

# World Journal of *Psychiatry*

*World J Psychiatry* 2022 July 19; 12(7): 860-1001



## Contents

Monthly Volume 12 Number 7 July 19, 2022

## REVIEW

- 860 Influencing factors, prediction and prevention of depression in college students: A literature review  
*Liu XQ, Guo YX, Zhang WJ, Gao WJ*

## MINIREVIEWS

- 874 SARS-CoV-2 consequences for mental health: Neuroinflammatory pathways linking COVID-19 to anxiety and depression  
*de Mello AJ, Moretti M, Rodrigues ALS*
- 884 Genetic variables of the glutamatergic system associated with treatment-resistant depression: A review of the literature  
*Saez E, Erkoreka L, Moreno-Calle T, Berjano B, Gonzalez-Pinto A, Basterreche N, Arrue A*
- 897 Social media and schizophrenia: An update on clinical applications  
*Fonseka LN, Woo BKP*

## ORIGINAL ARTICLE

## Case Control Study

- 904 ABCB9 polymorphism rs61955196 is associated with schizophrenia in a Chinese Han population  
*Li XW, Zhang MY, Li ZJ, Ai LZ, Jin MD, Jia NN, Xie MT, Yang YQ, Li WZ, Dong L, Yu Q*
- 915 Predicting South Korea adolescents vulnerable to depressive disorder using Bayesian nomogram: A community-based cross-sectional study  
*Byeon H*

## Observational Study

- 929 Believing processes during the COVID-19 pandemic in individuals with bipolar disorder: An exploratory study  
*Tietz S, Wagner-Skacel J, Angel HF, Ratzenhofer M, Fellendorf FT, Fleischmann E, Körner C, Reininghaus EZ, Seitz RJ, Dalkner N*
- 944 Treatment outcome, cognitive function, and psychopathology in methamphetamine users compared to other substance users  
*Behle N, Kamp F, Proebstl L, Hager L, Riebschläger M, Schacht-Jablonowsky M, Hamdorf W, Neumann S, Krause D, Manz K, Franke AG, Koller G, Soyka M*
- 958 Clinical characteristics of pediatric patients with treatment-refractory Tourette syndrome: An evidence-based survey in a Chinese population  
*Li Y, Yan JJ, Cui YH*

- 970 Effect of distinct psychological interventions on changes in self-reported distress, depression and loneliness among older adults during COVID-19

*Shapira S, Yeshua-Katz D, Sarid O*

### SCIENTOMETRICS

- 982 Mapping the landscape and structure of global research on binge eating disorder: Visualization and bibliometric analysis

*Zyoud SH, Shakhshir M, Abushanab AS, Koni A, Shahwan M, Jairoun AA, Al-Jabi SW*

### LETTER TO THE EDITOR

- 995 COVID-19 survivors: Multi-disciplinary efforts in psychiatry and medical humanities for long-term realignment

*Löffler-Stastka H, Pietrzak-Franger M*

- 999 Underlying reasons for the decline in physical activity during COVID-19

*Zhang YF, Qiu LK, Li ZP, He LP, Zhou LL*

**ABOUT COVER**

Editorial Board Member of *World Journal of Psychiatry*, Yuan-Yuan Xiao, PhD, Professor, Department of Epidemiology and Health Statistics, School of Public Health, Kunming Medical University, Kunming 650500, Yunnan Province, China. xiaoyuanyuan@kmmu.edu.cn

**AIMS AND SCOPE**

The primary aim of *World Journal of Psychiatry* (WJP, *World J Psychiatry*) is to provide scholars and readers from various fields of psychiatry with a platform to publish high-quality basic and clinical research articles and communicate their research findings online.

WJP mainly publishes articles reporting research results and findings obtained in the field of psychiatry and covering a wide range of topics including adolescent psychiatry, biological psychiatry, child psychiatry, community psychiatry, ethnopsychology, psychoanalysis, psychosomatic medicine, etc.

**INDEXING/ABSTRACTING**

The WJP is now abstracted and indexed in Science Citation Index Expanded (SCIE, also known as SciSearch®), Current Contents/Clinical Medicine, Journal Citation Reports/Science Edition, PubMed, PubMed Central, Reference Citation Analysis, China National Knowledge Infrastructure, China Science and Technology Journal Database, and Superstar Journals Database. The 2022 Edition of Journal Citation Reports® cites the 2021 impact factor (IF) for WJP as 3.500; IF without journal self cites: 3.313; 5-year IF: 7.380; Journal Citation Indicator: 0.62; Ranking: 89 among 155 journals in psychiatry; and Quartile category: Q3.

