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Analytical study of the relationship between lifestyle and biological, mental, and social health during the corona in selected countries

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***Abstract*---**Human beings can no longer continue their former lives due to coronavirus as a new, absolutely unknown, and complex disease. Nowadays, lifestyle and related behaviors have become increasingly important, and the effect of lifestyle-related behaviors on the health of individuals and society emphasizes this importance. This study investigated the relationship between lifestyle and biological, mental, and social health during the corona in selected countries. There was a significant concern in the community in the early stages of the pandemic. Billions of people worldwide used quarantine and social distance to minimize virus transmission. Governments alone cannot relieve the situation. It is necessary to implement a joint effort of support and empathy from citizens, NGOs, public health professionals, and investors to cope with this crisis. This study discussed comparing lifestyle with biological, mental, and social health in different countries and cultures during the corona what differs this study from other studies.

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Introduction

Promoting health and ensuring the health of individuals in society is responsible for the development and progress of societies (1, 2). Health and development are closely related, and having physical, mental, and social health is an absolute individual and social right. Having a healthy body and soul is one of the important basics of all-around development in any society, and a healthy person's role is a scientific principle in sustainable development. Lifestyle is one of the affecting factors on the general health of society. Health careers used to focus on treating the disease, but now they focus on prevention and health by improving lifestyle and eliminating factors that negatively impact human health (3, 4, 5). Lifestyle and its study are decisive and serious categories in macro-strategic studies and surveys because macro-strategic studies are only possible based on minor studies and surveys. The lifestyle concept can be investigated in relation to modernity.

Modernity and its possibilities challenge the individual with numerous and complex choices and create diversity (6, 7, 8, 9, 10, 11). Nowadays, lifestyle and related behaviors have become increasingly important, and the effect of lifestyle-related behaviors on the health of individuals and society emphasizes this importance. In other words, it is addressed to social sciences and in medical sciences. People have accepted lifestyle as a normal daily activity, and their health is affected by these activities. A person takes actions and activities to maintain and improve their health and prevent diseases, such as following a proper diet, sleep, activity, exercise, and weight control which constitute a lifestyle. This person is responsible for choosing a behavioral lifestyle pattern and maintaining his health. This responsibility makes him promote his health and prevent diseases. Applying positive behavioral patterns in life promotes individual and social health effectively. Lifestyle constituent variables can be adjusted largely through the implementation of related strategies. Therefore, public health pays more attention to lifestyle changes in different societies. Based on the World Health Organization, behavior and lifestyle are responsible for 60% of people's quality and health (12, 13, 14).

Based on the official statistics of the World Health Organization in 2020 and 2021, Iran had the highest number of patients with corona after the United States, India, Brazil, Russia, Britain, France, Turkey, and Argentina (15). This epidemic of disease is a major social event spread in a region, the country, and even the whole world (16) that needs to consider its psychological effects on society. In today's world, health is considered an important achievement that people seek to improve the quality of life and well-being and avoid chronic diseases and premature death (17). Health is an important achievement in today's world by which people try to improve their quality-of-life well-being and avoid chronic diseases and premature death. Based on scientific evidence, people's choices and lifestyle patterns affect their health and life expectancy (18). People have accepted that lifestyle is one of the most important pillars affecting health,

including normal and routine daily activities (17). Adler believes that lifestyle is the personality in action and mostly is about a specific way of life management (19).

It is closely related to each person's health; therefore, a healthy lifestyle promotes good health (20). Nowadays, people worldwide are taught to promote health by planning and educating instead of focusing solely on treatment strategies. Research has shown that many health problems result from lifestyle and health behaviors. The importance of lifestyle is mostly due to its effects on quality of life and disease prevention (21). The World Health Organization believes that it is possible to cope with many risk factors among the main causes of death by modifying lifestyles. Health-promoting lifestyles include behaviors in which an individual pays attention to eating well, regularly exercising, avoiding destructive behaviors and drugs, protecting against accidents, detecting physical symptoms early, controlling emotions and thoughts, coping with stress and problems in the psychological dimension, independence, adaptation, and improving interpersonal relationships in the social dimension. Promoting a healthy lifestyle in society is one of the World Health Organization's goals by 2020. In this case, countries have to follow strategies that effectively improve individual and social life (22, 23, 12, 13, 14).

The various studies' results show a relation between lifestyle and health. According to Shesani's results in the sociological study, the relationship between lifestyle and health dimensions with emphasis on social factors affecting health showed a direct and significant relationship between lifestyle and the three physical, mental and social dimensions of health. People have more physical, mental, and social health when their lifestyle is closer to health-oriented (24). Suri et al. conducted a study investigating the status of lifestyles and their relationship with mental health in the staff of Bushehr Disciplinary Command. The results showed a significant relationship between lifestyle and staff mental health(25). Babanejad et al. conducted a study investigating the lifestyle and associated factors in Ilam University of Medical Sciences students. They concluded that lifestyle improvement is related to changes in eating habits, physical activity, and reducing student stress. Samimi et al. studied the relationship between lifestyle and general health of students. As a result, they showed a correlation between lifestyle (exercise, nutrition, stress management) and general health (26). Romanus et al. conducted a study investigating health promotion and its relationship with high-risk behaviors of students. They showed a relationship between lifestyle (control of high-risk behaviors) physical and mental health. Stock and Weil studied the incidence of high-risk behaviors among students and indicated their need to contribute to health promotion programs. Izone and Morimoto conducted a study investigating the lifestyle behaviors and mental health status in Japanese factory workers to determine the relationship between lifestyle behaviors and mental health status in Osaka, Japan. They indicated that factory workers' health behavior patterns were generally related to their mental health status (25).

