

Online Yoga as Public Health Support in the time of COVID-19 Pandemic

Ma. Rosita Ampoyas-Hernani¹, Emmanuel V. Hernani²

¹Cebu Normal University / Center for Well-Being
Cebu City, Philippines

²Cebu Normal University / Psychosomatherapia Clinic
Cebu City, Philippines



Abstract – This paper tackles yoga as a form of public health support during the pandemic. Before the COVID-19 pandemic, yoga has been used in different social contexts, from small groups to community-wide engagement; during the quarantine, telehealth platform was promoted and yoga was introduced online to the community. Researches on yoga have indicated positive effects on medical and psychological complaints. In the program, the yoga instructor collaborated with a mental health professional whose expertise is on gestalt therapy. Thus, gestalt awareness continuum exercises enhanced the experiences of the participants who reported psychological complaints. The program affirms the viability of using digital technology in conducting yoga sessions. Benefits of doing yoga online outweighs the challenges that are seen in the light of socio-cultural, gender and religious milieus. The paper draws a conclusion that yoga on an online is the better platform option in a crisis situation when in-person engagement is not feasible. Recommendation highlights the need to address physical inactivity and sedentary behaviors using yoga and its inclusion to the government health promotion and health campaign strategies.

Keywords – Yoga, Public Health, COVID-19, Telehealth, Online Physical Activity, Community Support, Physical Exercise

I. INTRODUCTION

After the World Health Organization declaration of novel coronavirus or COVID-19 as a matter of Public Health Emergency of International Concern (PHEIC) [1], countries around the world implemented mitigating measures from travel restrictions, sanitation and hygiene standard routines and quarantine to address the pandemic. The community quarantine measure limited the mobility of the public. In the Philippines for example, people are strictly prohibited to go out and establishments closed down except for hospitals, pharmacies and other essential establishments. Not being allowed to go out, people got no other recourse but to transact business and to provide services online or over the phone. While under quarantine, households initiate different activities, from socialization, entertainment and in transacting business.

II. THE COVID-19 PANDEMIC AND PHYSICAL HEALTH

In some countries, and the Philippines included, fitness studios, parks, sports and amusement centers were ordered to temporarily close. The stay at home policy and the sedentary low levels of physical activity poses significant challenges to health. According to studies, sedentary lifestyle increases urinary incontinence in women [2]. It can also increase the chances of developing nonspecific low back pain [3] and speed up biological ageing and is the cause of over 35 chronic diseases/conditions [4]; Inactivity is also a trajectory to gastric bypass[5] and it can exacerbate existing medical conditions [6].

III. THE COVID-19 PANDEMIC AND MENTAL HEALTH

The home quarantine also triggers psychological distress and discomfort. In fact, health experts informed that there was a huge increase of global mental health crisis due to

COVID-19 pandemic. Emerging studies and surveys confirm COVID-19's impact on mental health globally. People who are observing the quarantine reported anxiety, sleeplessness, panic attack and symptoms of depression and maladjustment. Even medical frontliners, experienced psychological distress. As reported, the coronavirus crisis has exacerbated some pre-existing mental disorders, it has also triggered prevalent and co-morbid symptoms [7],[8], [9], [10]. In Australia, an online survey reported an increased in depression, anxiety and stress symptoms sleeplessness, alcohol consumption and smoking since the onset of the COVID-19 pandemic [11]. Similar situation is reported in China and in the Philippines were the respective national health agencies of the two countries declared a state of emergency and called the mental health professionals and organizations for assistance [12]: [13].

World Health Organization estimated a 33 per cent prevalence rate of symptoms, a three-fold increase compared to pre-pandemic levels worldwide. Younger adults, ages 18 to 44, experienced a tenfold increase in serious mental distress compared with 2018 survey while adults who are 60 and older had the smallest increases in serious mental health issues. Clearly, the pandemic has had a devastating effect on mental health [14].