**RESPONSIBLE EDITORS FOR THIS ISSUE**

Production Editor: *Yu-Xi Chen*; Production Department Director: *Xu Guo*; Editorial Office Director: *Jia-Ping Yan*.

**NAME OF JOURNAL**

*World Journal of Psychiatry*

**ISSN**

ISSN 2220-3206 (online)

**LAUNCH DATE**

December 31, 2011

**FREQUENCY**

Monthly

**EDITORS-IN-CHIEF**

Rajesh R Tampi, Ting-Shao Zhu, Panteleimon Giannakopoulos

**EDITORIAL BOARD MEMBERS**

<https://www.wjgnet.com/2220-3206/editorialboard.htm>

**PUBLICATION DATE**

July 19, 2022

**COPYRIGHT**

© 2022 Baishideng Publishing Group Inc

**INSTRUCTIONS TO AUTHORS**

<https://www.wjgnet.com/bpg/gerinfo/204>

**GUIDELINES FOR ETHICS DOCUMENTS**

<https://www.wjgnet.com/bpg/GerInfo/287>

**GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH**

<https://www.wjgnet.com/bpg/gerinfo/240>

**PUBLICATION ETHICS**

<https://www.wjgnet.com/bpg/GerInfo/288>

**PUBLICATION MISCONDUCT**

<https://www.wjgnet.com/bpg/gerinfo/208>

**ARTICLE PROCESSING CHARGE**

<https://www.wjgnet.com/bpg/gerinfo/242>

**STEPS FOR SUBMITTING MANUSCRIPTS**

<https://www.wjgnet.com/bpg/GerInfo/239>

**ONLINE SUBMISSION**

<https://www.f6publishing.com>



## Underlying reasons for the decline in physical activity during COVID-19

Yang-Fen Zhang, Li-Ke Qiu, Zhi-Peng Li, Lian-Ping He, Ling-Ling Zhou

**Specialty type:** Psychiatry

**Provenance and peer review:**

Invited article; Externally peer reviewed.

**Peer-review model:** Single blind

**Peer-review report's scientific quality classification**

Grade A (Excellent): A  
Grade B (Very good): B  
Grade C (Good): 0  
Grade D (Fair): 0  
Grade E (Poor): 0

**P-Reviewer:** Khan MKA, India;  
Tazegul G, Turkey

**Received:** February 21, 2022

**Peer-review started:** February 21, 2022

**First decision:** April 18, 2022

**Revised:** April 19, 2022

**Accepted:** June 16, 2022

**Article in press:** June 16, 2022

**Published online:** July 19, 2022



**Yang-Fen Zhang, Li-Ke Qiu, Zhi-Peng Li, Lian-Ping He, Ling-Ling Zhou,** School of Medicine, Taizhou University, Taizhou 318000, Zhejiang Province, China

**Corresponding author:** Ling-Ling Zhou, MD, Teacher, School of Medicine, Taizhou University, No. 1139 Shifu Avenue, Taizhou 318000, Zhejiang Province, China. [45686662@qq.com](mailto:45686662@qq.com)

### Abstract

The article not only successfully evaluated regular physical activities can improve mental well-being during self-isolation and social distancing policies related to the coronavirus disease 2019 (COVID-19), but also concluded that the COVID-19 pandemic may lead to augmented levels of angiotensin-converting enzyme-2. By reading the article of Walid Kamal Abdelbasset, we have some questions and put forward some suggestions on the content of the article.

**Key Words:** Angiotensin-converting enzyme-2; COVID-19; Mental health; Physical activity

©The Author(s) 2022. Published by Baishideng Publishing Group Inc. All rights reserved.

**Core Tip:** During the coronavirus disease 2019, physical activity declined. There are many reasons behind this phenomenon. And the surveys in the article don't attach survey area. Additionally, the mutually affected relationship between physical activity and mental health is not clearly elaborated. The above are the areas that need to be improved in the article, and we also put forward some suggestions for improvement.

**Citation:** Zhang YF, Qiu LK, Li ZP, He LP, Zhou LL. Underlying reasons for the decline in physical activity during COVID-19. *World J Psychiatry* 2022; 12(7): 999-1001

**URL:** <https://www.wjgnet.com/2220-3206/full/v12/i7/999.htm>

**DOI:** <https://dx.doi.org/10.5498/wjp.v12.i7.999>

### TO THE EDITOR

We were happy to read the ingenious article by Abdelbasset *et al*[1], in which they illustrated the effect of physical activity on mental well-being during the coronavirus

disease 2019 (COVID-19). The author not only elaborate the impact of physical activity on mental health through three sections: Mental health and community, neurological manifestations related to COVID-19, physical activity and mental health, but also conclude that the COVID-19 pandemic is correlated with angiotensin-converting enzyme-2, leading to related diseases. The article has had a significant impact on the current world that is still affected by the epidemic, but there are still some issues that need further consideration.

