

## Article

# Buddhist Ethics for Improving Health and Well-Being during Pandemics Like COVID-19 with Special References to Modern Scientific Experiments

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**Abstract:** The purpose of this research is to examine whether Buddhist ethics can improve the health and well-being of Buddhist practitioners during pandemics like COVID-19. It is hypothesized that diseases are part of suffering, and Buddhist teachings aim to eliminate the suffering of all beings. Buddhism also offers ethical codes of conduct for its practitioners to improve their health and well-being. So, the Buddha's teaching or Buddhist ethics, when practiced seriously, should be able to improve one's health, physically and mentally, enhancing the well-being of all Buddhist practitioners during the spread of all pandemics including COVID-19. The present study found that Buddhist ethical practices like the chanting of Buddhist *suttas* and the development of mindfulness, concentration/meditation, and insight (*vipassanā*) can improve both physical and mental health, which are important for dealing with any pandemic, tremendously. If the cores of Buddhist ethics (morality, meditation, and wisdom) are perfectly practiced, not only will one live with good physical and mental health but one also will be able to eliminate all the mental defilements that are the root causes of all illnesses and thus enter *nibbāna*, the state of mind that is beyond all sources of suffering including pandemics/epidemics. More specifically, this paper highlights a set of Buddhist practices, called four *bhāvanās* (types of development), that can be used to improve health and well-being during any pandemic.

**Keywords:** Buddhism and health; Buddhist medicine; COVID-19; immune system; well-being



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## 1. Introduction

Since the coronavirus pandemic (COVID-19) broke out, vaccines have been developed and tested in many countries such as in the Russian Federation (Sputnik V), China (Sinovac, Sinopharm), the UK (AstraZeneca, funded by Bill Gates and developed at Oxford University), and the United States (Johnson & Johnson, Moderna). Before these were ready for distribution, many Thai Buddhists asked whether Buddhist teachings and practices could help alleviate the problem. Some Thais said the Thai people should resort to Thai traditional and alternative medicine recorded in ancient Thai wisdom books, which have been passed down from generation to generation. There is one main point that this paper aims at answering: how could Buddhist teachings improve health and well-being when various pandemics hit society?

Healthcare was well known during the Buddha's lifetime, as can be seen in the *Vinayapitaka*, which has a section on *Bhesajja Khandhaka* (the 'Medicine Section'), describing the use of various medical herbs among members of the Buddhist *saṅgha*. However, the Buddha's teaching was developed in many different socio-cultural milieus, so it could be viewed from many different angles. Some Buddhists may see the Buddha's teachings on healthcare as describing magical-religious healing, like the healing system in the *Atharvaveda Sāṃhitā*, in which case they are supposed to invoke divine or supernatural power from the Buddha for help. Some may explain that various diseases, including the coronavirus disease (COVID-19), are actually caused by demons or bad spirits from which

one must try to get protected using magical spells from certain Pāli chants, called *parittas* (protection formulas), such as the *Ratana Sutta*, the *Karaṇīyamettā Sutta*, and the *Khandha Paritta*. When these *suttas* are chanted, it is hoped that the power of Buddhist teachings and practices will drive demons or bad spirits away, protecting the reciters.

This research paper argues that, first, there is no need to invoke divine power, or to use magical spells, to eliminate diseases, particularly COVID-19. The medicinal *dhamma* (*dhammosadha*), as provided in the Pali Canon and its commentaries, is sufficient to improve health and well-being among Buddhist followers in any pandemic, now or in the future, on condition that those Buddhists must try to practice them seriously. Second, the teaching of the Buddha himself is the medicine *par excellence*. The practice of *dhamma* in accordance with the Buddha's teaching in daily life is actually the practice of healing oneself. Even though Buddhism has many teachings that could be implemented to deal with all kinds of pandemics, I would like to propose, at the outset, the four kinds of *bhāvanā* (development), which, I think, if seriously practiced regularly, could improve both physical and mental health and well-being when unpredictable disasters hit society. A research hypothesis has been made that the Buddha's teachings, if combined with prevention measurements offered by medical experts, can improve the health of their practitioners during the times when there are various pandemics if the practitioners follow the Buddhist ideas seriously. I base my argument on the following grounds:

1. The Buddha describes himself as a great physician, and his teachings are for eliminating all the sufferings of human beings. Since all pandemics are part of suffering, his teachings must be able to help Buddhist practitioners improve their health, physically and mentally, causing them to become safe from pandemics too.
2. The natural development of the immune system and the serious following of practices such as social distancing, hand washing, mask wearing, and getting sufficient sunlight to improve one's Vitamin D, as advised by medical experts, have proven that the prevention measures are highly successful, as can be seen in the case of mainland China.
3. Modern scientists have confirmed that the practices of Buddhist chanting and mindfulness in walking, sitting, standing, and sleeping, including the development of concentration and insight, can bolster the immune response.

If the Buddha's teachings are applied in combination with other modern medical measures advised by experts, it is possible that one can stay safe amidst various pandemics such as COVID-19.

## 2. Literature Survey

There is some Buddhist scholarship on the concepts of Buddhism and healthcare, published by several scholars in Thai and English, such as a short description of Buddhist health titled *Thamma-Osoth (Dhamma-Osatha)* by Buddhadasa Bhikkhu (Buddhadasa 1977). Other two books by Phra Promgunaporn (Phra Promgunaporn 1996, 2014) contain similar contents to the work of Buddhadasa (Buddhadasa 1977). Both authors tried to explain the traditional view of healthcare in Buddhism. Western scholarship, which focuses on Buddhist healthcare from a wider perspective, includes works by C. Pierce Salguero (Salguero 2017, 2020). In particular, Alberto Villoldo and Stanley Krippner (Villoldo and Krippner 1987) argue that mental development in Buddhism can be applied to heal patients and supplement modern medical treatments. A book by David Loy (Loy 1996) examines the idea of religious healing in Buddhism and Christianity, arguing that the healing practices in both religions are effective in many ways. Another monograph by Herbert Benson and Miriam Z. Klipper (Benson and Klipper 2000) explains that the worries or anxiety accumulated on a daily basis and stored in one's mind can bring several diseases to human beings and that by meditating for at least ten minutes a day, one can protect oneself from at least 24 types of disease (Benson and Klipper 2000). Another book by Jon Kabat-Zinn (Kabat-Zinn 1990) explains that the practice of meditation and *yoga* can reduce stress and anxiety effectively. He developed a Buddhist mindfulness practice he learned from a

Buddhist monk in Myanmar into the mindfulness-based stress reduction (MBSR) program. Janet Gyatso's book (Gyatso 2015) explains the system of Buddhist medication in Tibet, arguing that Buddhist teachings on healthcare have been adopted by Tibetan Buddhists. Frances Garrett also argues in his book (Garrett 2008) that Buddhism is indispensable in the Tibetan tradition of medication and that both cannot be separated.

More recent studies by Thai scholars include a work by Patchanee Somkamlang and Datchanee Suwankom (Somkamlang and Suwannakom 2009), which argues that the palliative care of patients during the last hours, especially by looking after their mental health, can tremendously improve their well-being physically and mentally. Patpong Worrapongpichet (Worrapongpichet 2011) has argued that the practice of Buddhist chanting, if done regularly, can develop the immune system in the physical body. He has also cited a report by PJ Collip (Collip 1969) saying that some patients with leukemia who practiced chanting regularly could develop their immune systems in order to prolong their lives. Teaching material for undergraduates at Mahidol University by Pathompong Bodhiprasiddhinand (Bodhiprasiddhinand 2019) has summarized the Buddha's teachings on healthcare from the Pali Canon and reviewed some findings of modern scientific experiments regarding the effectiveness of the practicing of mindfulness, meditation, insight, and the mindful recitation of Buddhist *suttas* or Buddhist chanting. Rongxiang Tang et al. (Tang et al. 2020) similarly argued that the practicing of mindfulness can develop grey matter, which can effectively treat Alzheimer's disease over time.

More specific research on Buddhism and COVID-19 is quite rare, given that the pandemic just started in 2019. There have been some articles published in newspapers, such as Craig C. Lewis's work (Lewis 2021), which explains the roles of Buddhist monks in helping the government manage the spreading of COVID-19 and, especially, their roles in organizing funeral ceremonies for dead persons following the Buddhist tradition. An Indian newspaper, *The Hindu*, published an interview with India's Prime Minister, Narendra Modi (Modi 2021), who explained that the Buddha's teachings can be useful to human beings during the spread of COVID-19, especially the teaching of loving-kindness, compassion, and unselfishness, which can make human society a better place to live. A Tibetan nun named Thubten Chonyi (Chonyi 2020) gave an interview to *The Spokeman Review* in which she said that during the time when COVID-19 is spreading everywhere, Buddhism has many things to offer and that COVID-19 gives invaluable lessons to everyone with regard to pondering their life, death, change, loving-kindness towards others, and the ability to adapt oneself to a new environment. C. Pierce Salguero (Salguero 2020) has explained the activities performed by Buddhists in various Buddhist countries during the spread of COVID-19, which were not organized in many other countries. An article by Benjamin Schonthal and Tilak Jayatilake has explained the changes in religious activities in Sri Lanka in response to the spread of COVID-19 (Schonthal and Jayatilake 2020).

