THE NEW ARMENIAN MEDICAL JOURNAL
Volume19 (2025), Issue 2 p. 132-139

DOI: https://doi.org/10.56936/18290825-2.v19.2025-132

A MULTIDIMENSIONAL STUDY OF THE IMPACT, ACTUAL PERCEPTION, AND EXPERIENCE OF COVID-19 AMONG ARMENIAN YOUTH AND ADULTS

Lokyan A.B.[1], Avanesyan H.M.[2], Muradyan M.D.[1], Hovhannisyan S.V.[1,2*], Zilfyan A.V. [3], Avagyan S.A. [3]

[1] Psychology Research Center, Yerevan State University, Yerevan, Armenia
[2] Department of General Psychology, Yerevan State University, Yerevan, Armenia
[3] Scientific Research Center, Yerevan State Medical University, Yerevan, Armenia

Received 25.11.2024; Accepted for printing 28.03.2025

Abstract

Among the unprecedented transformations taking place in Armenia, significant roles have been played by the recent armed conflict on the borders and COVID-19 (Coronavirus). In the context of these developments, the youth, in particular, is considered more vulnerable, as their direct perceptions and experiences of overcoming these events greatly influence the future existence and the viability of all layers of society, especially its adult population.

The purpose of this research is to study the impact of COVID-19, its overcoming experience, and real perceptions among the youth and adult population of Armenia from a multi-dimensional and international perspective. To achieve this goal, the research group has gathered relevant data in Armenia to contribute to the dissemination of knowledge regarding this unprecedented interdisciplinary experience, the potential application of new measures against COVID-19, and the provision of reliable psychometric and methodological evidence concerning the effectiveness of measurement tools at both national and international levels.

In general, the timeliness and relevance of this study on the impact of COVID-19 on the youth and adult population of Armenia are determined by several key factors. First, the long-term effects of COVID-19, which have affected not only the physical health of the population but have also led to serious socio-economic and psychological consequences that persist even after the peak of the pandemic. The second factor, the issue of ensuring full protection for the adult population, whose comprehensive research could uncover barriers to insufficient vaccinations, propose strategies for overcoming these barriers, and offer new, more rational measures and recovery programs against the pandemic. The third factor emphasizing the relevance of this study is that discovering the real perceptions of the pandemic's impact on different age groups will provide the opportunity to develop and implement more effective socio-psychological support measures, educational, and medical programs.

Thus, it can be concluded that the study of this topic is not only scientifically grounded but also of great practical significance in addressing the gaps in the post-pandemic recovery of Armenian society and developing universal strategies for countries similar in population and size.

Keywords: *Covid-19 (coronavirus), impact, experience, mental health, youth, adults, survey scale, actual perception, social-psychological consequences.*

Cite This Article as:

Lokyan A.B., Avanesyan H.M., Muradyan M.D., Hovhannisyan S.V., Zilfyan A.V., Avagyan S.A. (2025). A multidimensional study of the impact, actual perception, and experience of covid-19 among armenian youth and adults; The New Armenian Medical Journal, vol.19 (2), 132-139; https://doi.org/10.56936/18290825-2.v19.2025-132

Address for Correspondence:

Sahak V. Hovhannisyan - PhD, Associate Professor
Chair of General Psychology Yerevan State University
52a Abovyan Street, Yerevan 0025, Armenia
Tel.: (+374 60) 710-637 // 76-39
E-mail: s.hovhannisyan@ysu.am

OFFICIAL PUBLICATION OF THE YEREVAN STATE MEDICAL UNIVERSITY

INTRODUCTION

An overview of scientific and popular publications indicates a wide range of consequences of the COVID-19 pandemic, which includes its impact on changes in medical, economic, political, social, geographical, psychological, environmental, and other aspects. The modern world has witnessed new and unprecedented challenges for humanity, linked to the consequences of both the COVID-19 disease itself and the wide range of measures taken during the pandemic. These measures had a bipolar significance: on one hand, they were aimed at preventing the spread or prophylaxis, while on the other hand, the associated restrictions had a significant impact on people's mental health, which in turn resulted in psychosomatic consequences.

The long-term nature and scale of the impact have been proven by numerous statistical data and studies, which have had both interdisciplinary and cross-cultural characteristics. It has been shown that the global scope of COVID-19 infection over an extended period of time affected nearly 400 million people, with an annual negative impact on economic indicators, equaling approximately one trillion dollars [*Al-Aly Z. et al., 2024*]. Parallel to this, during and after the pandemic, positive effects of the consequences were also identified, such as educational and developmental benefits (adherence to regimes, organizing life activities under difficult conditions) [*Ponce S. et al., 2024*], as well as benefits for ecosystems and others [*Talukdar A. et al., 2024*].