There are many reasons for the decline in physical activity from COVID-19. On the one hand, the COVID-19 itself can affect the body's metabolic process, directly causing musculoskeletal symptoms, such as muscle pain and numbness, and joint swelling and soreness[2]. On the other hand, the disease can affect the patient's respiratory system, digestive system and circulatory system and indirectly cause symptoms of physical decline. In the acute stage, patients often have respiratory symptoms such as dry cough and dyspnea, resulting in insufficient oxygen intake. At this time, patients often have fever symptoms. Fever will accelerate the body's metabolic process, thereby increasing oxygen consumption and further reducing blood oxygen content, and even acidosis may occur[3]. The patient is in such a state of oxygen imbalance that it is very easy for the patient to feel decreased physical strength or muscle weakness. Gastrointestinal symptoms can also occur in the acute phase, causing the patient to lose appetite. Studies have also shown that the COVID-19 may cause anosmia in patients[4]. In short, the effects of COVID-19 on patients with eating disorders will weaken the body's intake of food, thereby weakening the body's energy conversion. Without sufficient energy intake, patients often feel muscle soreness and weakness, because at this time the body has more the glycolysis pathway is used to generate adenosine-triphosphate, and the muscles use more creatine phosphate to maintain muscle activity[5]. The lactate and creatine phosphate metabolites produced by the glycolysis pathway take a longer time to complete metabolic consumption, so it accumulates in the muscles for a long time and causes muscle soreness. Therefore, we suggest that the authors supplement the reasons for the above-mentioned physical decline in order to make the theory of this review more complete and richer. What's more, not everyone's physical activity has decreased during the COVID-19 period, and some people are still able to maintain regular exercise as usual, which suggests that we need to think more deeply. During the period of the COVID-19, measures such as increasing people's ownership of sports equipment, developing interesting sports software or games, and converting ordinary sports into online sports competitions will greatly promote people's enthusiasm for physical exercise. This is something we should strive to do in the future.

In addition, the author detailed many surveys on the relationship between physical activity and mental health. However, the COVID-19 appeared in China and spread around the world, affecting populations worldwide and causing thousands of deaths[6,7]. If the survey area can be attached to the table, and if the survey areas are diverse and extensive, then it can highly increase the reliability of the results, as well as widen the applicability of the conclusions. Thus, we suggest that the author should include the survey area in the table, so that the results of each survey area can be clearly seen, and the conclusion that physical activity affects mental health can be more convincing and reliable.

One of the conclusions of the article is that exercise training for a long time does not indicate good mental well-being, but it may be a predictor of developing mood disorders[8]. But nothing is absolute, and so is the conclusion, which applies to people who are physically active for a long time, especially during lockdown periods when their need for exercise can not be met. The definition of prolonged exercise varies from person to person. Therefore, we suggest that the author should add a conditional supplement to this conclusion to increase the rigor of the article. It would be better if the author could give a general definition of exercise training for a long time in the article.

The terms exercise and physical activity are often used interchangeably, but by definition they are two different things. Physical activity is a process in which people use their skeletal muscles to consume energy to achieve human movement. Exercise is part of physical activity, and if someone runs once on a whim and then doesn't continue that activity, it's not exercise. Exercise is a subcategory of physical activity that is planned, structured, repetitive, and purposefully focused on improvement or maintenance of one or more components of physical fitness[9]. People who run in the park every morning, young people who play basketball two or three times a week, old women who dance in the square every evening, they have well integrated exercise into their lives. But not everyone can exercise consistently. Many people just do physical activity and call it exercise. This is the phenomenon of combining exercise and physical activity. Doing housework at home, walking, running and so on are just physical activities that are more common than exercise. In the future, provided that different levels of exercise are proposed to improve people's mental health, the distinction between physical activity and exercise should not be ignored.

Nevertheless, as the author wrote, anxiety and depression may lead to negative effects on various quality of life domains, such as being physically inactive[10]. This shows that not only does physical activity affect mental health, but mental health can also affect physical activity. In other words, physical activity and mental health are closely related and mutually affected.