Many Southeast Asian countries or Western European countries such as Germany and Denmark have imposed cross-border restrictions only on high-risk careers such as nightclubs, gyms, and training centers to avoid huge losses due

to full lock-in. In this period, few countries like Sweden prioritized maintaining the country's economy and continuing the planned economic growth. It was an approach that needed people's and organizations' support in dealing with this disease. Many articles have studied and compared the results of diverse approaches implemented by countries in dealing with this disease since the outbreak of Covid-19. Shokoohi et al. compared the approaches implemented in Western societies with Eastern societies. They have shown with a statistical analysis that factors such as profiting the golden period in the early days of the disease outbreak and community-based public health systems in Eastern countries make these countries successful in controlling disease transmission and mortality(27).

Pasquariello et al. analyzed why Italy had a high mortality rate of Coronavirus in the first few weeks of the epidemic compared to other countries in the world. This article concluded that Italy was different from its neighbors due to its healthcare system's delay and unpreparedness, and its cultural and social structure in dealing with this epidemic (28). Lindstrom analyzed Sweden's approach to Covid-19. In addition, at the outbreak of the disease, asked how dangerous it would be to adopt a collective safety policy against the disease, which contradicts the recommendations of the World Health Organization (29). Recently, Ludwigson investigated Sweden's approach to Covid-19 in recent months and has provided a statistical analysis of this approach introducing all the actors involved in decision-making to deal with this disease and the actors involved in its prevalence(30).

The present research is essential because lifestyle is related to individuals' health status and quality of life. One of the central pillars of any society's development is having health services to promote, maintain, and ensure the health of individuals. Articles 3, 29, and 43 of the Islamic Republic of Iran Constitution emphasized providing health care as the people's basic needs (23). Therefore, this study analyzes the relationship between lifestyle and biological, mental, and social health during the corona in selected countries. The gaps of unstudied studies on the considered variables are covered in this research from this research's theoretical point of view. In other words, most studies in this direction examined the relationship between lifestyle and general health. Therefore, there is a philosophical and theoretical basis for future research. As mentioned in the introduction, this study compares lifestyle with biological, mental, and social health during the corona in different countries; what differentiated this study from other studies.

Portugal

The coronavirus outbreak 2019 (Covid-19) is a universal crisis with significant health, economic, and social consequences (31). Governments primarily imposed a period of obligatory quarantine to reduce the spread of the disease, during which travel and public relations were rigorously limited. On March 19, 2020, the Portuguese government declared a state of emergency, including compulsory quarantine and social distancing. These measures challenged the Portuguese people's reliability and played a significant role in promoting public health safety. In such an unparalleled situation, people were limited in communicating with

their dears, dramatically changed their daily routine, and their activities were faced with profound adjustments (32). In addition, business activities restrictions made people at risk of unemployment, which intensifies the experience of negative emotions (33). These factors with uncertainty, anxiety, and fear of disease progression are probable to increase the psychological effect, such as anxiety symptoms (34), stress, or depression (31, 32). According to previous outbreaks and primitive research from Covid-19, the obligatory quarantine has a significant psychological effect and can persist for a long time between different populations (31, 32, 35, 36, 37). Therefore, the adverse health effects of this pandemic disease do not affect the same on all individuals, and it is vital to identify the most vulnerable groups (38). Based on the recent studies on the Portuguese population during the outbreak of Covid-19, mental health status depends on several protective factors (39, 40). Women, middle-aged people, and people who do not exercise are identified as potentially vulnerable groups. In addition, psychological symptoms can be intensified by pre-existing depressive and anxiety disorders (41). Therefore, individuals with a previous psychiatric diagnosis need special attention.

In studies related to changes in the state of emergency in Portugal, worsening quality of life and sleep quality have increased depression, anxiety, and stress symptoms. Therefore, it is relevant to study how worsening quality of life affects mental health in the long period (42).In addition, pre-epidemic studies have declared that women and younger individuals are more likely at risk for mental disorders, including anxiety and mood disorders (43).On the other hand, being elderly and a man seems to be effective factors for not improving stress symptoms, and Salafi et al. (2020) showed similar results concerning gender differences (44). Although these findings seem paradoxical initially, they perhaps point to long-term flexibility and greater adaptability of women and younger individuals during quarantine. As Salafi et al. (2020) mentioned, Pico Perez et al.'s findings (2021) can reflect deep-seated differences in gender roles of Western societies from a socio-cultural perspective. Women have traditionally had a prominent place in the home environment compared to men. In this regard, long-term quarantine significantly jeopardizes the public life of each individual and preserves and emphasizes his home life (42). On the other hand, Pico Perez et al.'s findings (2021) on employment status are consistent with previous cross-sectional research.

They show that working at home or without restrictions compared to not working is related to better mental health and life satisfaction during the Covid-19 outbreak (40, 36, 45). Unemployed also constitute a dominant vulnerable group because they show worse mental health and experience worse conditions during quarantine. Some measures should be taken to prevent unemployment due to the Covid-19 pandemic and protect these individuals (42). According to the home's composition, Fancourt et al. (2021) conducted a study related to changes over time. They found that people living with children initially had higher anxiety and depression symptoms than those living with other adults, but they recovered faster over the weeks (46). Pico Perez et al.'s (2021) research showed a significant effect on living with young children but no significant negative relationship with living with adolescents. Therefore, it seems that this factor negatively affects the mental health resilience of parents over time (42).In the case of living with the

elderly, Kant-Juris et al. (2021) conducted a study dependent on changes over time. They concluded that despite higher levels of primary anxiety in people living with the elderly in Argentina, their anxiety probably decreased more because this population is at risk. After the primary negative effect, they may better control the situation with less exposure to the virus and develop better strategies (47).