Among the main factors of the consequences caused by COVID-19, it is important to emphasize significant problems in the healthcare and socio-psychological sectors of all countries. Numerous studies in the scientific literature have been found in which the design included the collection and data analysis of two groups: individuals who had contracted COVID-19 [*Wu W. et al., 2024*] and individuals treating these patients [*Häussl A. et al., 2021*]. Additionally, interesting data have been found in studies in various countries where researchers used online surveys to assess the significance of national cohesion, social support, and trust in government measures and medical institutions, with the aim of identifying preventive measures to improve the mental health of the population [*Penachiotti FDF et al., 2020*]. The last circumstance related to the search for preventive measures in similar situations can be observed in the article [*Rosenfeld D. et al., 2022*], which discusses theoretical, methodological, and practical socio-psychological conceptual approaches to organizing and implementing targeted studies of psychological phenomena.

Research over the past two years continues to focus on the long-term consequences of the COVID-19 pandemic, as both science and healthcare practices still require large amounts of objective data to improve the mental health of the population [*Lepkowsky C, 2024; Maurice R, 2024*]. These and other issues related to the consequences of COVID-19 are still being studied by Armenian researchers, particularly in the fields of medical services [*Hayrumyan V. et al., 2024; Musheghyan L. et al., 2024*], economics [*Voskanyan M., 2020*], the influence on social phenomena, tourism business, and psychological issues. The situation during this time and thereafter in Armenia is further exacerbated by the fact that military actions took place at the country's borders, and a large number of forcibly displaced refugees moved into Armenia [*Avanesyan H. et al., 2022*].

MATERIALS AND METHODS

This research was conducted in a phased approach. The preparatory phase of the study included the localization and socio-cultural adaptation of the multi-dimensional test. During the translation of the questionnaire, certain points were necessarily adapted to the local context (such as religion, gender, education, etc.). Additionally, a widely used test commission approach for test adaptation and intercultural evaluation was implemented [*ITC, 2017; He & van de Vijver, 2019*].

Thus, during the translation process, the professional translation team followed the Committee's approaches and the psychological diagnostic requirements aimed at minimizing the impact of cultural bias inherent to the native language. The translation process introduced unified, coordinated parameters for the translation. The translation expert group consisted of six members, with experts knowledgeable about both the structural elements of psychological tests and the traditional, customary, religious, and cultural features of Armenian society. The group was also familiar with the general

OFFICIAL PUBLICATION OF THE YEREVAN STATE MEDICAL UNIVERSITY

similarities and differences between English and Armenian, as well as the peculiarities of language cognition. After three months of continuous work, the expert team translated the original test from English to Armenian and vice versa, and through preliminary surveys, more than 30 problematic points were identified, which were resolved in subsequent work. Pilot surveys were conducted with 60 participants aged 18 to 45. Since the testing was to be carried out online, special attention was paid to the instructions and formulations provided to the test participants when preparing the final version.

In order to ensure scientific validity, the requirements of the American Psychological Association (APA) and K. Kersting's exceptional research and ethical concerns [*Kersting K, 2004*] were taken into account. Following the localization phase, the next step involved the digitalization of the questionnaire method and the development of the Google forms, after which the final version of the test was circulated among the youth and adult population of Armenia, with a total of 300 respondents involved. The questionnaire consisted of four fairly extensive structural sections and was conducted anonymously, resulting in 267 fully completed responses.

Next, an intercultural comparison of the research data was carried out, and the results were published in a series of publications in 2023 [*Jovanovic et al., 2023; Arzu et al., 2023*].

Later, the reliability of the applied measurement scale used in the study of the Armenian population was carefully analyzed, and its reliability was proven. Therefore, the data obtained through this validated testing tool can be confidently relied upon to derive more realistic solutions [*Jovanovic et al., 2023*].

Results

The data presented below show the actual perceptions of survey participants (n=267) regarding various aspects related to COVID-19, particularly demographics, religion, trust in government, anxiety, hygiene habits, vaccination attitudes, and empathy. The rating scale used by the respondents ranged from 1 to 5 (1 - Strongly disagree; 2 - Disagree; 3 – Neither agree or disagree; 4 – Agree; 5 - Strongly agree). [Jovanovic et al., 2023]. Based on the data from the questionnaire survey, the following findings were made:

1. Demographic Picture: Although the developed questionnaire was distributed to a large number of people, men overlooked it, which psychologically suggests their passivity or indifference to their own health. 267 respondents are included female 195 (73.0%) and male 72 (27.0%), in the age of started 18 from 48 years old, and the average age of the participants was 21.54 years, which indicates a predominantly young sample.

This can be somewhat explained by the fact that some men in Armenia go abroad for work in order to earn a living. Since the movement of people was restricted in several countries to prevent the spread of the pandemic and a special regime for entering and leaving the country was implemented, some of them were simply absent from the country and could not participate in the survey.

We believe that the youth of the participants in this study is due to the fact that the research was conducted online, and as is well known, the older generation tends to have difficulty using electronic and computer tools, or they may use them for limited purposes.

2. The Importance of Diet: At the current stage of development in medical and biological sciences, increasing attention is being paid to the role of diet in the etiology of many diseases. The Alternate Healthy Eating Index (AHEI) was developed based on foods and nutrients associated with the risk of chronic diseases, including nonfatal cardiovascular disease, diabetes, heart failure, colorectal cancer, estrogen receptor–negative breast cancer, and overall as well as cardiovascular mortality. The updated AHEI-2010 reflects current scientific evidence on diet and health [*Chiuve S. E. et al., 2012*]. In this regard, many clinics across different countries emphasize the importance of patients following a diet prescribed by a nutritionist or physician, both during and after treatment, alongside medication.