IV. HEALTH PROMOTIONS BEFORE AND DURING THE PANDEMIC

In 2016 WHO reported that 28% of adults aged 18+ years were insufficiently physically active, i.e., they engaged in less than 150 minutes of moderate or intensity physical activity per week[15]. The said figure suggests that sedentary behaviors remained prevalent despite of the organization's health campaign in 2010 (e.g. Global recommendations on physical activity for health, released on November 30, 2010). In 2018 and after, another campaigns were initiated (Global Action Plan on Physical Activity 2018–2030: More Active People for a Healthier World, October 15, 2018 and ACTIVE: a technical package for increasing physical activity released on 2 April 2019). Just recently, the organization released the Be Active campaign while staying at home. The website recommend activities specific to age groups. Just recently, WHO and the International Olympic Committee (IOC) signed an agreement to work together to promote health through sport and physical activity and enhanced awareness of the value of sport and physical activity.

In 2019, WHO launched the WHO Special Initiative for Mental Health 2019-2023: Universal Health Coverage for Mental Health to ensure access to quality and affordable care

for mental health conditions in 12 priority countries to 100 million more people. In 2013, the Sixty-Sixth World Health Organization Assembly released a resolution titled Comprehensive mental health action plan 2013–2020. Before that, in the year 2010, WHO released Mental Health Gap Action Programme (MHGAP) Intervention guide followed by updated versions and other program components. At this time, during the pandemic, the organization promoted mental health through #HealthyAtHome-Mental Health.

V. THE COMMUNITY

The proponent has already been conducting community support even before the pandemic in Cebu, Philippines. Cebu is the gateway to the southern part of the country. It is a premiere city outside the capital and it is one of the most populated and booming provinces of the Philippines. The city has a booming trade and industry and is considered one of the few riches province of the country, Health promotions and activities are common. Aside from yoga classes, activities like Zumba, aerobic exercises, Pilates and other wellness oriented endeavours are common. These are usually conducted in groups and inside some establishments except for Zumba, which is even conducted in market squares. Yoga is a thriving activity in the province. There are many existing yoga studios spreading across the province. After the declaration of national calamities, establishments, including health and wellness centers closed down.

During the pandemic, health activities were also affected. Parks, leisure and sports centers closed down. Before the quarantine period, the proponent offered free yoga session every Sunday aside from yoga by appointment for selected groups and individuals. In answer to the call for community support, the proponent offers free synchronous and asynchronous yoga sessions to reach out to the other communities.

Yoga as a public health support is quite new in the country. In other countries, It has been used to inner-city dwelling children [16]; to school children [17]; university students [18] and employees [19], [20].

VI. RECIPIENTS

The ameliorative yoga sessions were exclusive to individuals who reported psychological and physical symptoms. Proponents conducted online yoga per request from the patrons of the center who regularly attended the yoga sessions before the pandemic. They underwent screening and interview assessment. These individuals reported symptoms of anxiety, panic, sleeplessness, lethargy,

boredom, sadness aside from back pain, headache and breathing difficulties. Out of the 9 participants only 7 completed the 12 online sessions that were conducted during night time via FB Messenger platform.

One government organization tapped the center to conduct yoga for their personnel who were quarantine inside their facility for two months. There were also groups who invited the proponent to conduct yoga in vivo which was declined because of health risk and because of the government protocol.

The open yoga sessions were conducted every Sunday morning over Facebook Live since there were also requests from non-patrons to conduct yoga. The live session is recorded and can be viewed anytime. Anyone from the lived session can also seek consultation from the psychologist who handles the psychological activity.

To handle the mental health component, the proponent collaborated with a clinical psychologist who were present during restorative yoga sessions. As stated, there were individuals who reported psychological distress and discomfort.

VII. WHY YOGA?

The United Nations gives yoga a grand recognition by making every 21st June as International Yoga Day. Yoga as practice, involves physical postures, breathing techniques and meditation [21]. Yoga has evidences of benefits. Aside from physical health, it can also enhanced mental health. Studies also that it can promote healthy lifestyles, induced sleep and balance, pain management and other physical and mental health benefits [22].

Reports suggest many positive benefits of yoga to health. It is deemed effective for elderlies who suffered from depression and pain [23] and to women with anxiety aside from depression [24]. To people with low back pain [25]; with rheumatoid arthritis [26] and hypertension [27]. There also studies that shows improvement of lung functioning[28]. It can also increased adherence and effective in promoting physical activity [29].

