation, loneliness and mortality. *Nat Hum Behav.* 2023;7(8):1307–19.
13. World Health Organization. Social isolation and loneliness among older people: advocacy brief. Geneva: World Health Organization; 2021.
14. Shafighi K, Villeneuve S, Rosa Neto P, et al. Social isolation is linked to classical risk factors of Alzheimer’s disease-related dementias. *PLoS One.* 2023;18(2):e0280471.
15. Holt-Lunstad J. Social connection as a critical factor for mental and physical health: evidence, trends, challenges, and future implications. *World Psychiatry.* 2024;23(3):312-22.
16. Kerr NR, Booth FW. Contributions of physical inactivity and sedentary behavior to metabolic and endocrine diseases. *Trends Endocrinol Metab.* 2022;33(12):817–27.
17. Chang de Pinho I, Giorelli G, Oliveira Toledo D. A narrative review examining the relationship between mental health, physical activity, and nutrition. *Discov Psychol.* 2024;4(1):162
18. Jacob CM, Hardy-Johnson PL, Inskip HM, Morris T, Parsons CM, Barrett M, et al. A systematic review and meta-analysis of school-based interventions with health education to reduce body mass index in adolescents aged 10 to 19 years. *Int J Obes (Lond).* 2022;46(5):811–20.
19. Wolbring L, Schmidt SCE, Niessner C, Woll A, et al. Community networks of sport and physical activity promotion: an analysis of structural properties and conditions of cooperation. *BMC Public Health.* 2022;22(1):268.

Table 1. Key Risks, Strategies, and Barriers Related to Sedentary Behavior and Social Isolation

Domain

Main Risks

Proposed Strategies

Potential Barriers

Sedentary Lifestyle

Obesity, cardiovascular disease, type 2 diabetes, cancer, and reduced mobility.

Promote physical activity through urban planning, provide activity breaks in schools and workplaces, and launch public awareness campaigns.

Urban designs that deprioritize active transport, limited public awareness, and the cultural acceptance of sedentary lifestyles.

Social Isolation

Depression, anxiety, cognitive decline, cardiovascular risk, and premature mortality.

Increase social participation in schools and workplaces, and support community initiatives that reduce loneliness.

Lack of safe public spaces, stigma, and unequal access to resources.

Modern Lifestyle Patterns

High screen time, irregular sleep, and unhealthy diet.

Promote multi-sectoral policies for physical activity, and redesign cities for movement.

Over-reliance on digital services and entertainment.

Public Health & Economic Implications

Higher healthcare costs, reduced workforce productivity, and increased disability rates.

Recommendations aim to reduce long-term healthcare costs and build healthier, more connected societies.

Limited budgets, workforce shortages, and infrastructural deficiencies.

Table 1. Summary of the main risks, strategies, and barriers related to sedentary behavior and social isolation. The table highlights how lifestyle factors and systemic conditions contribute to health outcomes and the importance of multi-sectoral interventions.