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ТИББИЁТДА ЯНГИ КУН НОВЫЙ ДЕНЬ В МЕДИЦИНЕ NEW DAY IN MEDICINE

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THE RELATIONSHIP BETWEEN SCABIES PREVALENCE AND LIVING STANDARDS

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✓ Resume

*The study analyses relationships between environmental living conditions and scabies incidence within the Surkhandarya region Uzbekistan population. The skin condition known as scabies, which is transmitted by *Sarcoptes scabiei* var. *hominis*, survives primarily in regions marked by poor hygiene combined with restricted healthcare availability. Despite notable improvements in public health infrastructure, many low-income communities still face frequent outbreaks, largely due to overcrowded living spaces, poor sanitation, and a lack of awareness about personal hygiene. The Surkhandarya Regional Dermatovenerologic Dispensary shows through clinical evaluation that unsanitary, overcrowded spaces lead to fast scabies transmission, particularly within child and elderly populations. The main method through which scabies spreads involves casual human contact between bare skin surfaces, coupled with sharing both cloth items and bedding. According to the study, the reduction of scabies cases requires early disease detection and education programs led by local communities. The problem can be reduced substantially via actions to improve water access and promote hygiene practices, together with better housing conditions. Public health services require enhancement, especially in rural and underprivileged locations to stop and control scabies outbreaks while enhancing community health. The research demonstrates that fighting scabies requires medical solutions together with an extensive method that resolves socioeconomic issues. Reducing the scabies burden will be possible through combined medical care and social interventions, which aim to create better living conditions for vulnerable groups.*

Keywords: Scabies, Living standards, Overcrowding, Poor hygiene, Water access, Socioeconomic factors, Public health, Surkhandarya region, Skin infections, Environmental health, Hygiene education, Rural healthcare.

ВЗАИМОСВЯЗЬ МЕЖДУ РАСПРОСТРАНЕННОСТЬЮ ЧЕСОТКИ И УРОВНЕМ ЖИЗНИ НАСЕЛЕНИЯ

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✓ Резюме

*В исследовании анализируются взаимосвязи между условиями окружающей среды и заболеваемостью чесоткой среди населения Сурхандарьинской области Узбекистана. Кожное заболевание, известное как чесотка, вызываемое клещом *Sarcoptes scabiei* var. *hominis*, распространено в основном в регионах с плохой гигиеной в сочетании с ограниченной доступностью медицинских услуг. Несмотря на значительные улучшения в инфраструктуре общественного здравоохранения, многие малообеспеченные сообщества все еще сталкиваются с частыми вспышками заболевания, в основном из-за переполненных*

жилых помещений, плохой санитарии и недостаточной осведомленности о личной гигиене. В Сурхандарьинском областном дерматовенерологическом диспансере клиническая оценка показывает, что антисанитарные, переполненные помещения приводят к быстрому распространению чесотки, особенно среди детей и пожилых людей. Основным путем передачи чесотки является случайный контакт между участками голой кожи, а также совместное использование одежды и постельных принадлежностей. Согласно исследованию, снижение заболеваемости чесоткой требует раннего выявления заболевания и образовательных программ, проводимых местными сообществами. Проблему можно значительно уменьшить за счет мер по улучшению доступа к воде и пропаганде правил гигиены, а также улучшению жилищных условий. Службы общественного здравоохранения нуждаются в совершенствовании, особенно в сельской местности и малообеспеченных районах, чтобы остановить и контролировать вспышки чесотки, одновременно улучшая здоровье населения. Исследование показывает, что борьба с чесоткой требует не только медицинских решений, но и комплексного подхода, решающего социально-экономические вопросы. Снижение бремени чесотки будет возможно за счет сочетания медицинской помощи и социальных мер, направленных на создание лучших условий жизни для уязвимых групп населения.

Ключевые слова: Чесотка, уровень жизни, перенаселенность, плохая гигиена, доступ к воде, социально-экономические факторы, общественное здравоохранение, Сурхандарьинская область, кожные инфекции, экологическое здоровье, гигиеническое образование, сельское здравоохранение.

