



RADON EXPOSURE IN URBAN RESIDENTIAL AREAS OF TASHKENT: A PUBLIC HEALTH RISK ASSESSMENT (2020-2024)

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Introduction

Radon, a colorless and odorless radioactive gas, is a byproduct of uranium decay in soil, rock, and water. It accumulates in enclosed spaces, particularly in basements and ground floors, posing a significant health risk. Chronic exposure to elevated radon concentrations has been linked to an increased risk of lung cancer, contributing to 3-14% of cases globally, as reported by the World Health Organization (WHO). While radon exposure has been extensively studied in many parts of the world, research on radon levels in Uzbekistan remains limited. This study investigates the concentration of radon in Tashkent's residential areas over the period 2020-2024, evaluating the associated public health risks.

Main Part

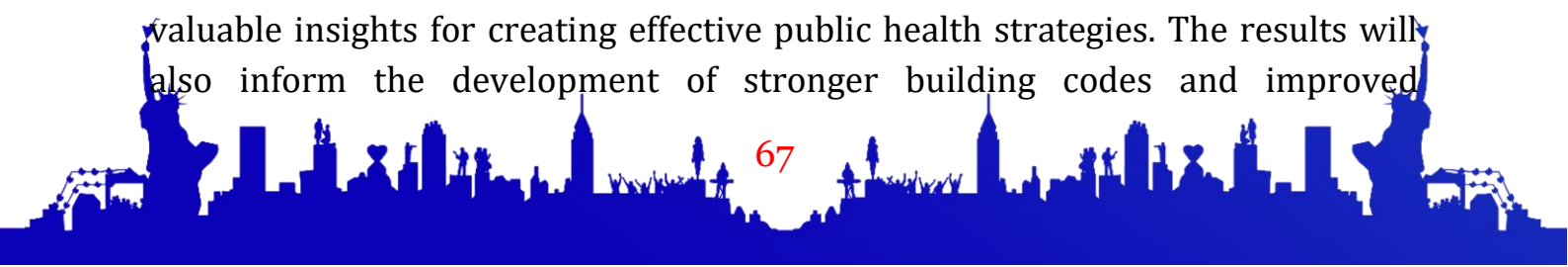
The objective of this research is to conduct a thorough investigation of radon accumulation across various residential settings in Tashkent. Radon levels will be measured in different rooms of selected buildings, including basements, living areas, and bedrooms. Factors such as construction materials, soil type, and ventilation systems, all of which affect radon levels, will be closely analyzed.

The research will employ a combination of sanitary-descriptive, instrumental, analytical, and statistical methods. High-precision radon detectors will be used to record real-time radon concentrations. A total of 100 residential buildings, including both high-rise apartments and single-story houses, will be randomly selected for data collection. A comparative analysis will be performed to understand the variation in radon levels based on building type, geographical location, and construction materials.

The findings will highlight trends in radon distribution across Tashkent's residential zones, identifying areas with elevated health risks. The study will also assess public awareness of radon-related health dangers and review the effectiveness of current mitigation practices.

Conclusion

By pinpointing areas with high radon concentrations and understanding the contributing environmental and construction factors, this study will provide valuable insights for creating effective public health strategies. The results will also inform the development of stronger building codes and improved

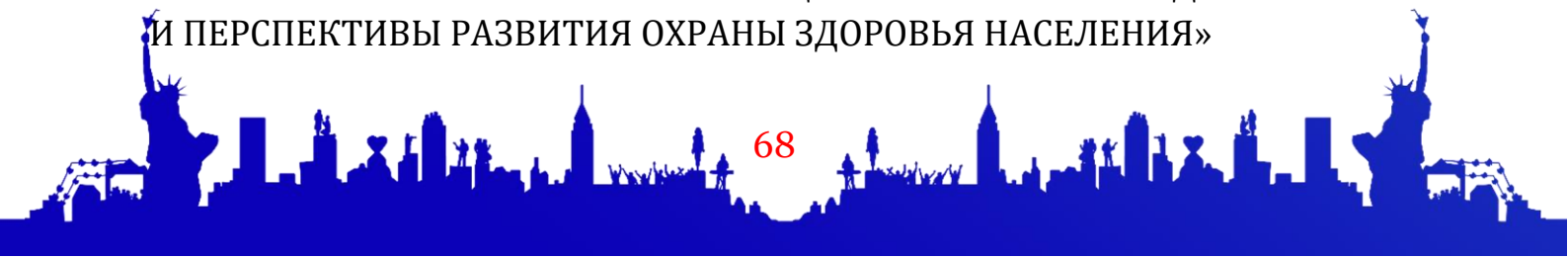




ventilation practices, which are essential for reducing the risk of lung cancer linked to radon exposure in Uzbekistan.

References:

