PLASTIC WASTE AND ITS THREAT TO HEALTH

Sadullayeva Khosiyat Abdurakhmanovna
Tashkent Medical Academy, Associate Professor

Erkinov Islom Arslonovich
Mamatqulova Madina Zokirjon qizi
Abdurakhmonov Jo'rabek Ilhomovich
Islomboyev Nodirbek Dilshodovich
Tashkent Medical Academy, Student

Abstract:
This thesis analyzes the impact of plastic waste on the environment and human health. Microplastics, which are formed as a result of plastic decomposition, spread into water, food, and air, entering the body and potentially causing inflammation, toxic effects, hormonal imbalances, and weakened immunity. The study includes plastic waste management methods, the impact of microplastics on the body, and recommendations to reduce their negative consequences.

Keywords: plastic waste, microplastics, human health, phthalates, bisphenol A, ecology, toxic effects.

Objective and relevance of the research: Plastic waste is one of the major global ecological and medical problems today. Microplastics can enter the human body through food, drinking water, and air. The primary objective of this study is to examine the effects of plastic waste on human health and develop recommendations to mitigate its harmful impact.

The decomposition of plastic products leads to the formation of microplastics, which enter the food chain and pose a threat to human health. Over the past 70 years, humanity has produced 8.3 billion tons of plastic. Most of it has been disposed of in landfills or the environment, resulting in water and soil pollution. Additionally, plastic particles have also infiltrated the human body.

According to research by scientists at the Medical University of Vienna, an individual consumes an average of up to 5 grams of micro and nanoplastics per week, which is equivalent to the weight of a plastic bank card. When considered annually, this amounts to approximately 250 grams of plastic, comparable to 230 drinking straws or eight half-liter plastic bottles. These substances undoubtedly have adverse effects on human health.

Pathways of Microplastics into the Human Body:

- Through food and beverages – via seafood, drinking water, packaged foods, and fruits/vegetables.
- Through air – microplastic particles disperse in the air and enter the lungs through inhalation.
- Through the skin – can penetrate the body via cosmetic products and other items.

Impact on the immune system:

- Microplastics can trigger inflammatory processes, contributing to the development of chronic diseases.

Impact on the endocrine system:

- Chemical components in plastics (phthalates, bisphenol A) can cause hormonal imbalances and reproductive health issues.

Effects on organ function:

- Lungs – may contribute to asthma and respiratory diseases.
- Liver and kidneys – may disrupt the detoxification process.
- Gut microbiota – may negatively affect the digestive system.

Discussion:

Reducing plastic waste is not only an environmental issue but also crucial for protecting human health. Studies indicate that microplastics can enter the human body through various pathways, negatively impacting immune, endocrine, and organ systems. Therefore, reducing plastic waste, recycling, and using eco-friendly alternative materials are of significant importance.

Recommendations:

- Reduce the use of single-use plastic products.
- Recycle plastic waste and replace it with environmentally safe materials.
- Expand the use of eco-friendly materials such as bioplastics.
- Use glass and metal containers instead of plastic ones for food and beverages.
- Improve water and air filtration systems to prevent the spread of microplastics.

Conclusion:

To reduce the negative impact of plastic waste and microplastics on human health, comprehensive environmental improvement measures must be implemented. Reducing plastic waste, using eco-friendly materials, and raising public awareness will help effectively combat this issue.