It is well established that in certain viral infections and somatic diseases, such as neurodegenerative, cardiovascular, oncological, and autistic disorders in adolescents, the course of disease progression and treatment effectiveness is influenced by the level of aliphatic polyamines in the body, including putrescine, spermine, spermidine, agmatine, and cadaverine. The balance of polyamines in the body is maintained through three primary mechanisms: en-

OFFICIAL PUBLICATION OF THE YEREVAN STATE MEDICAL UNIVERSITY

dogenous metabolism, the activity of the microbiome, and dietary intake [*Larqué E et al., 2007; Minois N, 2011; Gómez-Gallego C et al., 2008; RuízCano C et al., 2012; Kalăc P, 2014; Muñoz-Esparza N, 2019; Avagyan S, Zilfyan A, 2020; Zilfyan A, 2021*].

Notably, in various viral and infectious diseases, such as Parkinson's disease, Helicobacter pylori (H. pylori)-associated gastritis, viral papilloma, as well as breast, prostate, cervical, and colorectal cancers, elevated levels of aliphatic polyamines have been observed compared to normal physiological levels [*Lewandowski N et al., 2010; Paik M et al., 2010; Chaturvedi R et al., 2012; Smythies J, 2012; Gondalia S et al., 2013*]. To regulate the optimal concentration of aliphatic polyamines both within the host cells and in persistent microorganisms, polyamine-modulating diets have been proposed [*Ralph A et al., 1999; Soda K et al., 2010; Buyukuslu N et al., 2014; Muñoz-Esparza N et al., 2019*]. In addition to pharmacological treatment, nutritionists recommend either a polyamine-deficient diet [*Cipolla B. et al., 2010; Kalač P., 2014*] or, in some cases, a polyamine-free diet [*Avagyan S. et al., 2022*] for such patients. To support the implementation of such dietary strategies, several countries have developed classification systems and food databases based on polyamine content. In many developed countries, lists of food and beverage items containing low levels of polyamines have been compiled, along with dietary guidelines specifying recommended daily intake levels [*Ralph A et al., 1999; Nishibori N et al., 2007; Zoumas-Morse C et al., 2007; Bardocz S, 2012; Buyukuslu N et al., 2014; Muñoz-Esparza N et al., 2019*]. Cipolla B. and colleagues (2003) categorized foods into three groups based on their polyamine content: Group I products (containing less than 100nmol/g) may be consumed daily; Group II products (101–200nmol/g) are recommended for consumption three to four times per week; and Group III products (>201 nmol/g) are advised to be avoided [*Cipolla B et al., 2003*]. Among such nutrients, certain foods—such as pomegranate, lentils, bell peppers, green tea, dill, coriander, garlic, and specific types of seafood—gained particular attention during the COVID-19 pandemic for their potential role in alleviating symptoms and supporting recovery in infected individuals.

3. Trust in the Government: Trust in the government was considered in the context of the measures taken to combat the pandemic. Overall, people tend not to trust the government. The average values of the ratings given to all questions related to the government ranged around ($\overline{X}$=2.12; σ=1.016), indicating a low level of trust. The majority of respondents are also unsure about the honest motives behind the activities of state institutions operating under government directives. The low level of trust in the government suggests a certain degree of skepticism about the perception of state policy, which could influence the effectiveness of the pandemic response.

4. Anxiety: According to the participants, anxiety related to COVID-19 partially bothers them ($\overline{X}$=2.91; σ=1.102), as well as the fear of COVID-19 itself ($\overline{X}$=2.29; σ=0.984) and the fear of dying from COVID-19 ($\overline{X}$=2.38; σ=1.075). The physical symptoms of anxiety (such as dizziness, sweating, insomnia) are generally not manifested ($\overline{X}$=1.74; σ=0.744).

5. Hygiene Habits: According to the evaluations of the participants in this study, the preventive measures taken to combat the COVID-19 pandemic have formed relatively stable hygiene habits among the respondents. Frequent handwashing is the most common practice ($\overline{X}$=4.58; σ=0.625). Respondents have rated efforts to obtain reliable information about COVID-19 as significantly more important ($\overline{X}$=3.82; σ=1.280). Wearing a mask ($\overline{X}$=2.97; σ=1.446) and maintaining a 1.5-meter social distance ($\overline{X}$=3.34; σ=1.308) are relatively less common practices.

Thus, generalizing the anxiety and hygienic behaviors of the respondents, it can be concluded that although anxiety is at a medium to slightly lower level, indicating that the pandemic has not caused extreme fear or anxiety for most people, hygienic behavior, particularly frequent handwashing, has become significantly ingrained. Meanwhile, social distancing and mask-wearing habits are relatively less widespread.