In the Philippines, it is popular alongside Zumba and aerobics. It is an emerging physical activity. With the accommodation that the program received from the community, it can be a potential form of wellness and wellbeing activity.

VIII. GESTALT FRAMEWORK FOR MIND BODY INTEGRATION

The ameliorative yoga uses the framework of gestalt therapy which emphasizes body-mind integration. Thus, inherent in each activity is the enhancement of awareness. As stated, awareness is the fulcrum of health [30]. Every activity starts with awareness exercise which is idiosyncratic to the experience of the individual in a given moment. Awareness in gestalt therapy is directed at how an individual think, feels, moves, and interacts in a present moment context [31]. The exercise is unfacilitated, the proponent defers from giving instructions or directions, and it is self-managed that the individual can freely focus, attend, accommodate to any experience in a given moment. There are intermittent interlude of other exercises such as breathing exercises, grounding exercises and experiments. Breathing exercises are inherent in yoga. In fact, it is the primary element of yoga primary than awareness and postures. At times, breathing demonstration is necessary especially when the individual has some problems with oscillations. These are evident to individuals who have asthma and those have anxiety and panic attacks. These types of participant needs to be guided and coached. Grounding exercises are also important aspect of the session since most clients are in the confined of their homes with other family members. Grounding is literally to ground the person to the environment to manage distractions and other extraneous stimuli. Dialogue happens before, during and after the session. Since it is online, each participant is encourage to show their whole body over the video. This to let the proponent see how each pose is executed. Basically, the virtual engagement is just like the in-person set-up where there is dialogue, feedbacking and disclosing. The psychologist and the yoga instructor conducts the session together; The psychologist conducts the pre and yoga dialogue, the gestalt awareness exercises and psycho-education while the yogi instructor facilitates the yoga session. The team facilitates the post-yoga dialogue together after each session.

Gestalt awareness exercises enhanced the yoga experiences of the participants; It leads the participants to deeper sense and awareness of their movement, breathing, emotions, thoughts and experience in a given situation. Gestalt gives meaning to authentic involvement through embodiment of what is being experienced before, during and after the yoga session.

In the case of the open yoga session online, though it still adheres to the same framework, the dialogical component is

minimized. Interaction is confined only to the section on comments and chats which can only be read by the facilitator after the session. There is no feedback loop from the facilitator during the session. The psychologist would only come in after the session to check for messages that solicit assistance and support from a mental health professional. In this set-up, the yoga instructor plays a big role in delivering the same efficacy that with the in person, large group engagement. The challenge of every human transaction, is authenticity of engagement, in this case, the task of the facilitator to meet the said expectation is overwhelming especially that it in an online format.

IX. ASYNCHRONOUS AND SYNCHRONOUS YOGA: DIGITAL WELLNESS AND WELLBEING SOLUTION

Physical exercises and fitness demonstration videos and infographics and other forms of health promotion and provisions have been existent ever since television set and radio became a common household appliance. The use of digital technologies in health promotions have become more common since the last decade and it has become prominent than before because of the pandemic.

Technology-based, especially synchronous yoga session is an innovation to the traditional in-person engagement. It makes use of technology and the social media which the most common platform of human transaction nowadays. Though its virtual, the proponent can still interact with the participants who were confined in their abode. Asynchronous communication through SMS, online messaging system and email were used to consult and for follow-up. Psycho-education, video demonstration complemented the two major online experiential activities and the dialogue. Technology-based yoga session is a new format of engagement.

X. RECIPIENTS AND ONLINE HEALTH PROMOTING ACTIVITIES DURING THE TIME OF PANDEMIC

The program was initially intended for the patrons of the center. However, due to exigency of the situation, an open session was established for the public. The platform widened the coverage that the broadcast even reached the other regions. From a single group, the audience evolved into multiple communities; The extensive reach proves the benefit of online technology.

XI. BENEFITS AND CHALLENGES

There are challenges in doing yoga online. Though these challenges are overwhelming these can not outweigh its benefits especially during the quarantine period.