1. Рахимов Б.Б. Особенности заболеваемости детей и подростков Республики Узбекистан, страдающих ожирением. Гигиена и санитария. 2017; 96(3): 274-7. <https://doi.org/10.18821/0016-9900-2017-96-3-274-277>
2. Рахимов, Б. Б., Саломова, Ф. И., Жалолов, Н. Н., Султонов, Э. Ю., & Облакулов, А. Г. (2023). Оценка качества атмосферного воздуха в городе навои, республика Узбекистан: проблемы и решения. In Сборник трудов по материалам Международной научно-практической конференции
3. Шайхова Г.И., Рахимов Б.Б. Пропаганда принципов рационального питания при ожирении // Медицинский журнал Узбекистана. Ташкент. 2014. №2. С.138-141.
4. Рахимов, Б. Б., Мирсагатова, М. Р., & Садирова, М. К. (2024). ВЛИЯНИЕ МОНИТОРИНГА КАЧЕСТВА ВОЗДУХА НА ОБЩЕСТВЕННОЕ ЗДОРОВЬЕ И ЭКОЛОГИЧЕСКУЮ УСТОЙЧИВОСТЬ В УЗБЕКИСТАНЕ. International Conference on Innovations in Applied Sciences, Education and Humanities.
5. Рахимов, Б. Б., Уринов, А. М., Шайхова, Л. И., & Камилова, А. Ш. (2017). Выявление факторов риска при ожирении у детей дошкольного возраста, проживающих в г. Ташкенте
6. Shaykhova, G. I., & Rakhimov, B. B. (2014). Promotion of the principles of rational nutrition in obesity. Medical Journal of Uzbekistan, (2), 138.
7. Шайхова, Г. И., & Рахимов, Б. Б. (2017). Совершенствование профилактики ожирения у детей и подростков. Монография.//Lambert Academic Publishing RU, 26-30.
8. Мирсагатова, М. Р., & Султонов, Э. Е. (2023). Особенности микрофлоры желудочнокишечного тракта при хронических воспалительных заболеваниях верхних органов пищеварения у детей. Мир науки: журнал современных методологий исследований, 2(2), 93-98.
9. Jalolov, N. N., Mukhammadzokirov, S. S., Mirsagatova, M. R., & Sulstonov, E. Y. (2023). Yumshoq toqimalar va suyaklarning xavfli osmalarida MR-tomografiya yordamida radiologic diagnostikaning multimodal nur tekshirish usullari samaradorligini baholashni dasturlash.
10. Sadullayeva, X. A., Salomova, F. I., & Sulstonov, E. Y. (2023). OCHIQ SUV NAVZALARI MUHOFAZALASH OB'EKTI SIFATIDA. V MEJDUNARODNAYA NAUCHNO-PRAKTIЧЕСКАЯ КОНФЕРЕНЦИЯ «СОВРЕМЕННЫЕ ДОСТИЖЕНИЯ И ПЕРСПЕКТИВЫ РАЗВИТИЯ ОХРАНЫ ЗДОРОВЬЯ НАСЕЛЕНИЯ»





11. Саломова, Ф. И., Рахимов, Б. Б., Султонов, Э. Й., & Облакулов, А. Г. (2023). Навоий шаҳри атмосфера ҳавоси сифатини баҳолаш
12. S. I. Zaripov and N. M. Abdurakhmanova, "Quality of Life of End-Stage Renal Disease (ESRD) Patients Receiving Hemodialysis: Influencing Factors and Approaches to Correction," Texas Journal of Multidisciplinary Studies, vol. 21, pp. 14-17, 2023.
13. Зарипов, С. И., Тураев, И. А., & Рахимов, С. С. (2022). Quality of life in patients with chronic kidney disease receiving program hemodialysis and possible ways of its correction. УЗБЕКСКИЙ МЕДИЦИНСКИЙ ЖУРНАЛ, 3(5).
14. RK Dadabaeva, OF Eshmamatov. The value of simulation training in the self-training of family doctors. 2023. СБОРНИК НАУЧНЫХ ТРУДОВ V МЕЖДУНАРОДНОГО НАУЧНО-ПРАКТИЧЕСКОГО ФОРУМА «ПЕРСПЕКТИВЫ РАЗВИТИЯ ПЕРВИЧНОЙ МЕДИКО-САНИТАРНОЙ ПОМОЩИ В УЗБЕКИСТАНЕ, СЕГОДНЯ И ЗАВТРА»
15. OF Eshmamatov, RI Turaqulov, NN Abdurahmanova. YURAK RESINXRONLASH AMALIYOTI O'TKAZILGAN BEMORLARDA EXOKARDIOGRAFIK KO'RSATKICHLARIGA QARAB KLINIK HOLATINI SOLISHTIRIB VAHOLASH. 2022/2/11. Models and methods for increasing the efficiency of innovative research: a collection scientific works of the International scientific conference (11 February, 2022)-Berlin: 2022
16. Ikhtiyor Abdullaevich Turayev. SERONEGATIV REVMATOID ARTRIT TASHXISINI QO'YISHDAGI QIYINCHILIKLAR. 2024. SCIENCE SHINE. 2. 32. bet 270-275
17. Feruza Iskandarovna Khalmetova, Khalmurad Sadullaevich Akhmedov, Ikhtiyor Abdullaevich Turayev, Sanjar Istamovich Zaripov. РЕАКТИВ АРТРИТНИ ДАВОЛАШДА ЗАМОНАВИЙ ПАТОГЕНЕТИК ЁНДАШУВЛАР. 2024. ТТА АХВОРОТНОМАСИ. Bb 63-65.
18. Akhmedov K., Abdurakhmanova N., Buranova S. Features of the clinical course of rheumatoid spice against the background of the influence of xenobiotics //American Journal of Interdisciplinary Research and Development. – 2023. – Т. 12. – С. 142-147.
19. Abdurakhmanova, N. and Akhmedov, K. (2022) 'AB0812 effect of pro-inflammatory cytokine- interleukin 6 on the course of ankylosing spondylitis in patients after COVID-19', Annals of the Rheumatic Diseases, 81, p. 1533. doi:10.1136/annrheumdis-2022-eular.2777.
20. Abdurakhmanova, N. M., & Ahmedov, K. S. (2022). Influence of accepting basic antirheumatic therapy for ankylosing spondyloarthritis on the clinical





course Covid-19. ACADEMICIA: An International Multidisciplinary Research Journal, 12(7), 71-76