## FOOTNOTES

**Author contributions:** Zhang YF and Zhou LL contributed to the conception of research; Zhang YF and Li ZP wrote the manuscript; He LP and Qiu LK contributed to the revision of the manuscript; all authors approved the final manuscript for submission.

**Supported by** Curriculum Reform Project of Taizhou University in 2021, No. xkg2021087.

**Conflict-of-interest statement:** All the authors report no relevant conflicts of interest for this article.

**Open-Access:** This article is an open-access article that was selected by an in-house editor and fully peer-reviewed by external reviewers. It is distributed in accordance with the Creative Commons Attribution NonCommercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <https://creativecommons.org/licenses/by-nc/4.0/>

**Country/Territory of origin:** China

**ORCID number:** Yang-Fen Zhang 0000-0003-4066-391X; Li-Ke Qiu 0000-0003-1521-3343; Zhi-Peng Li 0000-0002-0355-7889; Lian-Ping He 0000-0002-9627-5599; Ling-Ling Zhou 0000-0001-9072-806X.

**S-Editor:** Fan JR

**L-Editor:** A

**P-Editor:** Fan JR

## REFERENCES

- 1 **Abdelbasset WK**, Nambi G, Eid MM, Elkhohi SM. Physical activity and mental well-being during COVID-19 pandemic. *World J Psychiatry* 2021; **11**: 1267-1273 [PMID: 35070776 DOI: 10.5498/wjp.v11.i12.1267]
- 2 **Cipollaro L**, Giordano L, Padulo J, Oliva F, Maffulli N. Musculoskeletal symptoms in SARS-CoV-2 (COVID-19) patients. *J Orthop Surg Res* 2020; **15**: 178 [PMID: 32423471 DOI: 10.1186/s13018-020-01702-w]
- 3 **Nechipurenko YD**, Semyonov DA, Lavrinenko IA, Lagutkin DA, Generalov EA, Zaitceva AY, Matveeva OV, Yegorov YE. The Role of Acidosis in the Pathogenesis of Severe Forms of COVID-19. *Biology (Basel)* 2021; **10** [PMID: 34571729 DOI: 10.3390/biology10090852]
- 4 **Shanbehzadeh S**, Tavahomi M, Zanjari N, Ebrahimi-Takamjani I, Amiri-Arimi S. Physical and mental health complications post-COVID-19: Scoping review. *J Psychosom Res* 2021; **147**: 110525 [PMID: 34051516 DOI: 10.1016/j.jpsychores.2021.110525]
- 5 **Spriet LL**. Anaerobic metabolism in human skeletal muscle during short-term, intense activity. *Can J Physiol Pharmacol* 1992; **70**: 157-165 [PMID: 1581850 DOI: 10.1139/y92-023]
- 6 **van Doremalen N**, Bushmaker T, Morris DH, Holbrook MG, Gamble A, Williamson BN, Tamin A, Harcourt JL, Thornburg NJ, Gerber SI, Lloyd-Smith JO, de Wit E, Munster VJ. Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1. *N Engl J Med* 2020; **382**: 1564-1567 [PMID: 32182409 DOI: 10.1056/NEJMc2004973]
- 7 **Andersen KG**, Rambaut A, Lipkin WI, Holmes EC, Garry RF. The proximal origin of SARS-CoV-2. *Nat Med* 2020; **26**: 450-452 [PMID: 32284615 DOI: 10.1038/s41591-020-0820-9]
- 8 **Pearson GS**. The Mental Health Implications of COVID-19. *J Am Psychiatr Nurses Assoc* 2020; **26**: 443-444 [PMID: 32815433 DOI: 10.1177/1078390320949563]
- 9 **Dasso NA**. How is exercise different from physical activity? *Nurs Forum* 2019; **54**: 45-52 [PMID: 30332516 DOI: 10.1111/nuf.12296]
- 10 **Vancini RL**, Rayes ABR, Lira CAB, Sarro KJ, Andrade MS. Pilates and aerobic training improve levels of depression, anxiety and quality of life in overweight and obese individuals. *Arq Neuropsiquiatr* 2017; **75**: 850-857 [PMID: 29236887 DOI: 10.1590/0004-282X20170149]



Published by **Baishideng Publishing Group Inc**  
7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA

**Telephone:** +1-925-3991568

**E-mail:** [bpgoffice@wjgnet.com](mailto:bpgoffice@wjgnet.com)

**Help Desk:** <https://www.f6publishing.com/helpdesk>

<https://www.wjgnet.com>

