

Hygiene and Sanitary Considerations for the COVID-19 Self-isolation.

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ABSTRACT

Introduction : During the COVID-19 pandemic, self-isolation is a temporary strategy to stop the virus from spreading. All foreign nationals entering Russia are required to abide by the self-isolation laws. Since April 2, 2020, nearly all Russian Federation residents have complied with the self-isolation guidelines. Additionally, roughly 6 million people in Moscow, the capital of Russia, have segregated themselves this month. Generally speaking, 100 million Russian residents were living in self-isolation on Russian land. A sanitary assessment is necessary since the self-isolation regime is causing billions of people worldwide to remain at home. Self-isolation, manifested in hypoxia, inactivity, and changes in food, Changes in lifestyle during work and leisure, as well as mental stress, can lead to an increase in the prevalence of non-communicable diseases (NCDs) and offer a chance to identify the presence of risk factors for public health.

Purpose of the Study : conducting a hygienic and sanitary evaluation of COVID-19 self-isolation, identifying the primary risk factors for non-infectious diseases, and suggesting preventative actions.

Objectives : to determine risk factors for public health when engaging in self-isolation. to carry out a thorough sanitary evaluation of self-isolation based on the established priorities. to create a self-isolation pointing system (hygiene index). to suggest actions to reduce health hazards when solitary.

Materials and Methods : We used analytical, and systematization approaches. Information from the legal documents of the hygienic-sanitary laws of the Government of the Russian Federation (nutrition hygiene, hygiene of workforce, children, and teenagers). World Health

Organization COVID-19 documents.

Research Results : We assessed the sanitary-hygienic aspects of self-isolation to identify the leading risk factors on public health, and as a result, we proposed hygienic criteria for self-isolation. We developed a hygienic self-isolation index point score (HSIPS) that considers the Russian law-based requirements for diet, work, rest, and physical activities. Thus, the usage of those hygienic standards is beneficial to prevent public health risks in ordinary and extremely challenging conditions of self-isolation. We proposed measures to minimize risks during self-isolation, and we based them on adequate sanitary-hygienic standards. The main sanitary-hygienic risk factors of self-isolation are: sedentary lifestyle, hypoxia, nutritional deficiencies (malnutrition), and work/rest imbalance.

Conclusion : Our proposal was to define self-isolation in a clean and hygienic way. We identified leading risk factors for public health of the self-isolated population. We proposed sanitary-hygienic criteria for judging self-isolation based on the regulations and requirements of the Government of the Russian Federation.

Our hygienic self-isolation index point score (HSIPS) measures how much a person's physical activity (D), indoor area (air cubic capacity) per isolated person (S), time spent in fresh air (T), and calorie intake all directly and inversely correlate with the optimal mode. For individuals who choose self-isolation, we suggested preventative measures against noncommunicable diseases (NCD).

Keywords: COVID-19, Self-isolation, Health risks, Sanitary-hygienic regulations, Public health, noncommunicable diseases.

INTRODUCTION

Self-isolation is a multifaceted, administrative, hygienic, epidemiological, and preventive enforced measure that works well. In order to stop the new COVID-19 illness from spreading, it seeks to minimize population contacts and develop a mechanism for the transfer of infectious agents.

From a sanitary perspective, self-isolation is a person being compelled to live in a small location for an extended period of time (more than a month), completely avoiding contact with others, and engaging in less physical activity.

Three primary categories of self-isolation exist:

1. Scientific experiment;

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2. In-home isolation for patients with mild diseases and healthy individuals;
3. Medical professionals' self-isolation.

In the late 1960s, the Russian Academy of Sciences' Institute of Biomedical Problems initiated scientific experimental self-isolation in space trips [1].

Extensive research evaluated nutritional status, preferences, or alterations that arise from long-term, isolation-related use of the same food. Research revealed that severe psychological issues arise as a result of self-isolation [2].

Initiatives such as the 2020 launch of the IRIUS-19 International Isolation Experiment, which aims to study crew activities in an artificial environment that optimizes health standards and aligns necessary food resources and preventive measures, could yield significant results in the future (up to five years) [3]. These kinds of scientific studies involve volunteers, and the subjects are closely monitored by doctors at all times.

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Programs like the IRIUS-19 International Isolation Experiment, which will be launched in 2020 and run for up to five years with the goal of studying crew activities in an artificial environment that maximizes health standards and aligns the necessary food resources and preventive measures, could yield significant results down the road [3]. These volunteer-based scientific studies have participants who receive ongoing medical care. There are no parallels between self-isolation in 2020 and human history, particularly in terms of population numbers.

Only in Moscow, Russia, have around 6 million residents self-isolated since April 2020 [5]. In general, up to 100 million Russian residents were living in self-isolation on Russian Federation territory. In order to avoid COVID-19, approximately 3,38 billion people worldwide, according to the AFP statistics, maintain their isolation. That equates to almost 43% of the world's population (7,79 billion, based on United Nations estimates from 2020) [6].

Many people of all ages and sexes are impacted by the self-isolation regime.

In Russia, we developed an approach that incorporates the following requirements: physical activity, work-rest balance, nutrition-physiological, and hygiene.

A proper evaluation of food and energy intakes by gender and age groups requires adherence to certain sanitary-hygienic

criteria. Hygiene standards can be applied in several contexts, such as physiologically ideal, microclimate indicators, physical activity, and work/rest modes.

We think that the hygienic evaluation of self-isolation requires the application of hygiene criteria.