6. Attitudes toward Vaccination: According to the ratings on COVID-19 vaccination, the participants have a somewhat contradictory perception of vaccination. People are somewhat skeptical about whether vaccines can prevent serious infectious diseases ($\overline{X}$=2.71; σ=1.204), while they are also highly fearful of unknown side effects ($\overline{X}$=4.14;

OFFICIAL PUBLICATION OF THE YEREVAN STATE MEDICAL UNIVERSITY

σ=0.833). Due to high levels of mistrust toward pharmaceutical companies and governmental motives, participants feel insecure even after vaccination ($\overline{X}$=2.24; σ=1.008). Therefore, it should be noted that the attitudes toward vaccination are highly contradictory. Participants are significantly worried about the uncertain side effects and are filled with skepticism regarding the motives of pharmaceutical companies and the government, which could negatively affect the acceptance of the vaccination process.

7. Empathy and Social Behavior: According to the results of the survey, COVID-19 experiences have taught people to be more attentive toward one another. As a result, they are now able to more easily understand the emotions of others ($\overline{X}$=3.89; σ=0.730) and are able to empathize with each other's feelings ($\overline{X}$=3.92; σ=0.622). It can be assumed that becoming more tolerant and compassionate has shaped certain hyper-social attitudes among the respondents. They are now more likely to help strangers ($\overline{X}$=4.10; σ=0.644) than their friends or neighbors ($\overline{X}$=3.20; σ=1.202). Therefore, it should be emphasized that COVID-19 has had a positive impact on social behavior, particularly in terms of solidarity and compassion. Respondents have become more attentive to the emotions of others and frequently offer help to strangers.

Discussion

Referring to the specific characteristics of the Armenian population related to the research problem, it can be concluded that when interpreting certain factors of the pandemic's impact in Armenia, it is essential to consider them in the context of socio-political tensions, as the country was in a regional conflict during this period. A previous study [*Tatevian H, 2021*] showed that this combination of factors led to an increase in anxiety levels among the youth.

Thus, it can be concluded that the COVID-19 pandemic had a significant impact on the youth and adult populations in Armenia, affecting both physical and mental health.

According to the Ministry of Health's statistical data, by January 2022, 805,550 citizens of Armenia had received both doses of the COVID-19 vaccine, representing 35.7% of the country's adult population. A total of 987,084 individuals, or 43.7% of the adult population, received only one dose. By February 2022, the full vaccination rate had reached 40%, with 905,624 people, or 40% of the adult population, receiving both doses, 47.9% of the adult population, or 1,080,415 people, had received the first dose of the vaccine. However, among the unvaccinated people who had contracted COVID-19 or had chronic diseases, more severe cases and deaths were observed [*According to the Armenian Ministry of Health, 2022*].

Furthermore, the COVID-19 pandemic has had a considerable impact on the mental health of young people. The World Health Organization (WHO) study shows that the pandemic significantly affected the mental health of children and adolescents, particularly among high school girls [*WHO, 2022*].

A UNICEF report published in October 2021 also showed that the pandemic exacerbated existing mental health issues among children and youth. Before the pandemic, one in seven adolescents aged 10-19 had a mental health disorder. The pandemic increased stress factors, such as isolation, school closures, and limited social interactions, leading to a deterioration in the mental health of many young people. According to a Gallup survey conducted in 21 countries, one in five young people aged 15-24 reported feeling depressed or indifferent to their activities [*Wylie H., 2021*].

Additionally, the World Bank's February 2023 report highlights that the pandemic dealt a heavy blow to human capital, especially among young people. School closures and limited access to educational resources led to a decline in education levels and skills. It is predicted that current students may lose up to 10% of their future earnings due to educational setbacks. Furthermore, the pandemic negatively impacted youth employment. In 2021, about 25% of young people were neither studying nor working, which increases the risk of creating a "lost generation" [*Wylie H., 2023*].

Conclusion

Summarizing the arguments of international organizations, it can be concluded that urgent solutions are now needed to support youth education and employment, as well as the mental health of the population, not only in Armenia but worldwide.

Thus, the results of the study indicate that the

OFFICIAL PUBLICATION OF THE YEREVAN STATE MEDICAL UNIVERSITY

pandemic significantly altered people's behavior and perceptions regarding both state structures and social and hygienic norms. While trust in the government health measures remains low, the level of social support and adherence to hygiene standards has increased. However, the lack of trust in vaccinations could pose a problem for the effectiveness of healthcare policies. The findings of this study are crucial for shaping health policies, communication strategies with the public, and future research.

Considering the above and the focus of our research, we propose that, in addition to the preventive measures recommended by the International Test Commission, individuals also adopt a polyamine-deficient diet following the COVID-19 epidemic. This recommendation is supported by previously published studies conducted by researchers from Yerevan State Medical University [*Avagyan S. et al., 2020; Zilfyan A. et al., 2020; Zilfyan A., 2021; Avagyan S. et al., 2022*].