During the epidemic, clinical data have indicated that people with other illnesses were at greater risk for insomnia, depression, obsessive-compulsive symptoms (Zhang et al., 2020). They were related to chronic illness, life satisfaction (45), and increased anxiety, depression, and stress (36, 37). In addition, a systematic review (2021) of the mental health consequences of the Covid-19 pandemic indicates a worsening of psychiatric symptoms in patients with previous psychiatric disorders (48). These results confirm Pico Perez et al.'s findings (2021) on diagnosing a mental or psychiatric disorder as a risk factor for deteriorating mental health over time (42). Therefore, they present another vulnerable group that needs more support during obligatory quarantine (32). Based on other studies, alcohol was the substance used more in terms of substance consumption (49). It is believed that alcohol consumption increases in times of economic crisis (50, 51). Reports indicated increased alcohol consumption due to the Covid-19 pandemic (49, 51). In this case, the findings may consider alcohol consumption a coping strategy leading to an initial reduction in depressive symptoms (53). According to previous research, it is an incompatible strategy with severe long-term negative consequences (53, 54, 55). Therefore, it should pay more attention to people at risk of this disease in terms of alcohol dependence or abuse. The personality data perfectly shows the relationship between depression and mental health problems, and there is also a negative relationship with extraversion (56, 57, 58, 59). Regarding the Covid-19 epidemic, some cross-sectional studies consider the risky effect of depression and the protective effect of extraversion on mental health (59, 60), and the findings confirm this issue from a time-dependent perspective. In addition, Pico Perez et al. (2021) found that conscientiousness is specifically related to deteriorating stress symptoms and openness to experience improved anxiety symptoms. Therefore, personality differences are another dependable factor to recognize more vulnerable people with mental health problems affected by these conditions (42).

Saudi Arabia

The first case was reported in Saudi Arabia on March 7, 2020. When the first case was reported in Saudi Arabia, the government rapidly reacted. This social media campaign encouraged people to stay home and follow the Ministry of Health (62). Mecca, Medina, and Riyadh were imposed with travel restrictions throughout the country on March 23, and the curfew was obligatory for 24 hours within the next ten days (63). Abdolmajid et al. (2020) conducted a study to evaluate the psychological effect of the COVID-19 epidemic on the general population of Saudi Arabia. Concerning the initial psychological effect of the general public, the results showed that 23.6% of the respondents reported the moderate or severe psychological effect of the prevalence and experienced severe symptoms of stress 13.7%. This is similar to 13.9% of those who experienced severe anxiety symptoms and 16.4% who experienced severe symptoms of depression (64). Women and students scored higher on all DASS subscales (depression, stress,

and anxiety), consistent with a previous study in China (65). It is impossible to ignore the economic effect of the epidemic. Low-income families are stressed about losing their jobs and homes, but the Saudi government has taken several initiatives to reduce this damage, including providing free health care and financial incentives for the private sector (66).

Abdolmajid et al. (2020) show that respondents who observe a poor health status have a greater psychological effect and poorer mental health compared to the majority of respondents (86.6%) who see their health status (good or very good). In addition, headache, sore throat, and muscle aches were the most commonly reported physical symptoms. Symptomatic respondents had poorer mental status than asymptomatic individuals, similar to the study in China during the COVID-19 epidemic (65). People with mental disorders are also more exposed to stress than the general population, and such outbreaks can lead to recurrence or even worsening existing mental disorders (67). Participants with reported mental disorders showed high scores on all DASS scales in Abdolmajid et al.'s (2020) study. This finding emphasizes supporting this population, especially during quarantine, because it is difficult to access psychiatric services by expanding telepsychiatry services and carrying medications at home.

In addition, (17.3%) of participants reported a chronic illness related to lower scores on the stress subscale, which was inconsistent with the study in China (65). Most respondents (95%) generally showed a very high knowledge about coronavirus transmission (65). Abdolmajid et al.'s study (2020) shows the public trust in local health authorities. Respondents showed high levels of use of evidence-based preventive measures; for example, hand hygiene and social distance represent an adequate information level that corresponds to the people's age group and the fact that 80% of the population would have a mild form of the disease (68). Social media campaigns focused on raising public awareness and emphasizing wearing masks to prevent the spread of the virus in the community. Therefore, the amount of preventive measures has increased (69).In addition, the Saudi government enacted new regulations which forced people to wear masks in public places (68). Abdolmajid et al. conducted a study (2020) emphasizing the governments to provide new strategies to improve psychological services at the community and individual level, focusing on providing accurate and evidence-based information. They also have to support high-risk groups, especially those with pre-existing mental illness, by expanding telepsychiatry services, mental health promotion, and psychological interventions to minimize and identify the impact of fake news (64).

Spain

Nowadays, lifestyle is a multidimensional structure that makes behaviors different from food, physical activity, sleep, outdoor activities, substance use, stress management, and social support. Meta-analytical evidence suggests that numerous mental disorders are related to poor sleep quality, low physical activity levels, substance abuse, and poor eating patterns (71), which are the basis of emerging fields of lifestyle psychology (72, 73) and positive psychiatry (74). The growing evidence suggests that the COVID19 pandemic significantly affects most lifestyle behaviors, especially during population decline (75, 76). For instance,

universal research estimates that the prevalence of sleep disorders is between 21.9 and 55.8% (77, 78, 79, 80, 82), which is significantly related to symptoms of anxiety and depression (82, 79, 80).