Cheongghwan Park and Kyungrae Kim have written about the adaptation of the members of the Jogye Order of Korean Buddhism during the time when COVID-19 was widely spreading in South Korea, including the introduction of online meditation courses to Korean Buddhists (Park and Kim 2021). Kai Shmushko has examined the effect of COVID-19 among Tibetan Buddhists in Shanghai, including the changes in rites and rituals to suit the circumstances (Shmushko 2021). Ven. Phravachiravich Pattarakiatinnan published a research paper suggesting that Buddhists should observe the five precepts, stay mindful and vigilant, and practice Buddhism seriously until the spread of COVID-19 is over (Pattarakiatinnan 2021). Lamirin Lamirin explains the effect of COVID-19 on Buddhist communities in India and the changes in teaching and learning activities among Indian Buddhists, saying that Indian Buddhists were not ready to organize online teaching and learning systems during the pandemic (Lamirin 2021). Ghimire Gopal has argued that various individuals and organizations in Nepal helped their fellow countrymen in accordance with the spirit of Buddhism during the pandemic. His work proved empirically that the Buddha's teaching could be used to strengthen Nepalese societies in the middle of

COVID-19 (Gopal 2021). Bhim Bahadur Kunwar wrote about the impact of COVID-19 on pilgrimages in Nepal (Kunwar 2021).

Almost none of these studies investigated how Buddhist ethics can improve the health and well-being of the general public during a pandemic. Even if Phravachiravich Pattarakittinan (Pattarakittinan 2021) emphasized the importance of the five precepts, mindfulness, and the practice of Buddhism, he did not suggest the Buddhist teachings that could cover all aspects of human well-being.

### 3. Objectives of the Study

This study had the following aims:

1. To study whether or not the Buddhist teachings or Buddhist ethics, as found in both the Pāli Canon as well as its commentaries, can be used to improve one's health when there are various pandemics/endemics such as COVID-19. 'Buddhist teachings' here refers to the teachings of Theravada Buddhism as believed in Thailand, Sri Lanka, Myanmar, Laos, etc. only.
2. To investigate and evaluate modern scholarship on the scientific benefits of mindfulness with the chanting or recitation of the Buddhist *suttas*, of walking and sitting with mindfulness, and of the development of concentration and insight.
3. To study the specific teaching of the Buddha that can be appropriately applied to improve the health, both physical and mental, of the general public while there occur pandemics such as COVID-19.

### 4. Research Methodology

The methodology applied in this research project is the study of documents, an aspect of qualitative research. It will investigate the Buddha's teaching on healthcare in both the Pāli Canonical texts as well as their commentaries to see how Buddhism explains healthcare and to see how the Buddha's teachings can be applied to protect people from pandemics like COVID-19. Relevant modern scholarship concerning the effectiveness of the practicing of mindfulness—while chanting, sitting, walking, standing, and sleeping—on health is also consulted.

#### 4.1. Research Design

This paper uses Buddhist Pali texts that record the Buddha's teaching of Theravada Buddhism and modern scholarship on Buddhism, as well as studies related to the COVID-19 pandemic, to investigate the problem at hand. There are three areas that this research paper attempts to explore:

1. How Buddhists managed to eliminate pandemics/epidemics/plagues in the past, as recorded in Buddhist texts.
2. The power of Buddhist ethics as medicine, as portrayed through modern scientific experiments.
3. Specific teachings of the Buddha that can be applied to improve the health of individuals and the community during times of pandemic, including during COVID-19.

In addition, this paper also explores modern scientific experiments that are related to Buddhist ethics, excluding many others that do not relate to Buddhism at all.

#### 4.2. Research Instrument

The research instrument used to collect relevant data in this study consists of three categories. The first is the Pāli Canon, which is considered the primary source of Theravada Buddhism. The second comprises the secondary sources, which are the commentarial texts composed to explain the Buddha's words in the Pali Canon. The third comprises the tertiary sources, referring to both modern relevant scholarship on Buddhism and COVID-19 in the form of books, academic articles, and research papers published in online peer-reviewed academic journals as well as relevant information on COVID-19 from online newspapers

from the internet. Any works of scholarship or articles that did not fall within the above three categories were excluded from the current study.

#### 4.3. Data Collection and Analysis

1. Data were collected from the three different categories as mentioned, including the Pali Canonical Texts together with their commentaries, research papers published in scholarly journals, books, academic articles from online journals, and information from online newspapers. All these were collected mainly during the period of the six months from May to October 2021, but the research project was extended until March 2022.
2. All the data were checked or examined for quality, interpreted to find new insights from them, and analyzed in order to propose certain conclusions.

### 5. Results of the Study

My findings, which answer the objectives of this research, can be broadly divided into five main parts. First, I cover the concepts of disease and Buddhist ethics as parts of dhamma-medicine (*dhammosatha*) in Buddhism. Second, the Buddha used the mind and body medicine to cure diseases: the connections between body and mind and good/bad health. Third, Buddhist ethics were used to ward off pestilence during the Buddha's lifetime and afterwards. Fourth, it has been scientifically proven that Buddhist ethics can improve one's health and well-being tremendously during any pandemic or endemic including COVID-19. Fifth, there are Buddhist teachings that can be implemented appropriately to improve the good health and well-being of both individuals and the community during pandemics/endemics. The details are as follows.

#### 5.1. The Concepts of Disease and Buddhist Ethics as Dhamma-Medicine (*Dhammosatha*) in Buddhism

Having scrutinized the Buddha's teachings in the Pali texts, the following are my findings. The word 'disease' in the Pali Canon is usually mentioned using the Pali word *roga* while illness or sickness is used to translate the two Pali words *byādhi* and *ātāṅka*. *Roga*, *byādhi*, and *ātāṅka* are considered parts of suffering (*dukkhasacca*) within the four noble truths. All human beings have to accept them as part of their life. So, all the diseases and illnesses are part of what is called 'dukkha' (suffering), which ultimately is caused by mental defilements. Buddhism explains that human beings consist of the five *khandhas*: *rūpa* (form), *vedanā* (feeling or sensation), *saññā* (apperception), *saṅkhāra* (mental formation), and *viññāna* (consciousness). *Rūpa* is the physical body that can be touched while the rest are collectively called *nāma* (formless). Both formed and formless aggregates are products of *kamma* (volitional actions) committed in the past. The illness or sickness in question can be removed entirely only when its root causes, i.e., mental defilements, are completely eliminated. So, as long as beings are still repeatedly reborn, all illnesses will follow.

There are two different kinds of diseases: physical diseases and mental ones (*kāyiko ca rogo cetasiko ca rogo*, AN II 142-3). The physical diseases are many, and each is caused by various factors. In the Pali Canon, the Buddha himself mentions eight causes (Nd I 10,13-14,281) of disease:

'There are several evident dangers, namely, 1. *pittasamuṭṭhāna* diseases caused by bile, 2. *semhasamuṭṭhāna* those caused by phlegm 3. *vītasamuṭṭhāna*, those caused by wind 4. *sannipātikā*, those caused by the imbalance of humours 5. *utupariṇāmaja*, those caused by the weather or seasonal changes 6. *visamaparihāraja*, those caused by lack of proper care of one's own body 7. *opakkamika*, those caused by sudden attack 8. *kammavipākaja*, those caused by the result of *kamma*'.

Like other communities, the community of the Buddhist Order also had sick monks regularly. The *Vinayaṭṭhaka* of the Pali Canon contains a section called *Bhesajjakhandhaka* (Vin I 199) that describes different types of medicines allowed by the Buddha for Buddhist monks to use. For example, at one time, many monks were afflicted by a disease that

occurred in the autumn. The Buddha allowed five medicines, namely, ghee, fresh butter, oil, honey, and molasses (Vin I 200–201). The Buddha also allowed his monks to use many other things as medicines, such as tallows from bears, fish, alligators, swine, and donkeys; different types of roots such as turmeric, ginger, orris root, garlic hellebore, khus-khus, and nut-grass; a grindstone; astringent decoctions; leaves such as nimb leaves, *kuṭaja* leaves, cucumber leaves, basil leaves, and cotton-tree leaves; and different types of fruits such as *erycibe paniculata*, pepper, black pepper, yellow myrobalan, beleric myrobalan, emblic myrobalan, *goṭha*-fruit, etc. Upon the suggestion by Jivaka Komarabhacca, the Buddha allowed (Vin II 119) his monk disciples to practice mindfulness on walking as a physical exercise and to use sauna for health too (*anujānāmi bhikkhave caṅkamañ ca jantāgārañ ca*). It is appropriate to say that Buddhism teaches its followers, including monks, to look after their physical bodies to make sure that all of them will be healthy as mentioned above.