REFERENCES

1. *Al-Aly, Z., Davis, H., McCorkell, L., Soares, L., Wulf-Hanson, S., Iwasaki, A., et al. (2024).* Long COVID science, research and policy. Nat Med 30: 2148–2164. https://doi.org/10.1038/s41591-024-03173-6
2. *Arzu, K., Beyza, T., Radosveta, D., Abdelrahman, M., Akaliyski, P., Alaseel, R. R., et al. (2023).* Empathy, Fear of Disease and Support for COVID-19 Containment Behaviors: Evidence from 34 Countries on the Moderating Role of Governmental Trust, 20 February, PREPRINT (Version 1) available at Research Square. https://doi.org/10.21203/rs.3.rs-2412449/v1
3. *Avagyan SA, Zilfyan AV (2020).* Polyamines and synucleins in the diagnosis, pathogenesis and prognosis of neurological and oncological diseases. Yerevan, Armenia. 185p
4. *Avagyan SA, Zilfyan AV, Muradyan AA (2022).* New approaches related to the use of polyamine-free and polyamine-deficient diets in the list of nutritional products for COVID-19 patients; NAMJ v.16 (2022) no.6, p. 4-24; DOI: https://doi.org/10.56936/18290825-2022.16.2-14
5. *Avagyan SA, Zilfyan AV, Muradyan AA, Ghazaryan VJ, Ghazaryan HV (2020).* New perspectives for the treatment and prevention of COVID-19 infection. the role of polyaminedependent mechanisms in the life cycle of rna and dna viruses in mammals. The New Armenian Medical Journal. 14(4): 108-122
6. *Avanesyan, H., Aghuzumtsyan, R., Papoyan, V., Galstyan, A., Basco, L., Sargsyan D., et al. (2022).* Student's Psychological Safety in Distance Education During COVID-19: Pros and Cons. WISDOM, 22(2), 119–129. https://doi.org/10.24234/wisdom.v22i2.689
7. *Bardocz S (1995).* Polyamines in food and their consequences for food quality and human health: Trends Food Sci Tech. 6. 341-346, https://doi.org/10.1016/S0924-2244(00)89169-4
8. *Buyukuslu N, Hizli N, Esin K, Garipagaoglu M (2014).* A Cross-Sectional Study: Nutritional Polyamines in Frequently Consumed Foods of the Turkish Population. Foods. 3: 541-557, https://doi.org/10.3390/foods3040541
9. *Chaturvedi, R., de Sablet, T., Coburn, L.A. et al. (2012)* Arginine and polyamines in Helicobacter pylori-induced immune dysregulation and gastric carcinogenesis. Amino Acids 42, 627–640 (2012). https://doi.org/10.1007/s00726-011-1038-4
10. *Chiuve, S. E.; Fung, T. T.; Rimm, E. B.; Hu, F. B.; McCullough, M. L.; Wang, M.; et al., (2012).* Alternative Dietary Indices Both Strongly Predict Risk of Chronic Disease. Journal of Nutrition, 142(6), 1009–1018. doi:10.3945/jn.111.157222
11. Cipolla BG, Guilli F, Moulinoux JP (2003). Polyamine reduced diet in metastatic hormone-refractory prostate cancer (HRPC) patients. Biochem Soc Trans. 31: 384-387, https://doi.org/10.1042/bst0310384
12. *Cipolla BG, Havouis R, Moulinoux JP. (2010).* Polyamine reduced diet (PRD) nutrition therapy in hormone refractory prostate cancer patients. Biomed Pharmacother. 2010 May;64(5):363-8. doi: 10.1016/j.biopha.2009.09.022.

OFFICIAL PUBLICATION OF THE YEREVAN STATE MEDICAL UNIVERSITY

13. *Gómez-Gallego C, Ros Berruezo G, Bernal Cava MJ, Pérez Conesa D, Periago Castón MJ (2008).* Papel de las poliaminas en la alimentación infantil. Arch Lat Am Nutr. 58: 117-125

14. *Gondalia, S; Mahon, P; Palombo, E; Knowles, S; Austin, David (2013).* Evaluation of biogenic amines in the faeces of children with and without autism by LC-MS/MS. Deakin University. Journal contribution. https://hdl.handle.net/10536/DRO/DU:30058758

15. *Häussl, A., Ehmann, E., Pacher, A., Knödl, K., Huber T., Neundlinger, L., et al. (2021).* "Psychological, physical, and social effects of the COVID-19 pandemic on hospital nurses." International nursing review vol. 68,4: 482-492. doi:10.1111/inr.12716

16. *Hayrumyan V., Abrahamyan A., Harutyunyan A., Libaridian L., Sahakyan S. (2024).* Impact of COVID-19 on essential healthcare services at the primary healthcare level in Armenia: a qualitative study. BMC Prim. Care 25, 131 https://doi.org/10.1186/s12875-024-02377-6

17. *He, J., & van de Vijver, F. J. R. (2019).* Research methods. In D. Matsumoto & H. C. Hwang (Eds.), The handbook of culture and psychology (2nd ed., pp. 161–184). Oxford University Press. https://doi.org/10.1093/oso/9780190679743.003.0006

18. *ITC (2017) International Test Commission. (2017).* The ITC Guidelines for Translating and Adapting Tests (Second edition) [www.InTestCom.org]