According to the diet, this condition has been associated with more adherence to the Mediterranean diet than before the pandemic, and other studies show that protein and snack consumption has increased; therefore, the quality of the diet has deteriorated (83, 84). Regarding exercising during quarantine COVID19 (85), several studies indicate that nearly half of the participants became less active during quarantine, related to lower mental well-being and lower quality of life with health (86). Physical activity during quarantine has consistently resulted in better consequences in anxiety or mood disorders worldwide (87, 88, 89, 90, 91).

Changes in ambient lighting and increasing screen time, such as TV, smartphone, and Internet usage, indicate an expected outcome of the limitation (77, 81, 92, 93, 94). In addition, reducing the use of screensavers compared to outdoor exercise had greater mental health benefits than any healthy behaviors alone (77). Most evidence of lifestyle changes is based on cross-sectional studies in the pandemic's early stages, and few studies investigate its long-term effects on lifestyle (95, 96, 91). By changing the nature of the COVID19 pandemic, repeated measures better understand the dynamics of its consequences and its relationship to risk and protection factors. For example, sleep problems improvements, increased physical activity, and worsening loneliness are reported several months after the worldwide confinement (97, 98).

In addition, most cross-sectional and longitudinal studies have been dedicated to a single or quantitative lifestyle. Comprehensive and multidimensional perspectives have evaluated several lifestyle studies (99, 92, 100). From a multidimensional perspective, this epidemic's mid-term and long-term effects on lifestyle have not yet been described. Martinez et al. (2021) indicate that except for substance use, the reported changes in lifestyle (general/moderate/unchanged) significantly decreased over time for each lifestyle behavior. The severe home quarantine measures explain this behavior in Spain in the early epidemic and the relative moderating of these measures in the next seven months, allowing better adaptation to the "new normal state" (101). The most significant changes were observed in environmental contacts, physical activity, and recuperative sleep. Lifestyle behaviors seem to be more sensitive to severe limitation and compulsory home confinement during the early stages of the pandemic (101). Several worldwide studies have also observed significant effects of quarantine on these three behaviors (76, 78, 92, 93, 94).

According to Martinez et al.'s results (2021), less significant changes were observed in diet/nutrition, stress management, and social support. The pandemic positively affects behaviors such as substance abuse, diet/nutrition, and coping strategies (101). People with obesity before a healthier diet showed less exercise and more weight gain during the pandemic (102). Based on a longitudinal study, women showed greater long-term resilience than men when the crisis progressed, and their baseline insomnia, anxiety, or depression levels were worse (104). In addition, sleep disorders during the initial pandemic were related to several variables such as increased concern about COVID19, decreased perceived social

support, more severe job intervention due to COVID19, and reported poor physical health, insufficient mask access, chronic conditions, higher education level or passive coping style (103, 104, 80).

On the one hand, general/moderate changes in sleep, diet/nutrition, social support, and substance use were individually related to unhealthy lifestyles. In contrast, changes in coping strategies and physical activity engagement were related to healthier lifestyles. So far, this interrelationship between different lifestyle behaviors has not been significant in response to a stressful situation such as a pandemic. Therefore, the results show that less physical activity, inactive behavior (including increased sleep time), and poorer diet quality are associated (105, 96, 91), which is a phenomenon called "multiple health behavior changes" (106). Older age was related to a healthier lifestyle. Higher education levels are significantly related to healthier living habits (99). This finding is explained by higher health literacy among participants with higher education (107).

Findings on employment status were more contradictory. Unemployment was surprisingly related to a healthier lifestyle. More free time for personal care or not having work-related stressors than other factors are effective in this field. Earlier diagnosed conditions indicated that heart disease/hypertension was related to a healthier lifestyle, and previous mental illness was related to a weaker lifestyle. In contrast, weight gain, sleep changes, and smoking were more common among people with mental illness (108). During the COVID19 pandemic, research has concentrated mainly on lifestyle behaviors as risk or protective factors for common mental health symptoms and disorders (109, 77, 110, 111, 112, 113, 114). The growing evidence suggests that diet (110, 112), physical activity, and other lifestyle behaviors (82, 113, 114) are essential predictors of anxiety and depression. On the other hand, Lou et al. (2020) have examined fewer studies in the opposite direction (111). Increased depression and anxiety in the early pandemic were related to poorer lifestyle outcomes. In research, positive screening for anxiety and depression is an essential predictor of an unhealthy lifestyle. This finding confirms that the coexistence of common mental disorders affects the general population's lifestyle during the pandemic period and expands this relationship from multidimensional and long-term perspectives (99).

China

The COVID-19 may cause extreme panic and anxiety among residents inside and outside of China due to its increase because the corona epidemic has not been finished, and the disease is more predominant in other countries (115). In addition, Chinese authorities took the measurements to control the epidemic in China. When officials had to become aware of the virus and take appropriate measures, city quarantine was the strategy to stop parties. Therefore, some would argue that the relevant authorities should be more responsible and act faster and stronger. At the same time, two new hospitals (Hooshanshan and Lishanshan hospitals) were only built in ten days to combat the Covid-19 epidemic. The main issue was ensuring that quarantine facilities were not designed to house large numbers of people who could spread the infection more (116). Holidays were also

postponed, and school reopening was extended to reduce new COVID-19 cases (117).