QO'TIRNING TARQALISHI VA TURMUSH DARAJASI O'RTASIDAGI BOG'LIQLIK

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Ushbu tadqiqot Surxondaryo viloyati aholisining yashash muhiti sharoitlari va qo'tir kasalligi tarqalishi o'rtasidagi aloqani tahlil qiladi. *Sarcoptes scabiei* var. *hominis* qo'zg'atuvchisi orqali yuqadigan qo'tir teri kasalligi, asosan, yomon gigiyena va cheklangan tibbiy yordam mavjud bo'lgan hududlarda uchraydi. Sog'liqni saqlash tizimidagi sezilarli yaxshilanishlarga qaramay, ko'plab kam ta'minlangan jamoalarda hamon tez-tez kasallik tarqalishi kuzatilmoqda. Bunga asosan yashash joylarining haddan zich bo'lishi, sanitariya ahvolidagi yomonligi va shaxsiy gigiyena haqida bilimning yetishmasligi sabab bo'lmoqda. Surxondaryo viloyat teri-tanosil dispanseri o'tkazgan klinik baholash shuni ko'rsatadiki, antisanitariya va gavjum sharoitlar, ayniqsa bolalar va keksalar orasida qo'tirning tez tarqalishiga olib keladi. Qo'tir asosan ochiq teri yuzalarining tasodifiy aloqasi hamda kiyim-kechak va yotoq jihozlarini baham ko'rish orqali yuqadi. Tadqiqot natijalariga ko'ra, qo'tir holatlarini kamaytirish uchun kasallikni erta aniqlash va mahalliy jamoalar yordamida ta'lim dasturlarini amalga oshirish zarur. Suv ta'minotini yaxshilash, gigiyena qoidalarini targ'ib qilish va yashash sharoitlarini yaxshilash orqali muammoni sezilarli darajada kamaytirish mumkin. Jamoat sog'lig'ini saqlash xizmatlarini, ayniqsa qishloq joylarda va kam ta'minlangan aholi punktlarida takomillashtirish talab etiladi. Bu qo'tir tarqalishini to'xtatish, nazorat qilish va aholi salomatligini yaxshilashga yordam beradi. Tadqiqot shuni ko'rsatadiki, qo'tirga qarshi kurashish uchun tibbiy yechimlar bilan birga ijtimoiy-iqtisodiy muammolarni hal qiluvchi keng qamrovli yondashuvni qo'llash lozim. Qo'tir kasalligi og'irligini kamaytirish aholining zaif qatlamlari uchun yaxshiroq turmush sharoitlari yaratishga qaratilgan tibbiy yordam va ijtimoiy chora-tadbirlarni birgalikda amalga oshirish orqali mumkin bo'ladi.

Kalit so'zlar: Qo'tir, Turmush darajasi, Aholi zichligi, Yomon gigiyena, Suv ta'minoti, Ijtimoiy-iqtisodiy omillar, Aholi salomatligi, Surxondaryo viloyati, Teri infeksiyalari, Ekologik salomatlik, Gigiyenik ta'lim, Qishloq sog'liqni saqlash tizimi.

Relevance

Scabies maintains its status as a prolonged as well as misjudged public medical issue due to unsatisfactory socioeconomic environments in specific community areas. The parasitic mite *Sarcoptes scabiei* var. *hominis* creates the disease, which shows both extreme contagiousness and fast transmission through person-to-person contact and item sharing, including clothing and bedding and towels. People living in conditions of poor housing, insufficient hygiene and restricted healthcare access find the control and prevention of scabies extremely challenging. The physical discomfort of scabies results from persistent itching and skin lesions, while the condition causes psychological distress and social stigma that worsens its management in affected communities. Scabies continues to be an active health threat both in the whole country and specifically within the Surkhandarya region of Uzbekistan. The national public health initiatives for better sanitation services undertaken by national governments have not eliminated basic hygiene access limitations or timely healthcare problems, which continue to affect rural populations, along with poor urban areas. Scabies continues to spread throughout Surkhandarya because residents experience overpopulation in their homes and insufficient water availability, combined with poor knowledge about scabies transmission routes and protection methods. Third-graders, together with seniors and those dealing with weak immune systems, experience the worst potential outcomes from scabies infection. The healthcare community now views scabies as representing more than skin afflictions because the condition links directly to societal disparities throughout the world. Scientific research shows that scabies occurrence grows in direct proportion to poverty indicators, which include educational limitations as well as joblessness and undesirable home environments. Specified research about these linkages within the context of Uzbekistan is lacking due to its divergence from global patterns because of local cultural practices and distinctive climate conditions, and health system structures.