19. *Jovanović, V., Rudnev, M., Abdelrahman, M., Abdul Kadir, N. B., Adebayo, D. F., Akaliyski, P., et al. (2023).* The Coronavirus Anxiety Scale: Cross-National Measurement Invariance and Convergent Validity Evidence. *Psychological Assessment*. Advance online publication, November 27. https://dx.doi.org/10.1037/pas0001270

20. Kalač P. (2014). Health effects and occurrence of dietary polyamines: A review for the period 2005–mid 2013. Food Chemistry, 161(), 27–39. doi:10.1016/j.foodchem.2014.03.102

21. *Kersting, K. (2004).* When done right, Internet research yields rewards. *Monitor on Psychology*, February, *35*(*2*). https://www.apa.org/monitor/feb04/internet

22. *Larqué E, Sabater Molina M, Zamora S (2007).* Biological significance of dietary polyamines. Nutrition. Volume 23, Issue 1, January 2007, Pages 87-95 https://doi.org/10.1016/j.nut.2006.09.006

23. *Lepkowsky, C. (2024).* Consequences of U.S. COVID-19 Policy in 2024. Medical Research Archives, 12(5). doi:10.18103/mra.v12i5.5352

24. Lewandowski NM, Ju S, Verbitsky M, Ross B, Geddie, ML., et al (2010). Polyamine pathway contributes to the pathogenesis of Parkinson disease. Proceedings of the National Academy of Sciences. 107(39): 16970-16975, https://doi.org/10.1073/pnas.1011751107

25. *Maurice R. L. (2024).* Post-COVID-19: Time to Change Our Way of Life for a Better Future. Epidemiologia (Basel, Switzerland), 5(2), 211–220. https://doi.org/10.3390/epidemiologia5020015

26. *Minois N, Carmona-Gutierrez D, Madeo F (2011).* Polyamines in aging and disease.Aging. 2011 Vol. 3. No 8, 716-732, doi:10.18632/aging.100361

27. *Muñoz-Esparza NC, Latorre-Moratalla ML, Comas-Basté O, Toro-Funes N, VecianaNogués MT, Vidal-Carou MC (2019).* Polyamines in Food. Front. Nutr. 6: 108 DOI:10.3389/fnut.2019.00108

28. *Musheghyan, L., Harutyunyan, N. M., Sikder, A., Reid, M. W., Zhao, D., Lulejian, A., et al. (2024).* Managing Patients With COVID-19 in Armenia Using a Remote Monitoring System: Descriptive Study JMIR Public Health Surveill; 10:e57703 doi: 10.2196/57703

29. *Nishibori N, Fujihara S, Akatuki T (2007).* Amounts of polyamines in foods in Japan and intake by Japanese. Food Chem. 100: 491-497 https://doi.org/10.1016/j.foodchem.2005.09.070

30. *Paik MJ, Ahn YH, Lee PH, Kang H, Park CP., et al (2010).* Polyamine patterns in the cerebrospinal fluid of patients with Parkinson's disease and multiple system atrophy. Clinical Chimica Acta, 411(19-20), 1532-1535, doi:10.1016/j.cca.2010.05.034

31. *Penachiotti, FDF, Yamaguchi, MU, Mana, A, Sagy, S, Grossi-Milani, R. (2020).* Sense of coherence and social support as predictors of mental health during COVID-19 pandemic.