Regulations pertaining to the physiological requirements of energy and nutrients are implemented in Russia and are utilized by different segments of the population. This allows us to monitor and manage the consumption of essential food items and energy sources. We separated the adult population into eight groups (5 for males and 3 for females) based on total energy expenditure (TEE), accounting for physical activity and other energy expenditures.

When it comes to self-isolation, it makes sense to take into account a demographic that is known for having low levels of physical activity in both genders: scientists, academics, medical professionals, and students. This group of citizens uses 1.4 energy while they are physically active [7].

Food goods are labeled with a color indicator in Russia. These labels consider the amount of added sugar, salt, trans- and saturated-fatty acids, and the examination of the average daily food intake to raise public awareness as an extra precaution against the development of multiple diseases, including obesity, type 2 diabetes (T2D), overweight, and cardiovascular disorders [8].

It is crucial to take intervals between understanding the material and finishing the homework assignments when planning the online learning process at home. It's also critical to remember to maintain diet control.

It is crucial to give special consideration to planning the online learning process at home; hence, it is important to take breaks in between studying the assigned material and finishing the homework. Furthermore, it's important to remember Regarding food regulation, guidelines advise students to consider seasonality, the requirement for important nutrients, and the computation of daily energy requirements based on two age groups (8–11 and 12–18 years old).

We created a hygienic self-isolation index point score (HSIPS) to assess self-isolation based on these sanitary-hygienic parameters. With the use of this index, we can assess self-isolation from a sanitary perspective and ascertain whether or not it complies with recognized physiological and hygienic norms.

DISCUSSION

Pandemics pose a genuine threat, and empirical and scientific evidence has demonstrated that self-isolation and social distancing are the most effective approaches to mitigate their effects. These strategies can effectively lower the risk of infection and the transmission of infectious agents within the population [14].

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Epidemics have an impact on the uninfected population's mental and general well-being in addition to their physical health.

Profound research shown that the public's level of stress, anxiety, and depression may rise in response to newly emerging viral diseases and their aftereffects, including severe acute respiratory syndrome (SARS) [15].

Sleep habits may be impacted by these unfavorable feelings [16]. During the COVID-19 pandemic, the Chinese government separated individuals into three groups: those who were in direct contact with patients, those who had mild illnesses, and suspected infected individuals.

However, they separated the citizens who did not contract the disease and were in good physical health, primarily because of detrimental psychological effects [17].

Therefore, preserving the population's physical and mental well-being is essential to lowering the risks associated with the COVID-19 pandemic.

RECOMMENDATIONS

Nutrition

1. Maintaining dietary control is crucial when self-isolating.
2. Create a diet plan that discourages overindulging and permits eating meals on schedule.
3. Incorporate grain products into the diet (they have more cellulose and complex carbs, which help with saturation and reduce overindulgence).
4. Eat things with a short shelf life at the beginning of the plan, and finish it with frozen meals.
5. Pay attention to product expiration dates, wash your hands both before and after cooking, and maintain a spotless kitchen.
6. Fruits and vegetables should come first, and sugar should not be added to meals or beverages.
7. Cut back on salt
8. During self-isolation, consume two liters of water each day [18].
9. Add one or two more meals to the plan in addition to the three main meals.
10. Dietary supplements, such as vitamin and mineral complexes, must be included in the diet plan.
11. Steer clear of sugar, wheat goods, sugary sodas, cheese, chips, and fast food.

Physical Activity

Regular and sufficient physical activity is crucial for preserving health when self-isolating.

health and standard of living.

Make a fitness schedule that includes warm-up stretches and activities.

2. Make use of online fitness courses, but be mindful of the

constraints.

3. Make an effort to get around the flat by marching on the spot or strolling during phone calls.

4. It is necessary to switch positions (laying or sitting) every 30 minutes.

5. Take into account various exercises to ease tense muscles [20].

Work and Rest

During the period of self-isolation, it is imperative to establish a pleasant atmosphere for adults and school-aged children to work remotely and learn.

1. To get sunshine on the work table, the workspace should be close to the window.

2. Installing artificial lighting at the workplace is also essential (the lights should take the top position).

3. A personal computer (PC) and sufficient workspace should be taken into account in the office.

4. Prioritize the ideal setting position when selecting office furniture.

5. Workplaces should always have adequate ventilation, be cleaned with water every day, and be kept away from sources of ambient noise [21].

Mental Health

All individuals may suffer dread, worry, and perplexity when they isolate themselves.

These guidelines are meant to help you deal with this emotional discomfort:

1. Encourage online communication with friends and family.
2. Taking a break from news consumption to read and watch the news;
3. Not using alcohol or tobacco products;
4. Locating official, reliable information sources to assess and comprehend the circumstances, the hazards, and the safety measures;
5. Devoting eight hours each day to eating a healthy diet and staying active [22, 23].

CONCLUSION

1. We offered a definition of self-isolation that is hygienic and sanitary.

2. The Russian Federation's self-isolated population's primary health risk factors were determined.

3. We created sanitary-hygienic standards for evaluating self-isolation based on Russian Federation rules.

4. To evaluate self-isolation and identify the ideal, favorable, and unfavorable self-isolation settings, we created the hygienic self-isolation index point score (HSIPS).

5. The goal of the sanitary-hygienic evaluation of self-isolation is to avoid musculoskeletal, diet-related, and cardiovascular

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disorders.

6. We suggested actions to keep the population that has removed themselves from noncommunicable diseases (NCDs).

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