The concept of “prevention before disease” in Buddhism and its application & dissemination status in modern medicine: a review

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Abbreviations
MBR, Mindfulness-Based Stress Reduction; MBCT, Mindfulness-Based Cognitive Therapy; ACT, Acceptance and commitment therapy; DBT, Dialectical behavior therapy; CFT, Compassion-focused therapy; TCM, traditional Chinese medicine.

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Abstract
The concept of “prevention before disease” in Buddhism has deep roots in traditional Indian medicine and has been integrated into Buddhist philosophy. The Buddhist philosophy of “prevention before disease” is based on the cultivation of mindfulness through the practice of meditation. This philosophy has been integrated into modern medicine through the development of mindfulness-based interventions, which have been found to be effective in reducing symptoms of anxiety, depression, and chronic pain. The article also discusses the spread of Buddhist philosophy and its “prevention before disease” concept in different regions of the world and the potential benefits of integrating this philosophy into patient care. Here, we summarized the concept of “Prevention Before Disease” in Buddhism and its specific content in Buddhist teachings and discussed its application & dissemination status in modern medicine.

Keywords: Buddhism; prevention before disease; mindfulness; modern medicine
Introduction

The meaning of preventing illness

The concept of preventing illness, also known as “pre-disease intervention” or “preventative healthcare”, refers to a proactive approach that emphasizes the importance of maintaining health and preventing diseases before they occur. This approach is rooted in the belief that it is more effective and efficient to take preventive measures to maintain well-being and avoid the onset of diseases rather than to treat them after they have manifested [1]. The idea of preventing illness has been prevalent in various traditional healing systems, including Chinese medicine, Ayurveda, and Greek medicine. It encompasses a range of practices, such as a balanced diet, regular exercise, proper rest, stress management, and maintaining a healthy lifestyle, all of which aim to promote overall health and prevent the development of diseases [2]. In the context of Buddhism, the concept of preventing illness aligns with the teachings of the Buddha, who emphasized the importance of mental, emotional, and physical well-being. The Buddha’s teachings provide a holistic perspective on health, integrating the mind, body, and spirit, which is essential for achieving enlightenment [3]. As a result, the concept of preventing illness in Buddhism extends beyond merely physical health to include mental and spiritual well-being.

The relationship between Buddhism and medicine

The relationship between Buddhism and medicine can be traced back to the time of the Buddha, who was known as the Great Physician for his insights into human suffering and its remedies [4]. In Buddhist teachings, physical health and mental well-being are intrinsically connected, and both are considered essential components for achieving spiritual progress and ultimate enlightenment [5]. Buddhism has significantly influenced various traditional healing systems, particularly in Asia. The Indian medical system of Ayurveda, for instance, shares many similarities with Buddhist principles, including the concepts of balance, moderation, and a holistic approach to health and well-being [6, 7]. Moreover, Buddhism has played a vital role in shaping the development of traditional Tibetan medicine, which is deeply rooted in Buddhist philosophy and principles [8]. In China, the integration of Buddhist teachings into Chinese medicine has resulted in unique approaches to health and disease prevention, such as the emphasis on mind-body connections, meditation, and the cultivation of a harmonious lifestyle [9]. The Buddhist approach to health and medicine primarily focuses on the prevention of illness and the maintenance of well-being through the cultivation of a balanced lifestyle, a healthy diet, regular exercise, meditation, and moral and ethical conduct. These practices aim to address the root causes of illness, which, in Buddhist philosophy, are often linked to mental afflictions, such as attachment, aversion, and ignorance.

The relationship between Buddhism and medicine is also evident in the historical accounts of Buddhist monks and nuns, who were often skilled in the art of healing and played a crucial role in providing medical care to their communities. The monastic code, known as the Vinaya, contains detailed guidelines for monastic healthcare, emphasizing the importance of caring for the sick and the role of the monastic community in preserving and promoting health [10].

In modern times, the relationship between Buddhism and medicine has gained renewed interest, particularly in the fields of psychoneuroimmunology, mindfulness-based therapies, and integrative medicine. The holistic approach to health and well-being advocated by Buddhism has inspired researchers and healthcare professionals to explore the potential benefits of incorporating Buddhist principles and practices into modern healthcare systems [11].

Research purpose and significance

The purpose of this comprehensive review is to explore the concept of preventing illness in Buddhism, delving into its origins, content, applications in modern medicine, and the global dissemination and influence of this idea. By examining the relationship between Buddhism and medicine, this paper aims to elucidate the underlying principles and practices that have shaped the Buddhist approach to health and well-being, with a particular emphasis on the prevention of illness.