OFFICIAL PUBLICATION OF THE YEREVAN STATE MEDICAL UNIVERSITY

Rev Bras Enferm. 73 (Suppl 1): https://doi.org/10.1590/0034-7167-2022-0468

32. *Ponce, S. A., Green, A., Strassle, P. D., & Nápoles, A. M. (2024).* Positive and negative aspects of the COVID-19 pandemic among a diverse sample of US adults: an exploratory mixed-methods analysis of online survey data. BMC public health, 24(1), 22. https://doi.org/10.1186/s12889-023-17491-w
33. *Ralph A, Englyst K, Bardocz S (1999).* Polyamine content of the human diet. In Polyamines in Health and Nutrition; Bardócz, S., White, A., Eds.; Kluwer Academic Publishers: London, UK. 123-137
34. *Rosenfeld, D. L., Balcetis, E., Bastian, B., Berkman, E. T., Bosson, J. K., Brannon T. N., et al., (2022).* Psychological Science in the Wake of COVID-19: Social, Methodological, and Metascientific Considerations. Perspectives on psychological science: a journal of the Association for Psychological Science, 17(2): 311–333. https://doi.org/10.1177/1745691621999374
35. *Ruíz-Cano D, Pérez-Llamas F, Zamora S (2012).* Implicaciones de las poliaminas en la salud infantil. Arch Argent Pediatr. 110: 244-250, https://dx.doi.org/10.5546/aap.2012.244
36. *Smythies J (2012).* The Role of Abnormalities Related to the One Carbon Cycle in Depression and Schizophrenia. Neuroscience & Medicine. 3: 101-106, doi: 10.4236/nm.2012.31015.
37. *Soda K, Kano Y, Sakuragi M, Takao M, Lefor A, Konishi F (2009).* Long-Term Oral Polyamine Intake Increases Blood Polyamine Concentrations. Journal of Nutritional Science and Vitaminology. 55: 361-366, https://doi.org/10.3177/jnsv.55.361
38. *Talukdar, A., Bhattacharya, S., Pal, S., Pal, P., & Chowdhury, S. (2024).* Positive and negative impacts of COVID-19 on the environment: A critical review with sustainability approaches. Hygiene and Environmental Health Advances. DOI:10.1016/j.heha.2024.100107
39. *Tatevian H. A. (2021).* Some psychological consequences of the Covid-19 pandemic and the War of 2020 in Armenia [Published in Russian] // Modern Psychology Scientific Bulletin, N2(9), 343-348 DOI:10.46991/SBMP/2021.4.2.343
40. *Voskanyan, M. A. (2020).* "Economic impact of COVID-19 pandemic in Armenia", R-Economy, Ural Federal University, Graduate School of Economics and Management, vol. 6(3), pages 183-195. DOI: 10.15826/recon.2020.6.3.016
41. *Wu, W., Liu, H., Liu, S., Fang, J., Lau, M.C.K., & Yan, C. (2024).* Editorial: Psychological impact of COVID-19 on individuals: through active choices and passive adaption. *Front. Psychol.* 15:1356562. doi: 10.3389/fpsyg.2024.1356562
42. *Wylie H., (2021).* Impact of COVID-19 on poor mental health in children and young people 'tip of the iceberg' – UNICEF // «UNICEF New York» 10/05/2021 https://www.unicef.org
43. *Wylie H., (2023).* COVID-19's Impact on Young People Risks a Lost Generation // World Bank Group, PRESS RELEASE NO: 2023/048/HD https://www.worldbank.org
44. *Zilfyan AV, Avagyan SA, Muradyan AA, Ghazaryan VJ, Ghazaryan HV (2020).* Possible role of aliphatic polyamines in the inhibition process of daughter viruses' replication in COVID-19 infection. Expediency of adding α-difluoromethylornithine to the registry of drugs for COVID-19 infection The New Armenian Medical Journal. 14(4): 4-15
45. *Zoumas-Morse C, Rock CL, Quintana EL, Neuhouser ML, Gerner EW, Meyskens FL (2007).* Development of a polyamine database for assessing dietary intake. J Am Diet Assoc. 107: 1024-1027, https://doi.org/10.1016/j.jada.2007.03.012

OFFICIAL PUBLICATION OF THE YEREVAN STATE MEDICAL UNIVERSITY

THE NEW ARMENIAN MEDICAL JOURNAL
Volume19 (2025). Issue 2

CONTENTS

4. *Mohammad I., Khan M.S., Ansari R., Bari N., Mohammad Anwar*
INTERSECTING PANDEMICS: ANALYZING THE RELATIONSHIP BETWEEN MPOX AND COVID-19

18. *Ibrahim F.M., Ibrahim M.M., Jamalivand S.*
MINDFULNESS-BASED COGNITIVE THERAPY ON ANXIETY OF PREGNANT WOMEN DURING THE COVID-19 OUTBREAK IN TEHRAN, IRAN

26. *Lotfi M., Kardooni M., Parastesh S., Mirmomeni G.*
CLINICAL SPECTRUM AND OUTCOME OF COVID-19–ASSOCIATED RHINO-ORBITAL-CEREBRAL MUCORMYCOSIS: A CROSS-SECTIONAL STUDY

33. *Niazyan L.G.*
ADDRESSING THE DUAL BURDEN OF LONG COVID AND NONCOMMUNICABLE DISEASES IN ARMENIA: A STRATEGIC POLICY APPROACH

52. *Shamim M.*
EMERGENCY GENERAL SURGERY IN COVID-19 PATIENTS: A META-ANALYSIS

61. *Amra B., Soltaninejad F., Ghaderi F., Masnavi E., Hassanzadeh S. Robillard R., Hassanzadeh S.*
THE EFFECT OF COVID–19 OUTBREAK AND VACCINATION ON SLEEP QUALITY, SLEEP CHRONOTYPE (MORNINGNESS–EVENINGNESS), DEPRESSION, ANXIETY AND STRESS; A CROSS-SECTIONAL STUDY AMONG ISFAHANI RESIDENTS

71. *Hovhannisyan S.R., Mashinyan K.A., Saroyan M.Yu., Badalyan B.Yu., Torgomyan A.L.*
MUSCULOSKELETAL PATHOLOGIES IN PATIENTS WITH COVID-19, ITS INFLUENCE ON OSTEOARTHRITIS: THE ROLE OF VITAMIN D AND HYPOCALCAEMIA.