In addition, Zhang and Fima (2020) reported that they received more social and family support. The study also found that most people made positive mental health-related lifestyle changes. Spending more time for rest was also related to lower rates of depression in people; Therefore, these factors helped reduce the stressful effects of the COVID-19 epidemic. However, more than half of the participants (52.1%) were terrified of the Covid-19 pandemic; they did not feel deserted because of the pandemic. In addition, most participants stated that they paid more attention to their mental health after the epidemic appearance and spent more time resting and exercising (116). Mental health, such as increased stress and increased financial and family stress in a disaster, is related to some avoidant behaviors that deteriorate their mental health and lead to a more passive lifestyle (119, 120). These findings also showed that society slowed down during the epidemic (121). This situation created more opportunities and time for members of the community to support and care for each other (121, 119, 120). In addition, family members and friends were extremely valuable during the Chinese Spring Festival, and communication with family members and friends of the family members increased who cared for each other more. They mostly spent time together because they were requested to avoid going out and staying in public places. They spent time at home during the Chinese Spring Festival (121, 119, 120).On the other hand, the Chinese Spring Festival is the most important Chinese festival, showing the new year's beginning. The traditional Chinese calendar is also defined as an opportunity for a fresh start and hope for good things. Friends used to respect each other more through WeChat and other social networks and media (121, 119, 120). Hong Kong residents have fewer limitations on using social media than current Chinese residents (118).

Philippines

Worldwide control efforts against corona have led to travel bans and limitations. On March 16, 2020, President Rodrigo Duterte quarantined the entire archipelago in the Philippines. Checkpoints and travel limitations were imposed (122). Business and school activities were suspended indefinitely, and people were forced to stay at home. Despite plaguing the world, there is a widespread distrust of the coronavirus that has fatal consequences. Signs of distress, anxiety, depression, and insomnia have been reported (123, 124, 125). Salari et al. conducted a coherent review and meta-analysis (2020) that showed the prevalence of stress in the general population of Asia, and Europe 29.6% (95% confidence interval 24.3-35.4), anxiety 31.9% (95% confidence interval 27.5-36.7) and depression 33.7% (95% confidence interval 27.5-40.6) (126). Infection or family and friends death can deteriorate a person's general mental health (127). Patients with confirmed or suspected COVID19 may experience fear, while patients in the quarantine may experience only exhaustion, solitude, and anger. More vulnerable people commit suicide due to the severe emotional problems and socio-economic stresses caused by this epidemic (128, 129, 130, 131).

Ti et al. (2020) conducted a study in the Philippines that shows women are more affected than men. Illiterates, singles, children and adolescents, and people

without children have reported high levels of stress, anxiety, depression, and psychological effect. These subgroups are at greater risk for adverse psychological consequences during a public health crisis. They also may accept low social and emotional support and an increased known menace to their well-being and feelings of fear, isolation, and uncertainty (132).

Health care workers are at the vanguard during epidemics. They have to endure long working hours, risk of infection, lack of protective equipment, loneliness, fatigue, and separation from families (133). They are at significant risk for adverse mental health outcomes. According to Ti et al. (2020), most respondents evaluated their current health status well. They feel that they rarely get COVID19 and survive if they become infected. They were also confident in their doctors' abilities. This data seems to be defensive against harmful mental health status. Nearly half of the respondents reported at least one physical symptom in the past two weeks, but only 5% visited their physicians for consultation (132). This difference between the suggestive symptoms of COVID19 and health-seeking behavior has some factors such as physical limitations due to community quarantine, closed outpatient clinics, fear of contamination in hospitals, and lack of public transportation. These symptoms and the quarantine imposed by a health official accompanied psychological distress, which also existed among the Chinese population. Vulnerable people are more likely to commit suicide in severe cases where the symptoms lead to social discrimination, and the avoidance or lack of basic needs causes frustration (134, 128, 131, 135).

In the Philippines, global health care is not yet entirely implemented, and 60% of respondents with medical coverage showed fewer anxiety symptoms. Government health assistance through the Philippine Health Insurance Company (2020) ensured that the full cost of COVID19 hospitalization to its members could positively affect people's mental health (132). The majority of respondents spent an average of 0-9 hours on social media for information and news during the first phase of the holiday in the Philippines. People with accessibility to the news were satisfied with the updated information, had a less psychological impact, and experienced lower stress, anxiety, and depression. Many people express the need for additional and up-to-date information. They showed anxiety symptoms and moderate psychological effects that lead to “stress disorder” (136). Shared information that is relevant and unambiguous may reduce fear and stress (137). More consistent general education reduces the uncertainties that lead to more emotional reactions.

Practicing hand hygiene and wearing a face mask as a preventive measure has a protective effect on the mental state. The sick person can prevent the transmission of the virus by wearing a face mask that protects the person against infection at the same time. Many institutions imposed a “no-mask-no-entry” policy at the review time. Limitations on social relationships are stressful for controlling pandemics because they hinder face-to-face communication and traditional social interactions (138). Workers who provide essential services and go out show fewer signs of anxiety. Depression is more common in people who stay home for 20 to 24 hours. People with COVID-related symptoms or potential COVID contacts are separated from their loves. As seen in the previous outbreak, imposed quarantine has negative psychological effects related to fear of infection

and its spread to family members, fatigue and boredom due to isolation, duration of uncertainty, and lack of basic resources. However, isolation is a necessary preventative measure; sufficient information, opening lines of communication, and providing the needed resources for people with disabilities can improve psychosocial outcomes (139).