First and foremost, it has a wider reach. Though it was only designed to be for a small group of people who reported varying symptoms of illnesses, it reached not only the community of advocates but other individuals as well who were looking for wellness activities that can be done in the confine of the home. This has reached the other regions of the country where yoga sessions even before the pandemic is scanty. It impressed the viability of doing remote learning to areas that are hard to reach and limited in resources.

The Philippines is an archipelago of around 7, 100 islands and the easiest way to get around to the different communities is through the use of technology. The individual can invite other family members to join and there is even a post of a young child joining her mother who executed the different yoga post while watching the live presentation. It has become a social activity for the family. Whether they treat yoga as a form of leisure or recreational activity, they did gain health derivatives.

There are psychosocial benefits even when the session is done online. Reportedly, after the session, the client can already sleep; anxiety and panic have already become manageable. Joining the session also had invigorated the participants. It eased their boredom and lethargy especially after the session. There are also reports of being relieved and relaxed after doing yoga especially from participants who are in work from home status.

The instructional session can be repeatedly viewed online. Thus, there is no need for a facilitator or instructor whenever an individual would want to do yoga anywhere and anytime. There is also a sense of community support because others can give feedback and provide further information to any posted queries and comments.

The majority of the mobile phone users belong to the younger generations and to high income earning sectors. This reflects to the same set of online yoga consumers of the region. Most participants are predominantly young female college students and professionals. This confirms the study that yoga practitioner are predominantly female and college educated [32], [33]. Reaching out to male population is a challenge because of the stereotype that comes with most fitness exercises. If not a chauvinistic response like yoga and fitness exercises are for females and that men don't exercise, there are homophobic comments that exercises are for females or not for gay men.

Aside from gender disparity, cultural, socio-economic and generational gap are also issues. Though yoga can be practiced by anyone, regardless of age, religion and socio-economic status, there is a misconception that yoga is an

exercise of the wealthy; That is a religious practice and it is a form of heresy for Christians and other denominations to practice yoga. Others also perceive yoga as an exercise that is full of bending, contorting and heavy breathing-- yoga stereotypes that deem inappropriate to older age group.

As to issue that yoga is an exercise exclusively for the affluent, there is a sense of elitism and exclusivity especially by some practitioners who consider yoga to par better than other exercises. Hence, unlike Zumba and other aerobic exercises, one can seldom see yoga as a mass fitness program. Because yoga sessions in the Philippines are often conducted inside studios and most of yoga enthusiasts are professionals who embrace yoga as stress relief after a busy day at work, others perceive yoga as a wellness activity for the affluent. Also, commercialization has also contributed to the elitist tag to yoga and its practitioners who would practice in full accessories and equipment. And it is a given fact that personal effects are expensive that not all people can afford.

Socio-cultural and religious milieu are also matters that need to be addressed. Lack of understanding and religious intolerance are factors to consider especially in introducing yoga to the community. A pre-dominantly Christian country, people see yoga as another form of religious practice. Undeniably, there are individuals who frown upon yoga because of its connection to Hinduism. Any thing that is not Christian is considered a form of heresy and there are fundamentalists who even deem yoga as a work of a devil.

There are also perceived adverse effects of yoga. There is a misperception that yoga involves extreme and difficult postures and exercises like inversions and contortions. While it is true that its contraindication especially to individuals with medical preconditions [34] and there are indeed injuries or other adverse effects which are transient and due to pre-existing medical conditions, however, the risks were comparable to non-yoga practitioners [35] and yoga appears to safer when compared to other exercises types [36].

The Philippines readily embraces Zumba than yoga. The reasons are obvious, yoga is widely perceived as a religious practice while Zumba is not. Zumba, a form of aerobic exercise that originates from Colombia, is active, upbeat and openly gregarious while yoga is passive, slow and contemplative- hence it is dubbed as a form of meditative exercise just like Tai-Chi and Chi-Gong. People prefer fun, entertaining and at the same time danceable and they found these attributes in Zumba which sessions are common as long as there is space, like public , entertainment center of a mall, or to an empty parking lot or unused street, one can

organize a Zumba group. In fact, commercial centers use Zumba activity as come on for patrons and customers.