The significance of this research lies in several aspects. Firstly, it contributes to a deeper understanding of the interdisciplinary connections between Buddhism and medicine, shedding light on the historical and philosophical foundations of this relationship. This exploration may provide insights into the cultural and intellectual exchange between different medical traditions, enriching our knowledge of the global history of medicine. Secondly, by examining the concept of preventing illness in Buddhism, this review highlights the relevance of ancient wisdom to contemporary health challenges. As modern societies grapple with the rising prevalence of chronic diseases and the escalating costs of healthcare, the emphasis on prevention and the cultivation of a balanced lifestyle promoted by Buddhist teachings can offer valuable guidance for the development of more sustainable and holistic healthcare strategies. Lastly, this research has the potential to foster greater appreciation and understanding of the diverse cultural dimensions of health and well-being. By exploring the concept of preventing illness in Buddhism and its influence across different regions, this review may contribute to the growing body of literature on the cultural determinants of health and encourage further interdisciplinary research in this field.

The origins and development of the concept of preventing illness in Buddhism

The origins and development of Buddhism

Buddhism originated in ancient India around the 5th century BCE with the teachings of Siddhartha Gautama, who later became known as the Buddha or the “Enlightened One.” The Buddha’s teachings, or Dharma, revolve around the understanding of human suffering and the ways to overcome it, which are encapsulated in the Four Noble Truths [12]. Following the Buddha’s death, his teachings spread across India and beyond, leading to the emergence of different Buddhist traditions and schools. In the early centuries CE, Buddhism began to flourish in various regions of Asia, such as Sri Lanka, China, Korea, Japan, and Tibet, as it interacted with local cultures and philosophies. This expansion resulted in the development of two major branches of Buddhism, namely Theravada and Mahayana [13]. Theravada Buddhism, which is primarily practiced in South and Southeast Asia, focuses on individual enlightenment and emphasizes the importance of personal practice and self-discipline. Mahayana Buddhism, which is prevalent in East Asia, places greater emphasis on the ideal of the Bodhisattva, or an enlightened being who seeks to help others attain enlightenment [14]. Throughout its history, Buddhism has maintained a close relationship with medicine, as the Buddha’s teachings provide a holistic framework for understanding human suffering and well-being. This framework encompasses not only physical health but also mental and spiritual aspects, which are interrelated and essential for achieving enlightenment. As Buddhism spread across Asia, its teachings on health and well-being were integrated into various traditional medical systems, leading to the development of distinct approaches to disease prevention and the maintenance of health [15]. The concept of preventing illness in Buddhism is deeply rooted in its teachings on the interconnectedness of mind, body, and spirit, as well as the importance of cultivating a balanced lifestyle to achieve overall well-being. As Buddhism continued to evolve and adapt to diverse cultural contexts, the concept of preventing illness became an integral part of its approach to health and well-being, shaping its influence on medical practices and healthcare systems across Asia and beyond.

The connection between Indian classical medicine and Buddhism

Indian classical medicine, primarily represented by the Ayurvedic system, has a long-standing relationship with Buddhism. Both have
their origins in ancient India and over time, they have influenced each other in various ways [16]. The Ayurvedic system, which dates back to around 1500 BCE, is a comprehensive medical system that emphasizes the importance of balance and harmony in maintaining health and preventing illness [17]. The connection between Indian classical medicine and Buddhism can be observed at multiple levels, including philosophical principles, preventive measures, and therapeutic practices. At the philosophical level, both Ayurveda and Buddhism recognize the interdependence of the mind and body and share the belief that mental and emotional well-being is crucial for physical health [18]. In terms of preventive measures, both systems advocate for a balanced lifestyle that includes a nutritious diet, regular exercise, proper rest, and mental cultivation. For example, the Ayurvedic concept of Dinacharya (daily routine) bears similarities to the Buddhist emphasis on disciplined daily practices, such as meditation and moral conduct, which are essential for maintaining health and preventing diseases [19].

Therapeutic practices in Ayurveda and Buddhism also share some common ground. Both systems recognize the importance of addressing the root causes of diseases rather than merely treating the symptoms. In Ayurveda, the treatment of illness often involves the use of herbal medicines, dietary modifications, and lifestyle interventions, which are tailored to the individual’s unique constitution and imbalance [20]. Similarly, in Buddhism, the treatment of illness is based on a holistic understanding of the individual's physical, mental, and spiritual condition and may involve meditation, mindfulness, and other practices that promote self-awareness and inner balance [21]. The connection between Indian classical medicine and Buddhism can also be seen in the historical accounts of Buddhist monks and scholars who contributed to the development of medical knowledge and practices. Prominent examples include the Indian Buddhist scholar Nagarjuna, who wrote extensively on medical subjects, and the Chinese Buddhist monk Xuanzang, who brought back a wealth of medical knowledge from India to China during the Tang dynasty [22].