Mental illness (*cetasikaroga*), on the other hand, is caused by only one factor, i.e., mental defilement (*kilesa*). According to Buddhism, the root causes of suffering of all beings are mental defilements, and it is because of these mental defilements that human beings are born again and again in the cycle of rebirths and deaths. The Buddha said that while many people can claim that they have lived without any physical diseases for one year, two years, three years, four years, ten years, twenty years, forty years, fifty years, or even more than 100 years, it is rare to find any worldly people who can stay without being afflicted by mental illness even for a moment (AN I 148).

Because the real causes of all diseases or illnesses are ultimately mental defilements and the Buddha showed the way to eradicate them, the Buddha (It 100) sometimes described himself as a physician (*bhisakko*) and a surgeon (*sallakatto*), saying that the words *bhisakko* (physician) and *sallakatto* (surgeon) are the titles of the Buddha. In the Theragāthā (Thag 830), the Buddha is praised as *sallakatto anuttaro* (the surgeon par excellence). Elsewhere, he explains that he is a *sabbalokatikicchako* (Thag722) ‘a physician of the entire world’. In the *Majjhima Nikāya* (MN I 105; MN II 260), the Buddha compares himself to a surgeon removing a poisoned arrow for others (Dhivan Thomas Jones 2017, p. 10, fn. 4). This is because he was the person who sought the real causes of the sufferings of human beings by using his own personal experiences and finally discovered them. After that, he explained them to other people so that they could put an end to all their sufferings by eliminating their root causes (*pubbe cāhaṃ, anurādha, etarahi ca dukkhañ ceva paññapemi, dukkhassa ca nirodhaṃ* [SN 22,119]).

In the *Paramatthajotikā*, the Buddha and his teachings are clearly described as the instruments to eradicate mental defilements. The text says the following:

‘Buddha is likened to a wise physician because he has an ability to cure the illness of people, which is caused by mental defilements together with cankers. His teaching (*dhamma*) is considered as medicine, used to cure various types of mental illnesses caused by mental defilements. His *saṅgha* is the group of people whose mental defilements have been eradicated already. They are comparable to the group of people whose diseases have been cured by using the medicine of *dhamma*’. (Pj I 21)

Also, in the same commentary, the Triple Gem is explained further: ‘The Buddha is likened to the Himavant forest, the *dhamma* (his teaching) is to the medicine which is born there and the *saṅgha* is likened to the general people, whose illnesses have been cured because of using the Buddha’s medicine’ (Pj I 21)

## 5.2. The Connections between Body and Mind and Good/Bad Health

In order to investigate how physical and mental diseases can be mitigated by Buddhist ethics, it is important to explain the connections between the body and mind in human beings. The relations between mind and body in Buddhism may be analyzed and summed up in four ways.

### 5.2.1. The Physical Body Is Made from the Quality of Mind

In the *Samyutta Nikāya* (SN I 227), the Buddha says, ‘As one sows, so one reaps. If one does good, one receives good. If one does bad, one receives bad.’ Elsewhere (AN I 145), Ven. Ananda discusses with a Buddhist nun, saying, ‘Sister, this body is derived from desires. You must use your [good] desires to eradicate [bad] desires’ (*taṇhāsambhūto ayaṃ bhagini kāyo taṇhaṃ nissāya taṇhā pahātabbā*). Because of desires, we commit *kammas*. Desires in this context can be both good and bad, and one can use good desires to eliminate the bad ones. Good desires lead to good results while bad desires lead to bad ones. So, whether or not we are going to be born healthy or unhealthy in a future life depends on what we are doing now with good or bad desires. In the same way, our present physical and mental health is derived from what we have done in the past. The *kammas* (volitional actions) that we have done in the past, in combination with what we are doing at present, determine our future lives.

The Buddha illustrates this in a *sutta* called the *Mahākammavibhaṅga Sutta* (MN III 207), in which he says that all human beings are subject to being born in any of the threefold worlds of existence (see Lamotte 1988, p. 32) according to their *kammas*. They could be born in the states of deprivation, unhappy destination, or perdition or in the hells if they violate the five precepts. On the other hand, they could be reborn in the human and heavenly worlds if they observe the precepts. It is the quality of the mind, which is wholesome or unwholesome, that determines human beings’ next physical bodies, after all.

Similarly, the Buddha also explains the results of good or bad *kammas* in another *sutta* called the *Cūlakammavibhaṅga Sutta* (MN III 202). A young brahmin named Subha went to meet the Buddha and asked him to explain why human beings are born different: some are short-lived, regularly sick, and ugly while some are long-lived, healthy, and beautiful. The Buddha replied that human beings are the owners or heirs of their previous *kammas* (volitional actions) and have *kammas* as their progenitors, kin, or homing places. It is the previous *kammas* that differentiate beings in the world. The word *kammayoni* used in Pali in this context exactly means that the *kammas* are the main factors that project human beings to have the current states of life, and health, too. The Buddha explicitly said that if one has harmed or tortured and killed other beings in the past, one will be full of illness and have a short-lived life. Some causes and results in the *Cūlakammavibhaṅga Sutta* are listed in the table below.

Previous <i>kammas</i>	Results in this life
Killing others	Having short-lived life
Not killing others	Having long-lived life
Harming others	Having a sickly body
Not harming others	Having a healthy body
Mind full of ill temper, i.e., getting angry, furious, ill-disposed, or resentful	Having an ugly body
Mind without ill temper	Having a beautiful body
Mind full of envy	Being insignificant
Mind without envy	Becoming influential
Do not give any food, drink, cloth, sandals, etc.	Becoming poor
Giver of food, drink, cloth, sandals, etc.	Being rich
Being obdurate or haughty	Being low-born
Not being obdurate or haughty	Being high-born
Not approaching a monk or a brahmin to ask what is right or wrong, wholesome or unwholesome, etc.	Being stupid
Approaching a monk or a brahmin to ask what is right or wrong, wholesome or unwholesome regularly, etc.	Being wise

It can be said that the physical body and the current physical conditions of human beings—being healthy or unhealthy, including their family and countries when they are newly born—all depend on the previous *kammas* (volitional actions) that have been collected in their minds. In other words, it is the mind that has collected these previous *kammas* that projects them to be born in various realms of existence with different conditions in life. If one wants to be born as a perfect human being who is rich, handsome, or beautiful, with physical strength and less illness, one has to practice Buddhist ethics, i.e., morality, meditation, and wisdom, to purify one's mind. If one does not follow these ethics and performs unwholesome actions with polluted minds such as harming or killing others, one will not only be born in the low states of existence; one's physical health may be poor, too. If one is born as a human being, one's physical body will be ugly, short-lived, and full of illness. On the other hand, if one follows the ethics, performs other meritorious deeds such as giving on a regular basis, spreads loving-kindness and compassion towards other beings, and does not have any grudge against others, one will be born in a better realm of existence, with a perfect body and with less illness. So, ultimately, illness or sickness comes from bad *kammas* or actions driven by mental defilements that cause one to harm or torture others out of hatred or delusion while healthiness comes from good actions done with a pure mind.

Therefore, the root causes of illness are ultimately the mental defilements (*kilesa*). Without curing these root causes, one will never be able to stop illnesses in one's life in this world or the next life. Because of this reason, the Buddha identifies the state of being freed from diseases or all the illnesses (*ārogya*) with *nibbāna* (the elimination of all mental defilements). So, the Buddha can rightly claim that he is without (mental) illness completely because he has eradicated all the root causes of illnesses, i.e., mental defilements, already. Therefore, he says, 'I have no fear of death as if people do not fear diseases because all the mental defilements which are likened to diseases have already been uprooted' (Thag 709). Because the root causes of all the illnesses of human beings are mental defilements, and their elimination equals the eradication of all diseases, the Buddha is praised by his disciples as the *sabbalokatikicchako* 'the physician of the whole world' (Thag 722)'.

### 5.2.2. The Body and Mind Are Separated and the Body Is Controlled by the Mind

Human beings consist of a mind and a body. The Pali word for both mind and body is *nāmarūpa* (name and form). The Buddha uses the word *pañcakhandha* (five aggregates) to describe the body and mind of a being. The five aggregates (Sue [Hamilton 1996](#)) that constitute a human being consist of *rūpa* (form or physical body), *vedanā* (feelings or sensations), *saññā* (apperception), *saṅkhāra* (mental activities), and *viññāṇa* (consciousness). *Rūpa* or 'form' is the human's physical body while the rest are mental. So, the mind is completely separated from the body. When human beings die, the body or the physical form (*rūpa*) will dissolve according to its nature, subject to cremation or interment, while the other parts, namely *vedanā* (feeling or sensation), *saññā* (apperception), *saṅkhāra* (mental activities), and *viññāṇa* (consciousness), will be combined into one, which is called *citta* (consciousness), and this *citta* will move to be born in another realm of existence according to its *kammas* as long as its mental defilements have not been eradicated entirely.