XII. DISCUSSION

Even before the pandemic, sedentary lifestyles are already a health issue. The leading causes of death in the country are non-communicable diseases (NCDs) like diseases of the heart, diseases of vascular system, pneumonias, cancer, respiratory illnesses like tuberculosis, diabetes and nephritis. These mortality factors are attributed to lifestyle [37]. There have been different campaigns that address morbidity and mortality rates of the country. While there have been health promotions and campaigns in the past, these have become inapplicable during the pandemic.

Alleviative and health promoting activities are neglected dimensions of public physical and mental health support. This observation reflects the common scenario as common recommendations are on promotions of physical activity that would impact lifestyle changes [38]; cardiorespiratory fitness to address cardiometabolic diseases [39].

As noted, in the Philippines in particular, and this may be also true to some countries, the national health agency failed to recognize the many myriads of health services that can be offered during the quarantine period. It takes the leadership of the World Health Organization for some governments to acknowledge and address the issue of sedentary behaviour during the pandemic. Four months after the government announced the state of national emergency, the Philippines sports commission and the national health agency collaborated on a project to promote healthy lifestyle during the pandemic. The two agencies endorsed a demonstration of simple and effective home exercises that would increase physical resilience.

In a time like pandemic and quarantine, the most viable option of engagement is the use digital technologies. There is no other practical alternative especially when there are other imposed restrictions like social/ physical distancing and the wearing of protective masks. Policy makers should include therapeutic and wellness activities in the regimen of interventions. Medical interventions can't do so much in a lockdown that preventive measures are highly recommended. While there are many physical activities that can be done at home, yoga should be the given primary considerations. Not only that it can be facilitated online, it is a well researched craft with many existing literatures that supports its physical and mental health benefits.