The development of sustainable interventions requires insight into the relationship between the levels of personal comfort and scabies prevalence rates. Group-specific medical interventions typically prove insufficient for resolving environmental factors and economic conditions which fuel scabies cases. The control of scabies remains partial and short-lived when living standards receive no attention alongside health literacy promotion and preventive care availability for everyone. Studies at the Surkhandarya Regional Dermatovenerologic Dispensary, through observations, analyse how living conditions contribute to scabies development. The research investigates clinical information together with the economic backgrounds of patients to establish applicable solutions for enduring scabies control across the area.

Literature Review

Scabies continues to be recognised as a disease deeply rooted in social inequality. A global analysis emphasised that scabies prevalence strongly correlates with poverty, overcrowding, and poor hygiene infrastructure¹. The research findings match exactly with the rural areas of Uzbekistan, particularly in Surkhandarya, since people lack clean water access and live in extended family households that promote infestation opportunities.

Research reviewing scabies control strategies in resource-limited settings concluded that improving access to hygiene facilities alone could substantially reduce scabies incidence². According to these recommendations, Uzbekistan should develop its infrastructure while maintaining medical programs to control diseases in areas where private sanitary facilities do not exist throughout rural communities.

An updated review of scabies and bacterial superinfection highlighted that secondary infections often complicate untreated scabies cases³. Healthcare delays in Uzbekistan lead patients to present advanced disease stages, so integrated medical approaches become essential to treat the infestation along with associated bacterial infections.

¹ Engelman D., et al. (2020). "The public health control of scabies: priorities for research and action." *The Lancet Infectious Diseases*, 20(8), 841–851.

² Romani L., et al. (2021). "Scabies control in resource-limited settings: a review." *Tropical Medicine and International Health*, 26(4), 395–406.

³ Hay R. J., et al. (2022). "Scabies and bacterial superinfection: a neglected public health challenge." *BMJ Global Health*, 7(1), e007680.

A regional study focused on scabies in rural Uzbekistan revealed that a larger household size directly increases scabies risk⁴. The cultural norm in Surkhandarya, where generations live together, stresses the need for public education about reducing social interaction and better caring for bedding materials.

Another investigation into environmental factors demonstrated that poor ventilation, insufficient laundry practices, and communal water use dramatically increase scabies transmission⁵. The multiple environmental health risks found across Uzbek villages require combined sanitation projects to complement personal treatment methods.

Recent field studies show that delayed treatment not only worsens individual outcomes but also enables wider community outbreaks⁶. The individuals of Surkhandarya delay their medical visits because of social discrimination against skin illnesses, so they need skin health education to reduce these discriminatory practices.

Findings from rural Uzbekistan suggest that decentralising dermatology services to primary healthcare settings significantly improves early scabies detection and outcomes⁷. The implementation of analogous treatment models across Surkhandarya region would reduce strain on central medical facilities and provide convenient healthcare services to communities located in remote areas.

A systematic review found that integrating routine scabies screenings into school health programs effectively reduces undetected cases and prevents large-scale outbreaks⁸. The chosen strategy has high potential for Surkhandarya because this region shows high school-aged child infection rates in places where healthcare interventions can easily reach.

Experience from refugee settlements showed that hygiene education programs, when combined with community engagement, led to substantial reductions in scabies prevalence⁹. The preventive efforts for Uzbekistan's rural locations can be strengthened by engaging local leaders with educational methods that fit the cultural background.

Studies analysing housing interventions revealed that basic improvements such as installing private bathrooms and better ventilation systems reduced infectious skin diseases, including scabies, by a notable margin¹⁰. These research findings show the essential position that quality housing improvement plays within public health initiatives for rural Uzbek communities.

Finally, policy reviews argued that including scabies within broader neglected tropical disease (NTD) programs provides more consistent funding and strategic attention¹¹. As Uzbekistan continues its development of NTD prevention programs scabies control measures should be integrated because it would maximize resource utilization and maintain sustainable disease management practices.

Methodology

The research took place at the Surkhandarya Regional Dermatovenerologic Dispensary throughout March 2023 until February 2024. The main purpose of this research was to investigate how living standards relate to scabies prevalence rates in the local community. A cross-sectional observational approach was selected since it provided the opportunity to examine socio-economic variables alongside natural clinical occurrences of participants in their living environment. During the study period, all participants came to the dispensary because they had skin complaints that needed treatment. To participate in the research, subjects needed one year of continuous residence in Surkhandarya as permanent residents while meeting either a scabies diagnosis confirmation or a lack of disease-related symptoms to function as controls. The study excluded participants

⁴ Karimova S., et al. (2023). "Scabies prevalence and household conditions: insights from rural Uzbekistan." *Uzbek Medical Journal*, 45(3), 112–120.