During the early phase of the COVID19 pandemic in the Philippines, according to Ti et al. (2020), one-fourth of respondents reported moderate to severe anxiety, one-seventh reported moderate to severe stress, and one-sixth reported moderate to severe stress, moderate to severe depression, and psychological impact. Greater psychological effects and higher levels of anxiety have related to gender, 12-12 aged young people, single status, students, presence of certain physical symptoms (such as headache, cough, chills), recent quarantine by health authorities, long stay at home, poor self-reported health status, feeling overly concerned about COVID19, anxiety about family members sickness, and feeling discriminated by other countries. Accurate and well-timed health information, having children older than 16, understanding good health, and self-confidence in their health care providers were related to less pandemic psychological effects and lower levels of stress, anxiety, and depression. This study's findings can frame appropriate mental interventions to prevent mental health problems in preventing mental crises (139).

In three Ibero-American countries (Mexico, Chile, Spain)

Covid-19 has had a major number of psychological consequences (140). It has affected the population of all countries in terms of labor, economy, productivity, health, and consequently people's lifestyles which led to severe control decisions about controlling physical distance and limiting mobility as major preventive measures (141, 142). These actions, unfortunately, lead to low physical activity levels (143). Not following physical activity recommendations for adults during the outbreak of Covid-19 (144) (150 minutes of moderate-intensity physical activity per week, at least 75 minutes of strenuous activity, or being active at home for at least 30 minutes per day) can lead to functional and structural deterioration of the organism (145) and reduce mental and physical health (146, 147). During the Covid-19 quarantine period, sedentary activities such as watching television, using electronic devices, and accessing social media have increased (148). These negative changes in lifestyle habits, including changes in diet and spending more time sitting mentally inactive at home, are related to mental illness (149) and different metabolic heart risks (150, 151, 152).

Confirmed privacy in studies of individuals in quarantine has been related to fear, anxiety, general psychological symptoms, irritability, insomnia, and an increase in emotional or psychological and mood disorders, such as anxiety and depression (131). According to the evidence, the population had less physical activity during the Covid-19 epidemic (153). This issue is disastrous because the improvement of mental health is a fundamental benefit of physical activity due to its anti-anxiety and anti-depressant effects, which defend and increase resilience to the physical and psychological consequences of psychosocial stress during quarantine (143, 154). A recent study reported the importance of maintaining physical activity during quarantine in a Latin American population (151). It is

proved that regular exercise or physical activity produces a wide range of health-promoting effects that have preventative, therapeutic, and sometimes even reversible effects on various diseases. Ibero-American countries have imposed limitations on the individuals' free movement, whereby social distancing can reduce the general population's health-related quality of life (HRQoL), especially at-risk groups. Therefore, anyone who has experienced quarantine jeopardizes even a small health-related quality of life (156). It is also reflected in the number of online posts talking about depression, anxiety, and increased anger, and positive emotions have been significantly decreased (140).In addition, negative lifestyle changes possibly affect the mental and physical health of the population. As a result, investigating the effects of epidemic limitations on health-related quality of life (physical and mental health) is considered a global public health need.

1. Female in the three countries was negatively related to health-related quality of life.
2. Lifestyle, including physical activity limitations and poor/undernutrition eating habits, negatively affected the three countries' mental or physical health.
3. In Chile, a sedentary lifestyle is negatively related to health-related quality of life.
4. The presence of accompanying diseases with physical and mental health in the Spanish population was significantly associated.

In three countries (Mexico, Chile, and Spain), the female was negatively related to health-related quality of life in terms of mental and physical health (157). Similarly, in Austria, symptoms of depression and anxiety during an epidemic made the quarantine stressful for adults under 35 and especially for females (158). In Cyprus, in addition to the increased risk of depressive and anxiety symptoms, the negative effect on the quality of life is related to females (between 18 and 29 years) (159).In Mexico, more psychological stress during quarantine was positively correlated with being a woman, young, employed, and single, among other variables (160). Nevertheless, negative behaviors such as physical activity limitations and sedentary lifestyles negatively affect health-related quality of life (e.g., physical or mental health). Long quarantine periods can cause fear, discouragement, and unhappiness in men and women. A study about mental health and Covid-19 showed an increase in symptoms of anxiety and depression (16-28%) and self-reported stress (8%) during the epidemic (131). In addition, in Canada, women have lower steps and moderate to severe physical activity than men (161).

This condition may affect mental and physical health. These results are consistent with the results of (Gutierrez Perez et al., 2021), in which the female in the three countries was negatively associated with health-related quality of life (157). In addition, other factors such as increasing the workload of children's schoolwork while caring for the family and caring for the family can be effective. Inactive individuals during quarantine have lower overall scores in the psychological, social, and environmental domains of quality of life (162). This feedback is sustainable in this regard. Quarantine and social distancing are related to lifestyle changes such as physical activity restrictions and increased

sedentary behavior (163). Movement limitations make physical activity difficult to achieve and increase sedentary behavior. In addition, sedentary behavior can hurt mental health (155). Gutierrez Perez et al. (2021) showed that physical activity limitations were associated with poor mental health. In addition, low emotional scores on vitality and role were prevalent in Mexico and Chile and countries at a more limited level at sampling (157). A recent study has shown that isolation at home during Covid-19 can have different health behaviors, whereas participation in physical activity during quarantine is related to better well-being and sleep quality in the Chinese population (163). In this regard, another study found that adherence to physical activity by the WHO guidelines during the Quaid-19 quarantine period was related to better levels of mental health in adults in Spain (164).