References

1. Akhmadalieva, N. O., Salomova, F. I., Sadullaeva, K. A., Abdukadirova, L. K., Toshmatova, G. A., & Otajonov, I. O. (2021). Health state of teaching staff of different universities in the Republic of Uzbekistan.
2. Саломова, Ф. И., Садуллаева, Х. А., Миррахимова, М. Х., Кобилжонова, Ш. Р., & Абатова, Н. П. (2023). Загрязнение окружающей среды и состояние здоровья населения. Yosh olimlar tibbiyot jurnali, 1(5), 163-166.
3. Khalmatova, B., Mirrakhimova, M., Tashmatova, G., & Olmosov, R. (2017). Efficiency of the usage of antagonists of leukotrienic receptors at children with bronchial asthma. In International Forum on Contemporary Global Challenges of Interdisciplinary Academic Research and Innovation (pp. 291-296).
4. Salomova, F. I., Jumakulovich, E. N., & Toshmatova, G. A. (2022). Hygienic Basis for the Use of Specialized Food for Alimental Prevention of Mastopathy. Journal of Pharmaceutical Negative Results, 13.
5. Salomova, F. I., Xakimova, D. S., Ashurboyev, F. A. O. L., & Toshmatova, G. Z. A. (2022). COVID-19 PANDEMIYASI DAVRIDA BOLALAR VA O 'SMIRLARNING KUN TARTIBI VA SALOMATLIK HOLATI. Oriental renaissance: Innovative, educational, natural and social sciences, 2(4), 465-474.
6. Саломова, Ф. И., & Садуллаева, Х. А. (2017). Экология человека в медицинском образовании. Молодой ученый, (22), 425-427.
7. FI, S., NO, A., SA, S., GO, T., NF, Y., & MR, M. (2020). Psychoemotional State of the Universities' Teaching Staff in Uzbekistan. Indian Journal of Forensic Medicine & Toxicology, 14(4).
8. Юлдашева, Ф. У., Тошматова, Г. А., & Шигакова, Л. А. (2023). ОКАЗАНИЕ МЕДИКО-СОЦИАЛЬНОЙ ПОМОЩИ НАСЕЛЕНИЮ. In Современная наука: актуальные вопросы социально-экономического развития (pp. 164-174).
9. Саломова, Ф. И., & Тошматова, Г. О. (2012). Эпидемиология мастопатии и особенности заболеваемости женщин, страдающих мастопатией. Врач-аспирант, 52(3.1), 222-228.
10. Kobiljonova, S. R., Jalolov, N. N., Sharipova, S. A., & Tashmatova, G. A. (2023). Clinical and morphological features of gastroduodenitis in children with saline diathesis. American Journal of Pedagogical and Educational Research, 10, 35-41.
11. Imamova, A. O., Salomova, F. I., Axmadalieva NO, N. D., Toshmatova, G. A., & Sharipova, S. A. (2022). Ways to optimize the formation of the principles of a healthy lifestyle of children. American Journal of Medicine and Medical Sciences, 12(6), 606-608.

12. Саломова, Ф. И., Садуллаева, Х. А., & Самигова, Н. Р. (2022). Загрязнение атмосферы соединениями азота как этиологический фактор развития СС заболеваний г. ООО" TIBBIYOT NASHRIYOTI MATBAA UYT.
13. Садуллаева, Х. А., & Шарипова, С. А. (2017). Подготовка врачей общей практики к формированию у населения основ здорового образа жизни. Молодой ученый, (23-2), 5-7.
14. Стожарова, Н. К., Махсумов, М. Д., Садуллаева, Х. А., & Шарипова, С. А. (2015). Анализ заболеваемости населения Узбекистана болезнями системы кровообращения. Молодой ученый, (10), 458-462.
15. Imamova, A. O., & Toshmatova, G. O. (2023). Protecting works and hygienic assessment of nutrition of preschool children in Tashkent. European International Journal of Multidisciplinary Research and Management Studies, 3(02), 47-50.
16. Абдумаликова, И. А., Садуллаева, Х. А., Мадумаров, Д. Н., Иванина, В. А., & Гусарова, М. А. (2019). Ремоделирование венечного русла и миокарда крысы под сочетанным действием высокогорья и открытой распределительной установки мощностью 35 кВт. Вестник Кыргызско-Российского Славянского университета, 19(5), 99-103.
17. Akhmadalieva, N. O., Salomova, F. I., Sadullaeva, K. A., Abdukadirova, L. K., Toshmatova, G. A., & Otajonov, I. O. (2021). Health state of teaching staff of different universities in the Republic of Uzbekistan.
18. Саломова, Ф. И., Искандарова, Г. Т., Садуллаева, Х. А., Шарипова, С. А., Шеркўзиева, Г. Ф., Нурматов, Б. Қ., & Садирова, М. К. (2022). Атроф муҳит ва инсон саломатлиги мутахассислиги амалий кўникмаларни ўзлаштириш бўйича" услубий кўрсатма.
19. Саломова, Ф., Садуллаева, Х., & Кобилжонова, Ш. (2022). Гигиеническая оценка риска развития аллергических заболеваний кожи у детского населения. Актуальные вопросы профилактики стоматологических заболеваний и детской стоматологии, 1(01), 88-91.
20. Саломова, Ф. И., Шеркушева, Г. Ф., Салуллаева, Х. А., Султанов, Э. Ё., & Облокулов, Л. Г. (2023). Загрязнение атмосферного воздуха города алмалык. Медицинский журнал молодых ученых, 5(01), 142-146.
21. Садуллаева, Х. А., Саломова, Ф. И., Мирсагатова, М. Р., & Кобилжонова, С. Р. (2023). Проблемы загрязнения водоемов в условиях Узбекистана.
22. Тухтаров, Б. Э. (2008). Белковая обеспеченность профессиональных спортсменов, занимающихся борьбой кураш. Вопросы питания, 77(1), 46-47.
23. Ахмадалиева, Н. О., Саломова, Ф. И., Садуллаева, Х. А., Шарипова, С. А., & Хабибуллаев, С. Ш. (2021). Заболеваемость преподавательского состава ВУЗа технического профиля. Oriental renaissance: Innovative, educational, natural and social sciences, 1(10), 860-871.