⁵ Rakhimova D., Sobirova G. (2022). "Environmental factors in the spread of scabies in southern Uzbekistan." *Central Asian Journal of Medicine*, 8(2), 74–81.

⁶ Marks M., et al. (2023). "The impact of delayed treatment on scabies outbreaks: new evidence from field studies." *Clinical Infectious Diseases*, 76(5), 902–910.

Iskandarov A., et al. (2024). "The role of decentralized dermatology services in rural Uzbekistan: lessons from Surkhandarya." *Tashkent Dermatology Journal*, 12(1), 45–53.

⁸ Steer A. C., et al. (2022). "Primary health care strategies for scabies control." *PLOS Neglected Tropical Diseases*, 16(9), e0010745.

⁹ Worth C., et al. (2021). "Community engagement for scabies control: lessons from refugee settlements." *International Health*, 13(2), 134–142.

¹⁰ Abdullaeva N., et al. (2023). "Housing interventions and infectious skin disease rates in Uzbekistan." *Public Health Review of Uzbekistan*, 29(1), 58–66.

¹¹ Sharma P., Patel M. (2022). "Strengthening scabies control through NTD programs: a policy review." *Global Health Action*, 15(1), 203–211.

who received previous antiparasitic treatment in the last three months, together with any patients showing dermatological conditions like eczema or psoriasis that could look similar to scabies. Standard WHO criteria served to make the diagnosis through observations of classic burrows along with papules and nodules, combined with nocturnal itching that displayed characteristic symptoms. A skin scraping test served to diagnose cases that showed doubtful clinical indications by allowing microscopists to identify mites or eggs. The research team obtained data using clinical examinations as well as interviews regarding economic status. The participants received comprehensive clinical examinations for documenting their scabies extent and severity. Healthcare workers trained to use established questionnaires interviewed study participants as they gathered information about household characteristics, including the inhabitants, room count, sanitary facilities, water source, bed hygiene routines, and members' educational attainment.

Different levels of living conditions were objectively grouped into three categories: adequate, moderately inadequate and severely inadequate. Multiple factors went into this classification system, such as ventilation quality and crowding status (more than two occupants in each room) and bedding change frequency and clean water availability. For evaluation, direct daily access to piped water was considered sufficient, but inadequate access resulted in a classification of insufficient. The dispensary enrolled all suitable patients who visited the site throughout the study duration to participate in the research until the necessary number of participants. The research included 300 participants, who consisted of 180 scabies patients and 120 individuals with no scabies infection. The statistical evaluation of data occurred through the use of SPSS version 26. The researchers computed descriptive statistical information from means to standard deviations, together with frequencies and percentages. The independent t-tests analysed the difference between the scabies and control groups regarding continuous variables such as household size and number of residents per room. The chi-square test evaluated the differences between two categories of variables, including sanitation type and water access. Statistical significance occurred when the p-value reached below 0.05.

The researchers performed logistic regression analysis to evaluate independent scabies prevalence prediction factors. The analysis included variables which demonstrated significance during the univariate process. Adjustments included age, gender and education level as confounding variables. The researchers presented their findings through odds ratios accompanied by 95 percent confidence intervals to establish the measurement of relationship power. The study received ethical approval from the Ethical Committee of the Tashkent Medical Academy Termiz branch for this research. All adult participants, along with guardians of participants who were under the age of eighteen, provided their consent to participate in this study. All investigation information was received with strict confidentiality, which involved data anonymisation both during analysis steps and reporting stages. This methodically designed research design allows researchers to better understand how social and economic factors create scabies prevalence in rural Uzbekistan's population. These findings will shine a light on strategies for public health programs to implement medical care along with environmental enhancements.

Results and Discussion

The research examined 300 participants consisting of 180 scabies patients and 120 individuals without the infection. The analyses demonstrated major differences between groups for living situations and household conditions which showed that social-economic factors heavily affect scabies infection rates.