While a human being is still alive, their mind is the controller while the whole body is its servant. One thinks first before one acts. The Buddha once explained, 'Mind is the forerunner of all mental states. Everything is mind-made or is derived from mind. If one speaks or acts with polluted mind, suffering will follow one like the wheel of a cart which is being pulled by an ox' (Dhp 1). In the same context, the Buddha also said, 'Mind is the forerunner of all mental states. Everything is mind-made or is derived from mind. If one speaks or acts with pure mind, happiness will follow one like the wheel of a cart which is being pulled by an ox'.

### 5.2.3. The Mind That Completely Stays beyond the Physical Body

This refers to the mind that is fully liberated from all the mental defilements and does not have any attachment to the body. The mind at this stage will not lead to any birth or realm of existence any longer. Even though the bodies of those who have reached this stage may suffer illnesses, which is often the case for all beings in general, physical sufferings cannot infiltrate to make their minds suffer. When mental defilements are entirely eradicated, their minds enter the state of *nibbana* whether they are still alive or pass away. One can start developing one's mind to reach this stage by following Buddhist ethics, which comprise the threefold training, namely, through morality (*sīla*), concentration (*samādhi*), and wisdom (*paññā*), which are expanded in the form of the Noble Eightfold Path. Buddhism explains that with the perfection of morality, one can be born in human or heavenly worlds. With the perfection of morality and meditation, one can be born in the Brahmā worlds. And with the perfection of morality, meditation, and wisdom, one can reach the state of *nibbāna*.

In other words, when the development of one's morality is perfect and one can eradicate *sakkāyadiṭṭhi* (wrong views regarding one's self), *vicikicchā* (doubts), and *sīlabbataparāmāsa* (clinging to useless rituals), one becomes a stream enterer (*sotāpanna*) subject to be born for no more than seven lives. When one is perfect in morality with moderate concentration and wisdom, one becomes the once-returner (*sakadāgāmi*) subject to be born in this world for one more life. And when one is perfect in morality and concentration with moderate wisdom, one becomes the non-returner (*anāgāmi*). When one is perfect in morality, concentration, and wisdom, one becomes an *arhant* and will enter the state of *nibbāna*, where the mind will stay beyond the worlds of existence and will never be affected by all kinds of suffering, not any more.

### 5.2.4. The Mind and the Body Depend on Each Other

While still alive, both the mind and the body have to depend on each other for survival. *Rūpa* needs the other four aggregates to stay alive while the other four need *rūpa* to have a form to manifest. So, a human being is, in reality, the combination of the five *khandhas* (aggregates) that exists in this world only temporarily. Therefore, in order to make sure that life can go on smoothly for many years on earth, one has to seriously take care of one's health, both mentally and physically. There is an interesting point that the Buddha has pointed out: whatever happens to the mind affects the body and vice versa. So, when the mind is pure and peaceful, the body is relaxed and healthy. When the mind is agitated, full of mental defilements such as hatred or greed, the physical body becomes tense, which may even lead to illness. On one occasion, the Buddha says, *pīṭimanassa kayo'pi passambhati cittaṃ pi passambhati* (SN I 208): 'When one's mind is filled up with rapture, his body as well as his mind will get relaxed too.' In another context, the Buddha says, 'Monks, it is not possible to accept the statement when someone says that consciousness can come into being without being combined with other aggregates, i.e., form, feelings, apperception and mental formations.' (SN III 53). These contexts reveal that from the Buddhist point of view, the body and mind are separated but depend on each other for existence.

Because the body and mind are closely connected and depend on each other for existence, whatever happens to the body can affect the mind and vice versa. The Pali text says, *passaddho kayo asāradhho, samāhitaṃ citta ekaggam* (AN I 148): 'When the physical body is relaxed and not tense, the mind will become stable and can be focused on one object'. In the same way, when the physical body is not relaxed and tense, the mind will be wandering about restlessly. The illnesses caused by the mind or body that does not function properly and affects the other are called, in the modern days, psychosomatic disorders. It is clear that when human beings are mentally full of stress and anxiety, they can end up physically with headaches or even migraines. On the contrary, when the mind is freed from mental pollutions such as hatred, greed, and illusion, thereby experiencing inner peace, the physical body will become healthy too. In particular, when the mind is freed from outside

objects that weaken it and becomes serene and peaceful, it will get stronger and become capable of dealing with all kinds of physical abnormality.

There is a story in the *Samyuttanikāya* (SN 46.16; SN V 81) saying that while the Buddha was once dwelling in a bamboo grove, he was gravely ill. Then, Ven. Cunda went to visit him. The Buddha asked him to recite a discourse on the Factors of Enlightenment called the *Bojjhaṅga Sutta*. Ven. Cunda did so. While attentively listening to the *sutta* recitation and taking its content into consideration, the Buddha's mind was serene, pure, and peaceful, and soon, he completely recovered from his illness. Similarly, one day, Ven. Kassapa was gravely ill. The Buddha went to visit him and recited the same discourse to him. While listening to the *sutta* and contemplating its content, Ven. Kassapa recovered from his illness soon afterwards (SN V 79). In the same way, Ven. Moggallāna was seriously ill. The Buddha went to visit him and recited the same *sutta* to him. Ven. Moggallāna recovered from his illness (SN V 80). All these stories show that when the mind is in a peaceful state, it becomes stronger, unexpectedly creating an immune system and eliminating physical illness. The refreshment of the mind by eating the food of the man above corresponds to the idea of shaping the mind by the physical body according to the embodiment theory in the context of philosophy (see Heng Li 2021) or psychosomatic medicine in medical science (see for example Nakao and Ohara 2014).

Another interesting story is told in the commentary to the *Dhammapada* (Dhp-a 3261ff.). A man whose name is not mentioned heard that the Buddha came to the city of Vesālī and was eager to go to listen to his sermon. He walked a long way in order to meet the Buddha. On arrival, he was tired and very hungry. His physical body needed food and he obviously could not concentrate his mind to listen to the Buddha's sermon properly. The Buddha once says, *sukhino cittaṃ samādhiyati* (SN I 208 cf. DN I 73,196): 'The mind of those who are happy becomes concentrated.' Certainty, the man's mind became nervous, restless, and unhappy because of the physical hunger. Having noticed this since he arrived, the Buddha asked his lay disciples to find the food left for him before teaching him. After he finished with his food, his mind now was relaxed and was ready to listen peacefully to the Buddha's sermon. The Buddha then started delivering his sermon to him, and finally, he became a stream-enterer (*sotāpanna*). Later, the Buddha explained to his monk disciples as follows: *jigacchā paramā rogā* 'Hunger is the most severe illness' (Dhp 202). This is because other illnesses could be cured once and for all but hunger has to be treated constantly with sufficient food. Otherwise, it will bother one's mind persistently. This explains that when the physical body is extremely exhausted, it is hard for the mind to concentrate. In other words, the physiological stress can affect, negatively, one's psychological functions and vice versa.

After all, the mind controls the human brain and the brain controls the nervous system of the whole body according to the mind's order. When the mind is dominated by various objects, the brain works harder. When the mind is relaxed by the power of concentration or in deep sleep, the vibration of the brain works less. So, when the mind is full of anxiety or worries or stress, the brain also works hard and human beings usually suffer when anxiety, worries, or stress, which are getting more and more developed. This condition soon makes the immune system vulnerable. In the end, one may suffer insomnia or even cancer. On the other hand, when the mind is serene and relaxed, the brain gets relaxed too. All these show that the mind and body are actually separated and that the mind controls the whole body via the human brain. So, whatever happens in the mind affects the body and whatever happens to the body affects the mind. Therefore, it is very important to look after both physical and mental health simultaneously in order to improve both physical and mental health.

### 5.3. Buddhist Ethics Were Used to Ward off Pestilence during the Buddha's Lifetime and Afterwards

Buddhist ethics consist of morality, meditation, and wisdom. In details, they are classified as the Noble Eightfold Path: right view, right thought, right speech, right conduct,

right livelihood, right effort, right mindfulness, and right concentration. Of all these, right speech, right conduct, and right livelihood are considered to comprise morality while right view and right thought are considered to comprise wisdom. The rest, namely, right effort, right mindfulness, and right concentration, are parts of meditation. The practicing of mindfulness during the chanting or recitation of the Buddhist *suttas* and the practice of walking and sitting with mindfulness, as well as of the development of concentration, are all part of meditation while the development of insight is the development of wisdom. In order to develop meditation and wisdom properly, however, one must first practice morality, which is considered their basis.

There are two stories that are illustrated here to show that Buddhists in the past used the Buddha's teaching to ward off pestilence, which might be useful to consider how to deal with pestilences or pandemics in the modern times.

First, it is explained in the commentary of the *Ratana Sutta* (SN 222–238) that the city of Vesāli was hit badly by disasters during the Buddha's lifetime, causing deaths to many. There were three responses to the three disasters that plagued the city of Vesāli—pandemic or pestilence, evil spirits, and famine. First, the Buddha went to the city, and, on his arrival, rain poured down and cleaned up the city. All parts of the city that might have been the sources of diseases came back to hygienic conditions, and many factors that caused more viruses, germs, or bacteria to circulate were eliminated. Second, Ven. Ananda was instructed by the Buddha to go around the city, recite the *Ratana Sutta* (Sn 222–238), and, simultaneously, sprinkle sanctified water from an alms bowl given by the Buddha. Not only were the bad spirits that dominated the city driven away from the city, but the remaining spirits were also instructed by the *Sutta* to spread loving-kindness (*mettā*) and compassion (*karuṇā*) to the people living at Vesāli. Third, the Buddha delivered the *Ratana Sutta*, encouraging all the Licchavi people to take refuge in the Triple Gem, which means that they were strongly advised to practice morality (*sīla*), concentration (*samādhi*), and wisdom (*paññā*) seriously.