In addition, while quarantine is an essential measure to protect public health, one study concluded that quarantine could change levels of physical activity and eating behaviors to endanger health (165).In this regard, McDowell et al. (166) showed that higher physical activity levels were related to a reduced likelihood of anxiety in Irish adults. In addition, a study reported that moderate to high physical activity was related to a lower chance of anxiety than low physical activity. Another study showed that a known decrease in physical activity was related to poorer mental health during the Covid-19 quarantine period (165). Another study also showed that not following physical activity guidelines and increasing screen time were related to worse mental well-being (168). Magouri et al. (169) suggested that reducing physical activity levels could profoundly negatively affect mental health and well-being in Italians. Therefore, it is reported that maintaining regular physical activity in a safe home environment can be an important solution for a healthy life during the Covid-19 (143) crisis period. Unfortunately, there is strong evidence for decreased physical activity during Covid-19 quarantine (170, 171). Bad and regular eating habits were negatively related to health-related quality of life. Similar to our results, one study reported that people with healthy eating habits had a higher health-related quality of life.

This study also showed that eating Homemade food and breakfast is a protective factor for health-related quality of life in each area (172). In addition, healthy eating habits have been positively related to emotional well-being (173). A recent study similarly found that healthy eating habits were negatively correlated with depressive and anxiety symptoms in participants in Spain and Greece during the Covid-19 outbreak (174). Ingram et al. (175) showed that limitations during quarantine are related to poorer psychological well-being. In addition, Gutierrez Perez et al., 2021 concluded that a weaker diet was related to a more negative mood (157). Another study found that positive effects on health-related quality of life are seen during Covid-19 quarantine when people eat at home and focus more on their food and nutrition quality (163). Another study found that healthy eating habits were related to better mental well-being (176).

A study in China reported that physical inactivity and unhealthy eating habits, such as eating fewer vegetables, less fruit, and skipping breakfast, were related to lower mental well-being (177). Gutierrez Perez et al. (2021) showed that in Spain, comorbidities and smoking are inversely related to the quality of life-related to physical and mental health (157). During the Covid-19 quarantine, a significant

reduction in moderate-intensity health-related quality of life was observed in Spain in men and women with chronic diseases (178). These results can affect the quality of health-related life in the population with comorbidities. An observational study in Croatia reported that women who smoked more often had less frequency and duration of physical activity than men, which increased the likelihood of gaining weight, affecting the quality of life (179). On the other hand, comorbidities were closely related to the severity and progression of Covid-19 disease and mortality. Smokers have a higher mortality rate than healthy people. In addition, some comorbidities (e.g., diabetes) and diabetes-related to smoking can increase the risk of death from Covid-19 (180); Therefore, maintaining optimal physical activity levels is essential because they can be protective elements for health (150, 152).

According to Gutierrez Perez et al. (2021), negative lifestyles (bad eating habits, physical activity limitations, and inactivity) and females were related to negative physical and mental health. In Chile and Mexico, the female was generally related to physical and mental health, but poor physical and mental health was mainly related to comorbidities and smoking in Spain. Therefore, a healthy lifestyle that includes good eating habits and physical activity is especially important because it protects against poor health. Finally, the Covid-19 epidemic behavior in the world indicates the maintenance of an epidemic wave that increases or decreases over time so that quarantine levels can be maintained according to the policies set in each country. Therefore, it is important to consider the design and implementation of strategies that reduce the potential negative effects on quarantine-related physical and mental health (157).

Conclusion

Today, the corona pandemic is a health threat and can also be a socio-economic threat, according to studies conducted by international organizations and research centers (181). Evidence of this claim is the change in people's lifestyles and the impact of economic relations. In the early stages of the pandemic, fear increased in the community. Billions of people worldwide use quarantine and social isolation to minimize virus transmission (182). Various countries worldwide took measures to control the spread of the coronavirus, including the closure of educational institutions and the partial or complete quarantine of cities (183). Staying at home was especially recommended for unnecessary jobs at the outbreak.

All restrictions had a significant negative impact on the economic activities of the affected countries. This global epidemic has affected more than 218 countries (184). Transmission prevention strategies generally include maintaining personal hygiene. International flights were reduced, some were even closed, and educational institutions were closed at the beginning of the positive cases of the disease in Iran. On the other hand, most public gatherings were banned. As the number of cases and hospitalizations increased, the government used quarantine programs, travel bans, transportation suspensions, and the closure of all unnecessary organizations. All activities were accompanied by the weakening of the people's economy. Based on economic data, Covid disease is estimated to have cost the economies $ 19 billion, leading to a decline of about 0.2% to 0.4% in GDP

(185, 186).In terms of this disease's impact on the Iranian economy, it should be noted that Iran is a middle-income country with a large population of people working in the informal sector. Quarantine and economic loss lead to mental disorders among all classes of people. The death risk from a viral infection has put unbearable stress on people worldwide. Reducing social interactions through policies to determine social distance and long-term unemployment in the informal sector, fears of job loss, declining incomes, and housing negatively affect people's mental health. Iran's economy has been extremely affected by the epidemic worldwide. Reports indicate that order elimination, disruption of the supply chain of goods or services, and reduced consumer demand have led to a decline in overall revenue, leading to a loss of export earnings.

The Covid-19 outbreak reduced opportunities for small and medium-sized entrepreneurs, instability in financial institutions, instability in the capital market, rising trade deficits, uncertainty among domestic and foreign investors, and declining GDP growth have led to economic consequences in the country. (187). Corona's epidemiological, demographic, and clinical studies have received widespread attention in these specific conditions. So far, few studies have been conducted on the economic impact of corona. On the other hand, the end of this epidemic is still uncertain. It is very important to understand the changing economic conditions resulting from the epidemic and cope with the new normal conditions in this situation. Insecurity in the labor market and lack of access to primary health care are significant challenges for vulnerable groups, increasing exponentially. The current economic situation may seriously undermine the livelihood of the poor. In addition to physical health, this epidemic threatens people's mental health.