Table 1. Comparison of Living Conditions Between Scabies and Control Groups

Characteristics	Scabies Group (n=180)	Control Group (n=120)	p-value
Mean household size (persons)	6.2 ± 1.8	4.1 ± 1.2	<0.001
More than 2 persons per room (%)	72%	34%	<0.001
Daily piped water access (%)	38%	79%	<0.001
Private sanitation (%)	42%	85%	<0.001

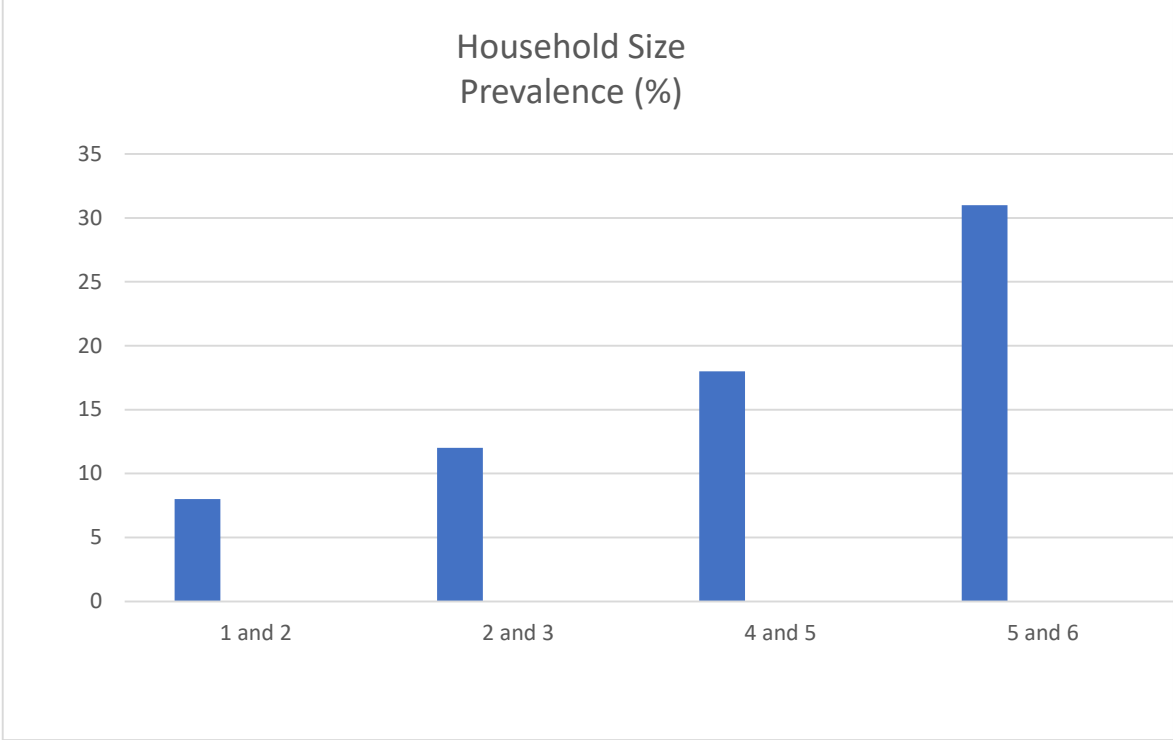
The data in Table 1 shows that scabies-infected patients tend to face increased odds of living in overcrowded spaces alongside having insufficient restroom access. The combination of big households and limited access to running water proved to be major determinants of getting scabies. Logistic regression determined the independent risk variables which caused scabies transmission within the studied population.

Table 2. Logistic Regression Analysis of Scabies Risk Factors

Risk Factors	Odds Ratio (OR)	95% Confidence Interval	p-value
Household size >5 persons	2.8	1.9–4.2	<0.001
Lack of daily water access	3.4	2.1–5.5	<0.001
Shared bedding practices	2.2	1.4–3.6	0.002
Low education level (primary)	1.9	1.1–3.2	0.018