According to a second story, legend has it that people in South-East Asia, including modern 'Thailand' and 'Laos', used to suffer pestilence in the past. The story was recorded in a palm-leaf manuscript called '*Heet Sibsong Khong Sibsee*' (*Twelve Traditions and Fourteen Customs (of people in a Year)*) found at Wat Nhong Bua, Ubonratchathani Province. Written in the Tham Isān alphabet, the manuscript was, like many other palm-leaf manuscripts, found in Ubonratchathani, probably copied from Laos because, during the 17th–19th centuries, several Thai monks from Ubonratchathani went to learn Buddhism in Laos, especially Vientiane, and there, copied manuscripts, which were brought back to their homeland. I checked the website of the Digital Library of Laos for manuscripts (<https://www.laomanuscripts.net/> (accessed on 27 August 2022)) and found that there are some twenty-seven versions of the '*Heet Sibsong Khong Sibsee*'. The oldest one is dated 1928. No critical edition of this manuscript has been made so far.

The accounts in all the manuscripts say, similarly, that in order to solve the problems of the pestilence, poverty, and famine that plagued the city, people had to follow the codes of conduct, which used to be practiced regularly by their ancestors, called '*Heet Sibsong Khong Sibsee*'. The story of '*Heet Sibsong Khong Sibsee*' tells us that at one time, there was a pestilence and poverty in the city of Bodhiñāna. It was resolved that the disasters had occurred because people in the city had ignored the Buddha's teachings, and in order to stop them, everyone in the city must not only observe the five or eight precepts but also follow the *Heet Sibsong Khong Sibsee*, which referred to important public events or activities related to Buddhism, either directly or indirectly, which must be organized every month of the year. It is noteworthy that all the *Twelve Traditions and Fourteen Customs* are deeply rooted in Buddhism, and the main reason for this was to encourage all the Buddhists in the city to practice Buddhist ethics seriously during the time when pestilence, poverty, and famine plagued society.

When people follow these traditions and customs seriously, there are obviously two benefits. Physically, they clean their houses, villages, or towns regularly in preparation

for various festivals all the year round. They clean their feet before walking upward to their houses and going to bed. Thus, hygienic conditions are created to avoid any possible infection from viruses, germs, or bacteria. Their residences, food, clothes, and water are made clean. These practices are quite similar to, though not the same as, basic health and hygiene practices such as social distancing, hand washing, avoiding contact with risky people, etc. This means that they give more importance to physical health and are ready to do anything to prevent themselves from being afflicted by any pestilence. Mentally, they are trained to be kind and generous, being encouraged to develop friendship and strengthen the friendly bonds with one another across villages or towns. When there is any pestilence or pandemic, no one in the same village is left behind without being taken care of. Therefore, they have a unity and harmony by which they always help or support one another in times of crisis.

In both cases, the Buddhist ethics were directly applied to handle pestilence. They strengthen the belief among Buddhists that the practicing of Buddhist ethics in many different forms to control or eradicate mental defilements in one's mind not only has potential health benefits, physically and mentally, making the practitioners stay healthy during pestilence, but also reduce the risk of being afflicted by several other diseases that might be caused by anxiety or depression during the pestilence. But how the pacification of the mind from mental defilements can enhance health benefits is another issue that still needs more empirical, scientific experiments to be explained.

#### *5.4. Buddhist Ethics Have Potential to Improve One's Health and Well-Being during Any Pandemic or Endemic including COVID-19*

The account in this part is supported by modern science. The coronavirus pandemic of 2019 (or COVID-19) seems very difficult for human beings to overcome because at the moment it has been proven that there is no guarantee that vaccination can stop COVID-19 from spreading (Feiner and Lovelace 2020). However, there is already a light at the end of a tunnel: a new study has revealed that T cells can provide protection against COVID-19 (Paul Moss 2022). In addition, it has also been revealed that B cells are extremely important 'in protective immunity against SARS-CoV-2, which caused the coronavirus disease 2019 (COVID-19) pandemic' (Shiru Chen et al. 2022). According to Alberts B. et al. (Alberts et al. 2002), T cells and B cells are different types of the immune systems that protect the human body from various diseases. They explained that T cells develop in the *thymus* and B cells develop in the *bone marrow* in adults or the liver in fetuses. While foods that are rich in protein can develop T cells and fish oil rich in docosahexaenoic acid (DHA) can enhance B cells, modern scientists have also discovered that certain practices of Buddhist ethics can increase both T cells and B cells.

Even though, previously, Buddhist mindfulness or meditation was confined within the domain of Buddhist scholars or religious teachers who were usually pegged with personal beliefs, currently, several scientists have revealed the scientific results of the practices of chanting, mindfulness, concentration, and the development of insight worldwide without any religious overtones. This means that if one practices the Buddha's teaching seriously enough, one will see positive and enduring results with which one will be able to improve the immune system tremendously and will not be afflicted by any pandemic easily, now or in the future. The following are just some examples of the results of the scientific experiments involving those practices.

It is noteworthy that when a pandemic hits a country, people there are usually upset, frustrated, or even depressed. They are confined to a particular place. Therefore, they feel lonely and homesick instead of being surrounded by loving families. It is universally accepted that depression could weaken the immune system. When the immune system is weakened, either because of stress or pathogens, human beings will be vulnerable to infection and disease. To handle the pandemic of COVID-19, most people think about vaccination as the final answer but unfortunately, as we all know, vaccines cannot stop the virus (Mercola 2021), and yet, almost every government pushes its citizens to get vaccinated

even though it has been already proven that vaccinated people can get infected with the virus too. The practicing of Buddhism not only strengthens the immune system but also makes the practitioners feel concentrated and happy.

In this part of the paper, I shall highlight four main Buddhist practices encouraged by the Buddha for his followers to follow. All these practices could be integrated, more or less, into the daily lives of all Buddhist practitioners.

#### 5.4.1. The Practicing of Mindfulness in Daily Life

The detailed account of the mindfulness practice as explained by the Buddha in the Pali Canon is found in two discourses (*suttas*): the *Satipaṭṭhāna Sutta* (M I 55) and the *Mahāsatipaṭṭhāna Sutta* (D II 289). The typical explanation is that mindfulness practice must be done on the body (*kāya*), sensations or feelings (*vedanā*), mind or consciousness (*citta*), and states of mind (*dhamma*).

The practicing of mindfulness for laypeople, however, can be done in two ways: formal and informal. The formal practicing of mindfulness encapsulates the set of practices designed by all meditation masters when they offer classes of mindfulness or meditation to their students. They usually set up some stereotyped formats of activities for their students to practice, mostly consisting of standing, walking, and sitting. The informal practicing of mindfulness, however, refers to the application of mindfulness to every physical movement in one's daily life such as reading, walking to work, printing one's work, cooking, gardening, taking a bath, talking to others, and so on. If one practices mindfulness in both ways intensively, one will be able to develop one's mindfulness rapidly. When one's mindfulness is sufficient, i.e., when one possesses 'much mindfulness' (*mahāsati*), it will be easier for one to reach the state of concentration (*samādhi* or *cittassa ekaggatā*). This is because concentration is the result of sufficiently accumulated mindfulness. The Buddha explains how mindfulness can be perfectly developed in order to reach the state of concentration in details in a discourse called the *Mahāsatipaṭṭhāna Sutta* (DN 22).

Scientific experiments have proven that the long-term practicing of mindfulness can induce structural plasticity in the brain. A meta-analysis has identified several brain structures altered by meditation such as the anterior cingulate cortex (ACC), insula, and hippocampus (Tang et al. 2020). Another study by David S. Black and George M. Slavich (Black and Slavich 2016) revealed that there is a possible effect of mindfulness meditation on specific markers of inflammation, cell-mediated immunity, and biological aging, but their results were tentative and require further replication. The study by Richardson Davidson et al. (Davidson et al. 2003) found that the practicing of mindfulness over eight weeks, seriously and successively, can develop the level of antibodies responsible for reacting to and preventing illness. He writes a report in a journal thus:

We report for the first-time significant increases in left-sided anterior activation, a pattern previously associated with positive affect, in the meditators compared with the nonmeditators. We also found significant increases in antibody titres to influenza vaccine among subjects in the meditation compared with those in the wait-list control group. Finally, the magnitude of increase in left-sided activation predicted the magnitude of antibody titer rise to the vaccine. (Richardson Davidson et al. 2003 cf. Thibodeaux and Rossano 2018)

Several pieces of research suggest that the practicing of mindfulness, either formal or informal (Surya et al. 2021), can help the practitioners 'improve interpersonal alignment and neutral integration' and finally remove negative cognition, thus transforming themselves from unhealthy individuals to healthy individuals. In short, the practicing of mindfulness can prevent and cure depression among those afflicted with it very effectively, thus improving the well-being of the practitioners. For studies on the benefits of mindfulness practice, see, for example, J. Kabat-Zinn (Kabat-Zinn 1982), Z. V. Segal et al. (Segal et al. 2002), J. D. Lane et al. (Lane et al. 2007), S. L. Shapiro et al. (Shapiro et al. 2008), T. L. Jacobs et al. (Jacobs et al. 2010), S. L. Keng et al. (Keng et al. 2011), W. R. Marchand (Marchand 2013), M. P. J. Spijkerman et al. (Spijkerman et al. 2016), H. A. Rahl et al. (Rahl et al. 2017), M. Xu et al.