82. *Dudchenko L.Sh., Beloglazov V.A., Yatskov I.A., Shadchneva N.A., Solovieva E.A., Popenko Yu.O.*
REHABILITATION EXPERIENCE IN PATIENTS WITH POST-COVID SYNDROME

91. *Asgari M., Moezzi M., Jafarzadeh L., Banitalebi S.*
EVALUATION OF MENSTRUAL CYCLE CHANGES AMONG WOMEN IN SHAHREKORD DURING THE COVID-19 PANDEMIC

98. *Adarsha G K., Manjunatha H. H., Raghavendra R., Sujith V. S.*
A STUDY ON H1N1 INFLUENZA IN ADULTS: CLINICAL AND LABORATORY PROFILES, AND TREATMENT OUTCOMES AT A TERTIARY CARE HOSPITAL IN SOUTHERN INDIA

106. *Alshardi L., Morsi N., Sharif L.S.M.*
SLEEP QUALITY AND ITS ASSOCIATION WITH DEPRESSION AMONG PSYCHIATRIC NURSES: A SCOPING REVIEW

120. *Bagheri T., Manzourii L., Ravankhah S., Vafaie F., Saeidinejad Z., Masnavi E., Gevorgian L., Chopikyan A., Hassanzadeh S.*
BRUCELLOSIS CO-INFECTION IN A COVID-19 PATIENTS; A CROSS SECTIONAL DESCRIPTIVE ANALYTICAL STUDY

126. *Mkhitarian M., Chopikyan A., Harutyunyan A., Melik- Nubaryan D., Vartikyan A., Tadevosyan A.*
VIOLENCE AGAINST HEALTHCARE WORKERS BEFORE AND AFTER COVID-19

132. *Lokyan A.B., Avanesyan H.M., Muradyan M.D., Hovhannisyan S.V., Zilfyan A.V., Avagyan S.A.*
A MULTIDIMENSIONAL STUDY OF THE IMPACT, ACTUAL PERCEPTION, AND EXPERIENCE OF COVID-19 AMONG ARMENIAN YOUTH AND ADULTS

OFFICIAL PUBLICATION OF THE YEREVAN STATE MEDICAL UNIVERSITY

THE NEW ARMENIAN MEDICAL JOURNAL

Volume19 (2025). Issue 2

The Journal is founded by
Yerevan State Medical
University after M. Heratsi.

Rector of YSMU

Armen A. Muradyan

Address for correspondence:

Yerevan State Medical University
2 Koryun Street, Yerevan 0025,
Republic of Armenia

Phones:

(+37410) 582532 YSMU
(+37493 588697 Editor-in-Chief
Fax: (+37410) 582532
E-mail:namj.ysmu@gmail.com, ysmiu@mail.ru
URL:http//www.ysmu.am

Our journal is registered in the databases of Scopus, EBSCO and Thomson Reuters (in the registration process)

SCOPUS EBSCO
REUTERS

Copy editor: Kristina D Matevosyan

LLC Print in "Monoprint" LLC

Director: Armen Armenaakyan
Andraniks St., 96/8 Bulding
Yerevan, 0064, Armenia
Phone: (+37491) 40 25 86
E-mail: monoprint1@mail.ru

Editor-in-Chief

Arto V. **Zilfyan** (Yerevan, Armenia)

Deputy Editors

Hovhannes M. **Manvelyan** (Yerevan, Armenia)
Hamayak S. **Sisakyan** (Yerevan, Armenia)

Executive Secretary

Stepan **A. Avagyan** (Yerevan, Armenia)

Editorial Board

Armen A. **Muradyan** (Yerevan, Armenia)
Drastamat N. **Khudaverdyan** (Yerevan, Armenia)
Levon M. **Mkrtchyan** (Yerevan, Armenia)

Foregin Members of the Editorial Board

Carsten N. **Gutt** (Memmingen, Germay)
Muhammad **Miftahussurur** (Indonesia)
Alexander **Woodman** (Dharhan, Saudi Arabia)

Coordinating Editor (for this number)

Hesam Adin **Atashi** (Tehran, Iran)

Editorial Advisory Council

Mahdi **Esmaeilzadeh** (Mashhad, Iran)
Ara S. **Babloyan** (Yerevan, Armenia)
Aram **Chobanian** (Boston, USA)
Luciana **Dini** (Lecce, Italy)
Azat A. **Engibaryan** (Yerevan, Armenia)
Ruben V. **Fanarjyan** (Yerevan, Armenia)
Gerasimos **Filippatos** (Athens, Greece)
Gabriele **Fragasso** (Milan, Italy)
Samvel G. **Galstyan** (Yerevan, Armenia)
Arthur A. **Grigorian** (Macon, Georgia, USA)
Armen Dz. **Hambardzumyan** (Yerevan, Armenia)
Seyran P. **Kocharyan** (Yerevan, Armenia)
Aleksandr S. **Malayan** (Yerevan, Armenia)
Mikhail Z. **Narimanyan** (Yerevan, Armenia)
Yumei **Niu** (Harbin, China)
Linda F. **Noble-Haeusslein** (San Francisco, USA)
Arthur K. **Shukuryan** (Yerevan, Armenia)
Suren A. **Stepanyan** (Yerevan, Armenia)
Gevorg N. **Tamamyan** (Yerevan, Armenia)
Hakob V. **Topchyan** (Yerevan, Armenia)
Alexander **Tsiskaridze** (Tbilisi, Georgia)
Konstantin B. **Yenkoyan** (Yerevan, Armenia)
Peijun **Wang** (Harbin, Chine)

OFFICIAL PUBLICATION OF THE YEREVAN STATE MEDICAL UNIVERSITY