The study of Kolivand and Kazemi (2021) showed that the Covid-19 has significant destructive effects on economic, social, and mental health indicators. Therefore, government and non-governmental organizations are suggested to provide programs to educate the people and help improve the people's jobs. The global disease of Covid-19 has caused economic and social disruption worldwide (188). Poverty has a significant rate around the world. More than 100 million people are in extreme poverty. Relative famine has affected 265 million people worldwide (189). These poor and homeless people are more likely to be exposed to the virus.This global epidemic has led to widespread supply shortages (190). Reports indicate that Covid-19 has affected daily life and slowed the global economy.The economic effects of Covid-19 include slowness in the production of basic goods, disruption of the supply chain, losses in national and international trade, weak cash flows in the market, and a significant slowdown in revenue growth. Due to the epidemic, a negative supply shock has been created. This epidemic has affected financial markets around the world (191). This epidemic has affected financial markets around the world (191).

Due to travel bans, the closure of public places, including tourist attractions, and government travel advice has become one of the most vulnerable sectors. The increasing number of quarantine days, financial policy decisions, and international travel restrictions have profoundly affected global economic activity. Quarantine and travel limitations have greatly affected food production.As a result, various famines are predicted around the world. According to the World

Food Crisis Report 2020 (WFP, April 20, 2020), 55 countries are at risk to starve to death (192). Some industries and occupations have also flourished, and there has even been a strange change in the lifestyle and economy of the people. Social consequences include canceling or postponing sporting events and disrupting religious celebrations and gatherings (92). In most people, factors such as social distance from peers and family members, closure of hotels, restaurants, religious places, closing places for entertainment such as cinemas, sports clubs, gyms, swimming pools have led to stress (93). In our country, the cancellation of some religious occasions, such as the pilgrimage of the infallible Imams, Hajj, Friday prayers, Laylat al-Qadr, the days of Muharram, has caused social and political consequences, which have annoyed many people and dear compatriots. The epidemic has affected the political systems of several countries and led to the suspension of legislative and quarantine activities for fear of spreading the virus. Since its inception, extreme xenophobia and racism against the Chinese and East Asian races have been reported worldwide.

Following the spread of the disease to new countries, people from Italy (the first country in Europe to experience a serious outbreak of Covid-19 disease) were also suspected and xenophobic. Foreign governments and diplomatic groups have criticized this racism and xenophobia. Most governments worldwide have temporarily closed training facilities to control the Covid-19 outbreak. Schools, colleges, and universities have been closed nationally or locally in 161 countries, affecting approximately 98.6% of the world's student population (189).Since September 4, 2020, one billion two hundred and seventy-seven students have been affected by the closure of schools in response to the epidemic.According to UNICEF, 46 countries are globally closed, and 27 countries are closed locally, affecting about 72.9% of the world's student population (UNICEF, 2020).This effect has been more severe for deprived children and their families, leading to learning disruptions, malnutrition, childcare problems, and, consequently, increased economic costs for families unable to work due to the closure of educational institutions (94).The current epidemic has had a major impact on the psyche of the entire world population, such as rising unemployment, family separation, and various other changes that generally led to anxiety, depression, and self-harm in major psychological factors.

Suffering, quarantine, and the possibility of contracting the disease may also be detrimental to the mental health of people suffering from hunger, unemployment, and homelessness. People suffer from anxiety, stress, and severe depression. In addition, limitations related to the epidemic (e.g., distance, quarantine at home) affect economic stability and well-being and may cause psychological factors such as sadness, worry, fear, anger, frustration, frustration, guilt, helplessness, loneliness, and nervousness. Studies show that most respondents suffer from the mental stress of the Covid-19 pandemic disease.Domestic violence is also increasing worldwide, and suicides are reported daily. Recession, unemployment, and poverty are strongly linked to serious mental illnesses such as suicide. In addition, stress increases the risk of heart attack, stroke, and other health risks (1193). As in other countries, Iran is exposed to the significant threat from economic threats and social crises during this epidemic. Harsh sanctions, health awareness, and the social security network have always been a challenge in Iran, and epidemics are likely to increase exponentially. Precautions until mass vaccine

production is the only way to fight the epidemic. In addition, the epidemic has taught us the importance of health care providers. The government needs to know that the health sector is important while setting recurring financial costs each year.

The government and other shareholders should consider ensuring job security in the public and private sectors, creating a willingness to save among ordinary people, creating a corporate reserve fund to combat any unexpected circumstances, creating structured job opportunities for people in the informal sector, and developing skills. Coping with Covid-19 mental stress is another challenge. Sharing facts, understanding the real situation, and implementing stress anticipation measures reduce stress. Social activists, social media, print and electronic media, and religious and political leaders must help disseminate the true scientific information of Covid-19 among the country's large population, especially in marginalized communities.This action has been taken acceptably in our country. Proper knowledge of the epidemic and good hygiene will be the key to controlling the spread of the virus. The Covid-19 impact has severely damaged low-income people, especially day laborers, wage earners, informal workers, and retailers. The government has already thought to minimize the economic damage caused by the Coronavirus.Interest-free loans to artisans, stimulus packages, increased net social security programs, and tax cuts are the government's initiatives to reduce the epidemic's effects.Iran has favorably expanded its laboratory and health facilities due to the average income of the country and the many limitations at the time of the outbreak of Coronavirus and carrying out economic activities with preventive measures. Improvised and timely measures with proper coordination may help the country fight the deadly virus.The government alone cannot reduce the situation.Citizens' support and empathy, NGOs, public health professionals, and investors are necessary to overcome this crisis.

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