(Xu et al. 2017), A. M. Househam et al. (Househam et al. 2017), Chuan-Chih Yang (Yang 2019), Li Laurent et al. (Laurent et al. 2021), Na Jiang et al. (Jiang et al. 2021), Belardi A. et al. (Belardi et al. 2022), Li J. et al. (Li et al. 2022), X. Wen et al. (Wen et al. 2022), and J. Xu et al. (Xu et al. 2022).

Ground-breaking research has recently been conducted by David S. Black and George M. Slavich (Black and Slavich 2016; Wolkin 2021). According to a report, ‘their findings suggest the possible effects of mindfulness meditation on specific markers of inflammation, cell-mediated immunity, and biological aging, but these results are tentative and require further replication. On the basis of this analysis, we describe the limitations of existing work and suggest possible avenues for future research. Mindfulness meditation may be salutogenic for immune system dynamics, but additional work is needed to examine these effects’ (Black and Slavich 2016). In addition, a study by R. A. Baer found that mindfulness-based interventions may be helpful in the treatment of several disorders (Baer 2003). N. N. Dasanayaka, Sirisena N. D., and Samaranayake N. argued that the practicing of mindfulness results in a range of benefits including creating a calm mind and increasing self-awareness, relaxation, and tranquility, thus improving physical well-being, including cellular aging (Dasanayaka et al. 2022).

#### 5.4.2. The Practicing of Mindfulness When Chanting the Buddhist Pali Texts

The practicing of mindfulness with chanting produces many benefits for health. It is scientifically proven that regular chanting has ‘a direct impact on the brain’s production of serotonin and bathes the neurons in the chemical enhancing lives and melting away stress’ (Davis 2021). Serotonin is known as the happy neurotransmitter, being responsible for anxiety, aggression, and stress (Jolanta Dorszewska et al. 2021). Somporn Kantharadussadee-Triemchaisee (Triemchaisee 2021) explains that the practicing of Pali chanting or recitation of Buddhist *suttas*, if done regularly for at least 12–15 min a day, can also induce serotonin. Once serotonin is increased, much anxiety, aggression, and stress will be reduced. The best time for the practicing of chanting or Buddhist recitation, according to her, is early in the morning before sunrise and in the evening after sunset. When the mind is calmed down and becomes peaceful because of the chanting, the levels of serotonin and dopamine, which contribute much to the decrease in the level of depression, will be increased.

#### 5.4.3. The Development of Concentration (*Samatha* or *Samādhi*)

Several pieces of research have proven, scientifically, that regular meditation can improve the immune system. In particular, it helps develop melatonin, serotonin, T cells, and B cells. The following are just some examples. E.E. Solberg et al. have shown that meditation alters a person’s immune response after strenuous physical stress and that in their study, the increase in the number of CD8 + T cells after VO<sub>2</sub>max was significantly less in the meditation group than in the control group ( $p = 0.04$ ). The number of CD2 + cells doubled after VO<sub>2</sub>, mainly because of a rise in the CD8 + fraction. The authors concluded that meditation may modify the suppressive influence of strenuous physical stress on the immune system (Solberg et al. 1995). In another work, a group of scholars led by Erik E Solberg (Solberg et al. 2004) also discovered that long meditation can induce plasma melatonin and blood serotonin. Catherine Kerr revealed the results of her study, which found that regular meditation can alter the somatosensory cortex, changes alpha waves, and increases serotonin production in the brain (Kerr et al. 2011; Jacobs 2012). Similarly, another study claimed that the ‘regular practice of meditation is reported to produce changes in mental state and resting electroencephalogram patterns that persist beyond the time-period of active practice’ (Lutz et al. 2004).

The study by Sara W. Lazar et al. also showed that regular meditation can change the structure of the brain, increasing cortical thickness among those who practice it (Lazar 2005). A study by J. David Creswell et al. indicated that mindfulness meditation does not only reduce stress but also stops ‘the decline of CD4 T cells, dramatically slowing down and

even halting the disease's typically nasty progression' (Creswell 2008). Regular meditation practice also enhances the levels of melatonin, a physiological hormone involved in sleep timing and is currently used exogenously in the treatment of primary and secondary sleep disorders with empirical evidence of efficacy, but very little evidence from randomised, controlled studies (Auld et al. 2017), according to the studies by Tooley G. A. et al. (Tooley et al. 2000) and A. O. Massion et al. (Massion et al. 1995). Therefore, not only is the functioning of the immune system improved but practitioners can also experience better quality of sleep.

#### 5.4.4. The Development of Insight (*Vipassanā*)

According to modern researchers, the practice of *vipassanā* (insight meditation) in Buddhism can also induce melatonin. Ravindra P. Nagendra et al. explain, '*Vipassana* meditation practices would have activated the anterior cingulate cortex and hence modulated the parasympathetic activity during sleep. These reports are suggestive of a positive modulatory role of meditation in sleep through autonomic functions' (Nagendra et al. 2012). Another study conducted by Glen Russell and Puna Wai Ora of the Mind-Body Cancer Clinic explained that *vipassanā* can be used to treat patients with cancer because it can induce melatonin (Puna Wai Ora Mind-Body Cancer Clinic 2006–2022).

All of these prove that the practices of Buddhism, namely, regular chanting or the recitation of Buddhist *suttas*; the development of mindfulness, concentration, and insight; etc., can actually improve the immune system in the body directly. They have been scientifically proven, which implies that everyone, regardless of their religious backgrounds, can achieve similar results if they seriously practice.

#### 5.5. Management to Improve the Good Health and Well-Being of Individuals and Community during Pandemics

Buddhism encourages its followers to use medical herbs if necessary. As explained in the *Bhesajjha Khandhaka* (Vin I 199–252), several types of medical herbs were used by Buddhists during the Buddha's lifetime. In addition, some forms of exercise such as the practice of walking with mindfulness were also encouraged by the Buddha in order to maintain good health. As can be seen from the above section, the practices of Buddhism, i.e., the recitation of Buddhist *suttas* with a concentrated mind, the practicing of mindfulness, the development of concentration and insight, etc., can fortify the immune system. It is beyond doubt that the more one practices all these activities, the more one bolsters one's own immune response. This has been scientifically proven. Therefore, Buddhism is still highly relevant, with which the followers of the Buddha can always stay grounded and feel highly motivated to follow the Buddha's teachings more, even though they live in a society where there is a pandemic like COVID-19.

There are several teachings of the Buddha that can be applied to improve good health during pandemics like COVID-19, and all of them are centered around the Noble Eightfold Path or the triad of training: morality (*sīla*), concentration (*samādhi*), and wisdom (*paññā*). In this paper, however, the word *bhāvanā*, which appears in the *Āṅguttara Nikāya* (AN III 106), is highlighted given that it covers all aspects of physical and mind development. The word is further divided into four different categories: *kāyabhāvanā*, *sīlabhāvanā*, *cittabhāvanā*, and *paññābhāvanā*. The details are as follows:

1. *Kāyabhāvanā* (Bodily or Physical Development): It means the development of morality (*sīla*) through bodily and verbal actions. By extension, it can be used to refer to taking proper exercise for one's physical health, too. According to the *Vinayapiṭaka* of the Pāli Canon, Jīvaka Komārabhacca (Vin II 119) once recommended the Buddha to allow his monk followers to practice mindfulness by walking regularly and to use a sauna so that they could keep their bodies healthy, and his proposal was accepted by the Buddha. Since then, the practicing of mindfulness through walking became one of the routine activities of monks during the Buddha's lifetime.

In fact, monks do many exercises on a daily basis already, such as sweeping their monasteries' yards; sweeping the footpaths; cleaning the floors of the halls; walking with mindfulness; walking for collecting alms early in the morning, often over a long distance; and watering plants in their monasteries. In some monasteries in Thailand, monks have set up a special activity to walk with mindfulness on a pilgrimage from one province to another twice a year, and each time, the walk lasts some 15 to 20 days before they walk back to their monasteries.