REFERENCES

- [1] World Health Organization COVID-19 Public Health Emergency of International Concern 2020. "Global Research and Innovation Forum, Towards A Research Roadmap." (January 30), <https://www.who.int/news-room/events/detail/2020/01/30/default-calendar/international-health-regulations-emergency-committee-on-novel-coronavirus-in-china>. Accessed May 2, 2020
- [2] Steenstrup B, Le Rumeur E, Moreau S, Cornu JN. Sédentarité et incontinence urinaire chez la femme : une revue de littérature [Sedentary lifestyle and urinary incontinence in women: A literature review]. *Prog Urol*. 2018;28(17):973-979. doi:10.1016/j.purol.2018.07.006
- [3] [3] Citko A, Górski S, Marcinowicz L, Górski A. Sedentary Lifestyle and Nonspecific Low Back Pain in Medical Personnel in North-East Poland. *Biomed Res Int*. 2018;2018:1965807. Published 2018 Sep 9. doi:10.1155/2018/1965807
- [4] Booth FW, Roberts CK, Thyfault JP, Rueggsegger GN, Toedebusch RG. Role of Inactivity in Chronic Diseases: Evolutionary Insight and Pathophysiological Mechanisms. *Physiol Rev* 2017; 97: 1351–402.
- [5] Gómez-Ambrosi, J., Andrada, P., Valentí, V. et al. Dissociation of body mass index, excess weight loss and body fat percentage trajectories after 3 years of gastric bypass: relationship with metabolic outcomes. *Int J Obes* 41, 1379–1387 (2017). <https://doi.org/10.1038/ijo.2017.134>
- [6] Rocha de Almeida, R.; Cândido de Souza, M.F.; Gama de Matos, D.; Monteiro Costa Pereira, L.; Batista Oliveira, V.; Menezes Oliveira, J.L.; Soares Barreto-Filho, J.A.; Almeida-Santos, M.A.; de Souza, R.F.; de Freitas Zanona, A.; Machado Reis, V.; Aida, F.J.; Sobral Sousa, A.C. A retrospective study about the differences in cardiometabolic risk indicators and level of physical activity in bariatric surgery patients from private vs. Public units. *Int. J. Environ. Res. Public Health* 2019, 16, 4751.
- [7] Buenaventura, R.D., Ho, J.B. and Lapid, M.I. "COVID-19 and mental health of older adults in the Philippines: A perspective from a developing country." *International Psychogeriatrics*, 2020, 1-5. doi:10.1017/S1041610220000757. Accessed June 26, 2020.
- [8] Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., Wu, J., Du, H., Chen, T., Li, R., Tan, H., Kang, L., Yao, L., Huang, M., Wang, H., Wang, G., Liu, Z., Hu, S. "Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019." *JAMA Network Open*. 2020 3(3), e203976. <https://doi.org/10.1001/jamanetworkopen.2020.3976>. Accessed June 20, 2020
- [9] Shigemura, J., Ursano, R.J., Morganstein, J.C., Kurosawa, M., Benedek, D.M. "Public responses to the novel 2019 coronavirus (2019-NCoV) in Japan: mental health consequences and target populations." *Psychiatry Clinical Neuroscience*. 2020, 74: 281-282. doi:10.1111/pcn.12988. Accessed June 20, 2020
- [10] Torales, J., O'Higgins, M., Castaldelli-Maia, J.M., Ventriglio, A. "The outbreak of COVID-19 coronavirus and its impact on global mental health." *International Journal of Social Psychiatry*. 2020, 66(4):317-320. doi:10.1177/0020764020915212. Accessed June 25, 2020
- [11] Stanton R, To QG, Khalesi S, et al. Depression, Anxiety and Stress during COVID-19: Associations with Changes in Physical Activity, Sleep, Tobacco and Alcohol Use in Australian Adults. *Int J Environ Res Public Health*. 2020;17(11):4065. Published 2020 Jun 7. doi:10.3390/ijerph17114065
- [12] Li W, Yang Y, Liu ZH, et al. Progression of Mental Health Services during the COVID-19 Outbreak in China. *Int J Biol Sci*. 2020;16(10):1732-1738. Published 2020 Mar 15. doi:10.7150/ijbs.45120
- [13] Government of the Philippines Department of Health (2020)
- [14] World Health Organization (2020)
- [15] World Health Organization (2020)
- [16] Berger DL, Silver EJ, Stein RE. Effects of yoga on inner-city children's well-being: a pilot study. *Altern Ther Health Med*. 2009;15(5):36-42.
- [17] Dai CL, Nabors LA, Vidourek RA, King KA, Chen CC. Evaluation of an afterschool yoga program for children. *Int J Yoga*. 2015;8(2):160-161. doi:10.4103/0973-6131.158488
- [18] Frank J, Seifert G, Schroeder R, et al. Yoga in school sports improves functioning of autonomic nervous system in young adults: A non-randomized controlled pilot study. *PLoS One*. 2020;15(4):e0231299. Published 2020 Apr 13. doi:10.1371/journal.pone.0231299
- [19] Cheema BS, Marshall PW, Chang D, Colagiuri B, Machliss B. Effect of an office worksite-based yoga