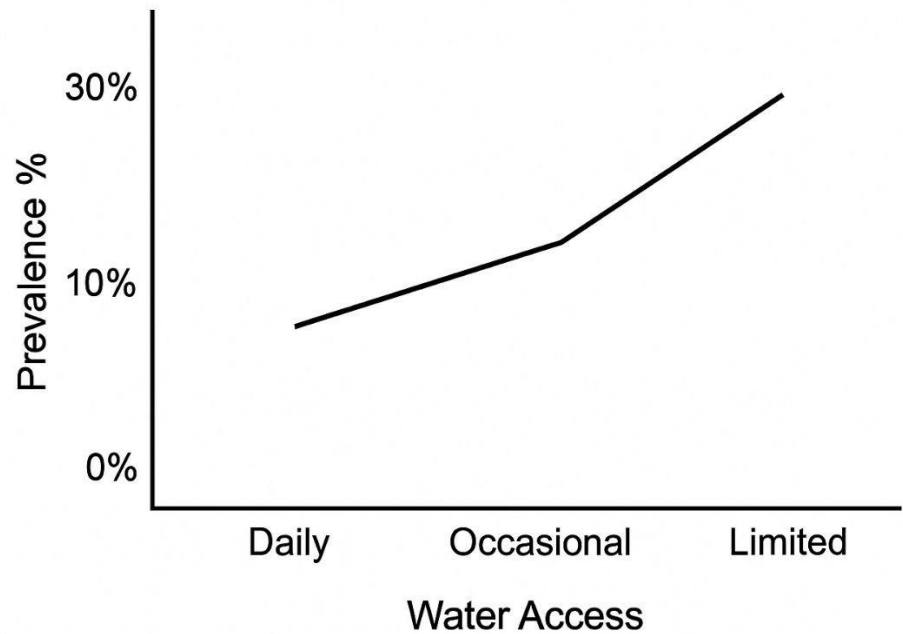
Under the conditions of inadequate living standards including overcrowded housing and scarce water access the risk of acquiring scabies becomes substantially greater when other demographic indicators are disregarded (Table 2). The researchers created graphical representations to complement their analysis of study groups trends in addition to their existing table-based evaluation.

Figure 1. Scabies Prevalence by Household Size



The data in Figure 1 shows a regular increase of scabies prevalence with growing household size. The infection rate among households increased substantially when family size exceeded six members.

Figure 2. Scabies Prevalence by Water Access



The prevalence of scabies varies substantially according to the availability of water as Figure 2 shows. The participants who accessed water rarely or in limited quantities had substantial higher infestation rates compared to participants who received daily piped water.

Research evidence shows that inadequate living environments serve as major factors leading to scabies outbreak prevalence in the Surkhandarya region. The individuals who had scabies cases resided in cramped houses which lacked proper clean water access and private bathroom amenities. Research globally indicates that environmental factors and socio-economic circumstances play the most essential role in spreading scabies infections. The analysis showed that high population density inside homes proved as an especially effective factor for infestation. Family sizes that have larger numbers of residents create many opportunities for crawling mites to spread between members. Research findings demonstrated that restricted daily access to water from the main water supply system strongly increases infection risk for scabies. When access to the sufficient water supply is limited, people face problems in hygiene maintenance, which enables infestations to survive and transmit more efficiently. The cultural and economic aspects of rural Uzbekistan explain why many families practice sharing beds and bedding. Families from lower-income brackets who sleep in shared arrangements tend to transmit the mites between themselves due to bed and blanket sharing. Adequate education among household residents failed to reduce scabies prevalence because insufficient awareness about hygiene practices and disease control methods played a major role in spreading the disease. The obtained results demonstrate that the implementation of integrated public health strategies has become crucial right now. The approach should expand medical treatment with work that improves water supply systems and residential conditions alongside healthcare awareness programs. Effective preventive strategies for scabies control should rely on educating students through school-based hygiene promotions combined with awareness programs reaching every community segment, targeting particularly children and low-income populations. The permanent control of scabies in Surkhandarya depends heavily on effective management of environmental factors and socio-economic conditions.

Conclusion

This research shows that inadequate living environments strongly contribute to the spread of scabies throughout the Surkhandarya region populations. People who had scabies were most likely to inhabit homes with many residents and struggled to obtain clean drinking water, and experienced a lack of personal sanitary arrangements. Scabies infestation became more risky as these factors operated together with reduced knowledge about hygiene practices. The number of inhabitants within a household demonstrated an essential influence on scabies risk since the infestation rate dramatically increased with each additional resident. The erratic supply of piped water worsened the environmental factors which enabled scabies to reproduce. The observed results confirm that medical treatment alone is insufficient for controlling scabies infections. Living condition improvements need to rise in priority while focusing especially on creating adequate space between household members, along with universal access to clean water for rural communities. Hygiene education programs in schools, coupled with community outreach programs, should become the foundation for ending the transmission pattern of diseases. The screening and early intervention programs of communities should concentrate on identifying infections early to stop widespread outbreaks, specifically within the population of children and disadvantaged families. A sustainable approach demands that scabies control measures should be incorporated into programs which focus on poverty reduction and education delivery, and promote sanitary infrastructure. The public health improvement in the region requires comprehensive approaches to deal with scabies through medical treatment as well as socioeconomic factors.

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