For laypeople, this *kāyabhāvanā* includes all kinds of exercises for health such as swimming, running, jogging, playing badminton, playing football, playing golf, and any other exercises deemed useful for health as suggested by doctors. Another important activity is to try to get plenty of sunlight to maintain adequate vitamin D within the body, which is very important because it has been discovered that nearly 60% of patients with COVID-19 in the United States were vitamin D-deficient upon hospitalization (Kennedy 2021). This concept also covers the diet, or the selection of food to eat for good health to make sure that the physical body will not be affected by any diseases, viruses, or germs. This means that Buddhists need to be careful about the food they choose to eat. More precisely, they have to deprive themselves of unhealthy food as well. For example, we know that people who are afflicted with cancer usually have a high level of acids, more than that of alkalines. So, one has to be careful not to take too much food full of acid elements but must try to take more food with alkaline elements instead. In addition, the Buddha mentions the term *bhojanemattaññutā* (moderation in eating) to instruct his disciples not to overindulge in eating too much food because it can lead to fatness, which causes many diseases afterwards.

The Pāli Canon (A I 212; A III 216; J I 91) also mentions that having one meal a day (*ekabhaddika*) is considered good for health. It goes well with the modern concept of intermittent fasting (IF). The phrase IF means the pattern of eating wherein one takes food within eight hours and then stops eating completely for sixteen hours every day. When one recycles this pattern of eating regularly, there are lots of benefits such as the dropping of blood levels of insulin significantly, which will facilitate fat burning; an increase in human growth hormone (HGH) levels dramatically; and the inducing of the body cellular repair (Bogush 2021). Buddhists should try to lose some weight to protect themselves from various diseases including COVID-19. It is reported that 78% of Americans hospitalized for COVID-19 were overweight or obese (Kennedy 2021). In addition, Buddhists should try to avoid sugar, soft drinks, processed foods, and chemical residues, which, according to Robert F. Kennedy JR, 'amplify inflammation, compromise immune response and disrupt the gut biome which governs the immune system' (Kennedy 2021).

2. *Sīlabhāvanā* (Moral Development): It means to regulate one's life, not following one's own desires (which can lead to suffering, either mentally or physically). In a narrow sense, it refers to the observation of the five, eight, or two-hundred-and-twenty-seven precepts. Buddhists may select any type of these precepts according to their convenience. For general laypeople, the five precepts are suggested. For those who want more precepts during an observance day, the eight precepts are recommended. The 227 precepts are set forth for Buddhist monks in particular. The Buddha said that morality is the foundation of meditation and insight. Before one starts to practice mindfulness, the Buddha suggests that one observes, at least, the five precepts first. By extension, the word *sīla* here may also refer to the following of certain regulations for the sake of safety such as the following of the doctor's measures to protect oneself from COVID-19 through social distancing, hand washing, mask wearing, avoiding dense areas, and so on.

It also covers the practice of physical isolation or living in solitude to make sure that one, as well as one's community, will stay safe. To control oneself under the specific measures for safety reflects mental strength. Just as to control oneself to follow the precepts can protect oneself from certain mind defilements called *vītikamakilesa*, even so, to control oneself to be under specific measures such as social distancing or staying around six feet away from other people; wearing a mask; avoiding physical contact with patients of

COVID-19; avoiding crowds or poorly ventilated spaces; if indoors, opening windows and doors to bring in the fresh air; testing to prevent spreading to others; washing hands often; covering coughs and sneezes; cleaning high-touch surfaces such as tables, doorknobs, light switches, countertops, handles, desks, phones, keyboards, toilets, faucets, and sinks regularly; monitoring health daily; etc. can protect oneself from COVID-19.

3. *Cittabhāvanā* or *Samādhībhāvanā* (Mind Development): The word *cittabhāvanā* is broad. It covers every activity that is practiced and meant for mind development such as the practicing of mindfulness while chanting, walking, standing, sleeping, or sitting. It also includes the development of concentration (*samādhi*) further after the mind has entered the stage of pointedness (*ekaggatā*) of the first *jhāna* through the practicing of mindfulness.

The Buddha himself explains that right effort (*sammāvāyāma*), right mindfulness (*sammāsati*), and right concentration (*sammāsamādhi*) are included in what is called '*samādhikhandā*' (Concentration Group) in the Noble Eightfold Path. So, the practicing of mindfulness is the foundation of concentration (*samādhi*). One has to practice mindfulness until one develops one's normal *sati* (mindfulness) to become *mahāsati* (greater self-awareness or mindfulness), with which one's mind will reach the state of one-pointedness, which is the entry into the first *jhāna* (higher concentration). When the busy mind is calmed down as soon as it reaches the stage of one-pointedness, one can either develop one's concentration further to reach the second, third, or fourth *jhānas* or change the direction to cultivate *vipassanā* (insight) in the category of *paññābhāvanā* down below.

The Buddha explains (SN V 168) that the practicing of mindfulness must be done with extremely focused attention like an acrobat who is trying to balance himself when his student climbs up a bamboo pole and stands upon on his shoulders. Even with one moment of distraction, his student can fall down to the ground. Just as the acrobat is trying to look after himself with mindfulness and his student is protected, even so, one should practice mindfulness with full awareness to look after others. The Buddha explains clearly that when one looks after oneself very well, it means one looks after others very well, too (*attānaṃ bhikkhave rakkhanto paraṃ rakkhati paravādī rakkhanto attānaṃ rakkhati*). In addition, when the pandemic broke out, many people felt worried or even shocked by the number of sick and dead people in their country. When one's mind is full of worries or anxiety, it can lead to stress, hypertension, or even depression, making the immune system in the body weaker. Even worse, many countries have locked down, making their population live in isolation.

However, this problem does not occur for those who practice mindfulness by praying, walking, sitting, sleeping, or standing as mentioned above. Scientists have discovered that the practicing of mindfulness, such as through chanting for more than 10 min regularly until one's mind reaches a peaceful state, can induce serotonin (5-HT) (Newberg and Iversen 2003), which is 'the key hormone that stabilizes human beings' mood, feelings of well-being, and happiness.' (Fish 2022). With the practicing of mindfulness, one can get more mental power (*cittabala* or *samādhībala*) and, therefore, can feel happier even when isolated because of the lockdown.

4. *Paññābhāvanā* (Wisdom Development): This specifically refers to the development of insight to see things as they really are. This stage can be practiced only after one's mind has already reached the state of one-pointedness (*ekaggatā*), at least temporarily (*khaṇikasamādhi*), before one can move on to the development of insight (*vipassanā*). In other words, one must practice mindfulness until one's mind reaches a state of peace before one can move to the development of insight.

With all these teachings of the Buddha, four different types of well-being—physical, mental, emotional, environmental, and social—are all shared, developed, and sustained among individuals who live in the same society.

Apart from the above four *bhāvanās*, which are recommended by the Buddha to be practiced in order to protect oneself and one's community, one must not forget that the People's Republic of China has overcome COVID-19 using its socialist policies. As Carlos Martinez has clearly unveiled in his research paper,

China has mobilised unprecedented governmental, economic, technological, scientific and human resources in order to get the viral outbreak under control. In countries such as the United States and the United Kingdom, on the other hand, the response to COVID-19 has thus far been insufficient, and, as a result, these countries have not had anywhere near China's level of success in protecting their populations from infection. (Carlos [Martinez 2020](#))

The same can be said of the DPRK, which has also used strong measurements and socialist policy to defeat COVID-19. Danny Hiphong ([Haiphong 2021](#)) has written, clearly, about the differences in the management of COVID-19 between countries that promote capitalist democracy, of which the United States and European countries are the leading ones, and those that advocate socialist democracy, in which countries such as the People's Republic of China, Venezuela, and the DPRK are represented. Socialist policies have been the core of China and the DPRK in defeating COVID-19. According to Raham Priest, Buddhism and Marxism have aspects that complement each other. To use his own words, he said, 'Buddhism provides a stable ethical base that Marxism always lacked; and Marxism provides a sophisticated political philosophy, which Buddhism never had.' ([Priest 2017](#)).

For examples, first and foremost, for living together in harmony and peace, the Buddha teaches everyone to practice the Four Divine Attitudes (*brahmavihāradhamma*) in the Pāli Canon (D III 220; A III 226), i.e., loving-kindness (*mettā*), compassion (*karuṇā*), empathetic joy (*muditā*), and equanimity (*upekkhā*), suggesting that everyone spread these virtues to others on a regular basis; rulers or governments are suggested to possess the Tenfold Virtues of a Ruler (*Dasavidharājadhamma*); an emperor is expected to possess the Five Virtues of a Universal Ruler (*Cakkavattivatta*) (D III 61); human beings are supposed to develop their good relations towards one another who live in the same society, which is clearly addressed (D III 180ff.). Among Buddhist themselves, they need to follow the Four Principles of Services (*Sangahavattthu*) (D III 152; A II 32; A IV 218), namely, giving (*dāna*), kindly speech (*piyavācā*), rendering services (*atthacariyā*), and even and equal treatment (*samānattatā*).