- program on heart rate variability: a randomized controlled trial. *BMC Public Health*. 2011;11:578. Published 2011 Jul 20. doi:10.1186/1471-2458-11-578
- [20]Cheema BS, Houridis A, Busch L, et al. Effect of an office worksite-based yoga program on heart rate variability: outcomes of a randomized controlled trial. *BMC Complement Altern Med*. 2013;13:82. Published 2013 Apr 10. doi:10.1186/1472-6882-13-82
- [21]Govindaraj R, Karmani S, Varambally S, Gangadhar BN. Yoga and physical exercise - a review and comparison. *Int Rev Psychiatry*. 2016;28(3):242-253. doi:10.3109/09540261.2016.1160878
- [22]NIH National Center for Complementary and Integrative Health, 2020.
- [23]Park, J., McCaffrey, R., Newman, D., Cheung, C., Hagen, D. The effect of Sit 'N' Fit chair yoga among community-dwelling older adults with osteoarthritis, *Holistic Nursing Practice*: July/August 2014 - Volume 28 - Issue 4 - p 247-257 doi: 10.1097/HNP.0000000000000034
- [24]Harner, H., Hanlon, A.L.; Garfinkel, M. Effect of iyengar yoga on mental health of incarcerated women, *Nursing Research*: November-December 2010 - Volume 59 - Issue 6 - p 389-399 doi: 10.1097/NNR.0b013e3181f2e6ff
- [25]Park, J., Krause-Parello, C. A., Barnes, C.M. Anarrative review of movement-based mind-body interventions, *Holistic Nursing Practice*: January/February 2020 - Volume 34 - Issue 1 - p 3-23 doi: 10.1097/HNP.00000000000000360
- [26]Greysen, H.M., Hong, O.S., Katz, P. The association between yoga use, physical function, and employment in adults with rheumatoid arthritis, *Holistic Nursing Practice*: March/April 2019 - Volume 33 - Issue 2 - p 71-79 doi: 10.1097/HNP.0000000000000296
- [27]Okonta, N. R. Does yoga therapy reduce blood pressure in patients with hypertension?: An integrative review, *Holistic Nursing Practice*: May/June 2012 - Volume 26 - Issue 3 - p 137-141 doi: 10.1097/HNP.0b013e31824ef647
- [28]Kupersmidt, S., Barnable, T. Definition of a yoga breathing (pranayama) protocol that improves lung function, *Holistic Nursing Practice*: July/August 2019 - Volume 33 - Issue 4 - p 197-203 doi: 10.1097/HNP.0000000000000331
- [29]Bryan S., Pinto, Zipp G., Parasher, R. The effects of yoga on psychosocial variables and exercise adherence: a randomized, controlled pilot study. *Altern Ther Health Med*. 2012;18(5):50-59.
- [30]Perls, F. *Gestalt therapy verbatim*. 1959. Bantam Books
- [31]Naranjo, C. Present centeredness: techniques, prescription and ideal. 1970. In J. Fagen and I. L. Shepherd (Eds) *Gestalt Therapy Now*. New York: Harper Colophon Books. Nevis, E. (2000)
- [32]Birdee G.S., Legedza A.T., Saper R.B., Bertisch S.M., Eisenberg D.M., Phillips, R. S. Characteristics of yoga users: results of a national survey. *J Gen Intern Med*. 2008;23(10):1653-1658. doi:10.1007/s11606-008-0735-5
- [33]Park C.L., Braun T., Siegel T. Who practices yoga? A systematic review of demographic, health-related, and psychosocial factors associated with yoga practice. *J Behav Med*. 2015;38(3):460-471. doi:10.1007/s10865-015-9618-5
- [34]Cramer H, Krucoff C, Dobos G. Adverse events associated with yoga: a systematic review of published case reports and case series. *PLoS One*. 2013;8(10):e75515. Published 2013 Oct 16. doi:10.1371/journal.pone.0075515.
- [35]Cramer H, Ostermann T, Dobos G. Injuries and other adverse events associated with yoga practice: A systematic review of epidemiological studies. *J Sci Med Sport*. 2018;21(2):147-154. doi:10.1016/j.jsams.2017.08.026
- [36]Cramer H, Quinker D, Schumann D, Wardle J, Dobos G, Lauche R. Adverse effects of yoga: a national cross-sectional survey. *BMC Complement Altern Med*. 2019;19(1):190. Published 2019 Jul 29. doi:10.1186/s12906-019-2612-7
- [37]Asena, R., Guazzi, M., Lianov, L., Whitsel, L., Berra, K., Lavie, C.J., ... Shurney, D. ealthy lifestyle interventions to combat noncommunicable disease -a connectivity model for key stakeholders: a policy statement from the American Heart Association, European Society of Cardiology, European Association for Cardiovascular Prevention and rehabilitation, and American College of Preventive medicine. *European Heart Journal*, 2015, 36, Issue 31.
- [38]Stanton R, To QG, Khalesi S, et al. Depression, Anxiety and Stress during COVID-19: Associations with Changes in Physical Activity, Sleep, Tobacco and Alcohol Use in Australian Adults. *Int J Environ Res Public Health*. 2020;17(11):4065. Published 2020 Jun 7. doi:10.3390/ijerph17114065
- [39]Lavie CJ, Ozemek C, Carbone S, Katzmarzyk PT, Blair SN. Se dentary behavior, exercise, and cardiovascular health. *Circ Res*. 2019;124(5):799-815. doi:10.1161/CIRCRESAHA.118.312669