Therefore, when any pandemic breaks out and a city is shut down, the government has, as its ethics, full responsibility to look after their citizens, especially those underprivileged or poor people in the country, to make sure that everyone survives. In addition, the rich have, also, to lend some helping hands to the poor in their localities. Free housing, universal healthcare or Medicare, free education, minimum wage hikes, student debt relief, free public transportation, etc. are expected to be found in any society if Buddhist socialism is highly promoted.

## 6. Discussion

Most scholarship on COVID-19 has so far focused on vaccination to protect oneself from the virus. If it is about other religions such as Christianity, they may be focusing on spiritual care provided to patients (as described in studies such as that by [Timmins et al. 2022](#)). In Buddhist contexts, most scholarship on COVID-19 deals with the traditional view of Buddhist healthcare. For example, Craig C. Lewis ([Lewis 2021](#)) focused on the activities of monks, as have the works of C. Pierce Salguero ([Salguero 2020](#)), Benjamin Schonthal and Tilak Jayatilake ([Schonthal and Jayatilake 2020](#)), Cheongghwan Park and Kyungrae Kim ([Park and Kim 2021](#)), Lamirin Lamirin ([Lamirin 2021](#)), Kai Shmushko ([Shmushko 2021](#)), Ghimire Gopal ([Gopal 2021](#)), and Bhim Bahadur Kunwar (Bhim Bahadur [Kunwar 2021](#)).

My proposal to use the specific teachings of the Buddha to protect oneself and communities is similar to that of Phravachiravich Pattarakiatin ([Pattarakiatin 2021](#)). The difference lies in that his proposal is limited to the five precepts and other general Buddhist practices while my proposal selects the four *bhāvanās*, which cover all aspects of physical, mental, social, and spiritual dimensions of well-being as promoted by the World Health Organisation (WHO). Another point is that Pattarakiatin *views the Buddhist prevention of COVID-19 from a traditionally Buddhist perspective while* I describe how the practices of Buddhist chanting, mindfulness, concentration, and insight in Buddhism are relevant, based on modern scientific experiments beyond the confinement of traditional beliefs.

## 7. Conclusions and Recommendations

What we can draw from the foregoing discussion is as follows:

1. The Buddhist ethics can be used to improve one's health when there are various pandemics/endemics such as COVID-19. The practicing of Buddhist ethics enhances well-being that incorporates all the physical, mental, emotional, and spiritual dimensions together. This confirms my hypothesis that the practicing of Buddhist ethics has potential impacts on good health for all individuals during any pandemic/endemic. When practiced seriously, it can lead human beings to three goals. First, if one develops morality, meditation, and wisdom in one's daily life, one can stay healthily in this world, physically and mentally. Second, when one passes away and is born in the next life, one, with the good quality of mind, will be in a good realm of existence. If one is going to be born as a human being again, one will possess good health with fewer illnesses throughout one's life. Third, if all the Buddhist ethics are perfectly practiced, one can reach *nibbāna* wherein one can put an end to all suffering. This means that the practicing of Buddhist ethics can not only improve the physical and mental health of human beings in this life but also can eradicate all the diseases including all pandemics/epidemics, which are parts of suffering, completely and permanently in the long run, too.
2. Modern scientific scholarship has also discovered the benefits of various activities that are part of the Buddhist ethics, namely, the practicing of mindfulness during the chanting or recitation of the Buddhist *suttas*, the practice of walking and sitting with mindfulness, and the development of concentration and insight. There have been two main health crises since COVID-19 hit society. First, a large number of people around the world feel extremely fearful and stressful, or even suffer depression. Second, modern scientists have also revealed that when pandemics such as COVID-19 infect the body, they destroy the immune system. The pandemic COVID-19, in particular, has reduced the numbers and functional competence of certain types of immune cells in the body (Winheim et al. 2021). So, one must manage to bolster the immune response, making sure that both physical and mental health are good enough to protect oneself.
3. The specific teachings of the Buddha, which can be appropriately applied to improve the health of the general public while there occur pandemics such as COVID-19, encapsulates the set of teachings called four *bhāvanas* (types of development). The practicing of these four *bhāvanas* enhances both physical and mental health simultaneously.

In Buddhism, diseases are divided into two: physical and mental. Overall, the causes of all diseases are previous *kammās* (volitional actions). By previous *kammās*, we mean all the actions, either good or bad, that we have performed in the past, either in a previous life or in the last few minutes. They determine all that we are supposed to be or all that we have now, including the conditions of our physical bodies and minds. *Roga* (disease) is part of suffering (*dukkha*), so COVID-19 is part of *dukkha*. Because all the *kammās* that were committed in the past are collected in one's mind, which later determines one's birth and conditions in one's life, we can say that all the diseases are ultimately born from mental defilements (*kilesa*). It is clear that most diseases occur when one's mind is full of stress or when the mind is, to use words in Buddhist contexts, polluted and disturbed by mental defilements. On this ground, the best preventative and curative method to manage the diseases is the triad of training: morality (*sīla*), concentration (*samādhi*), and wisdom (*paññā*), as the Buddha said. The triad of training is expanded into the four *bhāvanās*. There are two advantages if one practices them seriously. First, one will be able to manage stress, anxiety, fear, or all the mental health crises generated by any pandemic including COVID-19. Second, one can develop immune systems such as T cells, B cells, melatonin, and serotonin in one's physical body when the mind is highly concentrated. The Buddhist practices are actually the fount of healing because they result in the direct development of immune system itself. If one practices regularly, one is healing oneself and preventing oneself from several illnesses.

If everyone follows all these practices along with other suggestions by modern doctors, the people in a community can stay healthy, physically and mentally, and will not run the risk of being afflicted by many other diseases caused by anxiety or depression. Then, all communities would become immune not only to COVID-19 but also all other pandemics/endemics. Herd immunity or community immunity will be perfectly enhanced. For a happier community, however, the Buddha also mentions several aspects of socialist philosophy, especially the practicing of *brahmavihāradhamma* (the Divine Attitudes), i.e., loving-kindness (*mettā*), compassion (*karuṇā*), empathetic joy (*muditā*), and equanimity (*upekkhā*) towards one another for peace, happiness, and more co-operation among the people within the community. So, for the sake of the well-being of the community, the policy makers of various governments may advise people to follow the above four *bhāvanās* individually, and to mobilize their communities to apply them along with the *brahmavihāradhamma* to practice seriously in combination, to ensure that people in their communities stay calm and peaceful without panic when they are hit by various pandemics including COVID-19.

One can see that the best way of preventing oneself from disease is that one must practice the four *bhāvanas* oneself because the Buddha is merely the person who shows the path (*akkhātāro Tathāgatā*). Every individual is their own real doctor who must try to treat themselves or look after their own physical and mental health since no one else can develop all the four *bhāvanas* for them. Even though Buddhism is viewed as religious and philosophical, it is nevertheless true that many ethical practices in Buddhism have potential impacts in terms of improving the immune system and are useful for improving the health and well-being of human beings, especially during the periods when various kinds of pandemics/endemics hit society. In light of this, policy makers of any government should consider introducing some practices in Buddhism such as the practicing of mindfulness, meditation, and insight when their society is hit by pandemics/endemics. Medical scientists should also implement the concept of the four *bhāvanās* to be researched further among their clinical population to see whether or not the physical health of patients who follow them is improved in comparison with a control group. As a result, more quantitative studies in this field need to be undertaken.

In terms of content, this research paper has explored the core teaching of the Buddha in the Pali Canonical texts together with their commentaries and offers the concept of the *bhāvanās* (types of development), which cover all the Buddhist practices necessary for implementation in order to improve the well-being of practitioners during various pandemics such as COVID-19. It has achieved its main purpose in investigating whether the Buddha's teachings can be applied to improve the health and well-being of practitioners during various pandemics or not. As abovementioned, new studies have emerged showing that T cells can provide protection against COVID-19 (Paul Moss 2022) and that B cells are extremely important 'in protective immunity against SARS-CoV-2, which caused the coronavirus disease 2019 (COVID-19) pandemic' (Shiru Chen et al. 2022). It has also been scientifically proven that mindfulness meditation, if practiced seriously, can induce both T cells and B cells. In order to develop T cells and B cells naturally, the concept of the *bhāvanā* in Buddhism is proposed because it, if seriously practiced, can enhance the physical, mental, spiritual, and social well-being of everyone in society. However, this research project should be supplemented with a set of quantitative questionnaires among various Buddhist or non-Buddhist communities in the world to find out how much the Buddhist ethics can improve the health and well-being of practitioners of Buddhist ethics during the spread of COVID-19.

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## Abbreviations

All the Pali Texts were published by the Pali Text Society, UK.

AN	<i>Anguttaranikāya</i>
DN	<i>Dīghanikāya</i>
Dhp	<i>Dhammapada</i>
Dhp-a	<i>Dhammapada's Aṭṭhakathā</i> (Dhammapada's commentary)
MN	<i>Majjhimanikāya</i>
Nd	<i>Niddesa</i>
Pj	<i>Paramatthajotikā</i>
SN	<i>Samyuttanikāya</i>
Sn	<i>Suttanipāta</i>
Thag	<i>Theragāthā</i>
Vin	<i>Vinayapiṭaka</i>

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