The connection between Indian classical medicine and Buddhism has played a vital role in shaping the development of the concept of preventing illness in Buddhism. Through their mutual influence, these two systems have contributed to a holistic understanding of health and well-being that transcends cultural boundaries and remains relevant in contemporary healthcare contexts.

The concept of preventing illness in Buddhist scriptures

The concept of preventing illness is embedded in various Buddhist scriptures, which contain teachings on the maintenance of health, well-being, and the alleviation of suffering. While these teachings may not explicitly refer to the term “preventing illness,” they provide a foundation for understanding the Buddhist approach to health and well-being, emphasizing the interconnectedness of the mind, body, and spirit [23].

One of the foundational teachings of Buddhism, the Four Noble Truths, can be understood as a framework for preventing illness. The first truth, Dukkha (the truth of suffering), acknowledges the existence of physical and mental suffering as an inherent aspect of life. The second truth, Samudaya (the origin of suffering), attributes the root cause of suffering to attachment, aversion, and ignorance. The third truth, Nirodha (the cessation of suffering), offers the possibility of overcoming suffering through spiritual practice. The fourth truth, Magga (the path to the cessation of suffering) describes the Eightfold Path as a guide to achieving enlightenment and freedom from suffering [24]. By following the Eightfold Path, individuals can cultivate mindfulness, ethical conduct, and wisdom, which contribute to the prevention of illness and the promotion of overall well-being.

Another important source of the concept of preventing illness in Buddhism is the monastic code or Vinaya. The Vinaya contains detailed guidelines for the healthcare of Buddhist monks and nuns, emphasizing the importance of preventive measures such as personal hygiene, diet, and physical exercise. It also encourages monks and nuns to care for the sick, recognizing that the alleviation of physical suffering is an essential part of spiritual practice [25].

The Buddhist scriptures also contain teachings on mindfulness and meditation, which have been shown to be effective in preventing illness and promoting health. The Satipatthana Sutta, for example, teaches the four foundations of mindfulness—mindfulness of the body, feelings, mind, and mental objects as a path to enlightenment and freedom from suffering [26]. Research has shown that mindfulness-based interventions can be effective in reducing stress, improving mental health, and preventing the development of chronic illnesses [27].

These various Buddhist scriptures, provide a comprehensive framework for understanding the interconnectedness of physical, mental, and spiritual health. These teachings emphasize the importance of prevention and the cultivation of a balanced lifestyle as essential components of the Buddhist path to enlightenment and freedom from suffering.

The content of preventing illness in Buddhism

The Five Precepts and health cultivation in Buddhism

Pancha Sila (The Five Precepts) are fundamental ethical guidelines in Buddhism, which serve as a foundation for moral conduct and spiritual development. By adhering to the Five Precepts, individuals can cultivate a wholesome lifestyle that supports overall well-being and prevents illness. The Five Precepts are as follows [28, 29]:

Abstaining from taking life (Ahimsa). This precept promotes non-violence and compassion towards all living beings, fostering a harmonious relationship with oneself, others, and the environment. By cultivating an attitude of respect and kindness, one can create a positive atmosphere that contributes to physical and mental well-being.

Abstaining from taking what is not given (Adinnadana). This precept encourages honesty, trustworthiness, and respect for the property of others. Adherence to this precept can help develop a sense of contentment and reduce stress and anxiety associated with greed and envy.

Abstaining from sexual misconduct (Kamesuc Micchacara). This precept promotes responsible and ethical sexual behavior, emphasizing the importance of maintaining healthy relationships and respecting the boundaries of oneself and others. By adhering to this guideline, one can foster emotional stability, prevent emotional distress, and reduce the risk of sexually transmitted diseases.

Abstaining from false speech (Musavada). This precept encourages truthfulness, responsible communication, and the avoidance of gossip, slander, and lies. Practicing mindful speech can contribute to a harmonious and supportive social environment, which is essential for mental and emotional well-being.

Abstaining from intoxicants (Surameryaya). This precept advises against the use of intoxicating substances, such as alcohol and drugs, which can impair judgment, self-control, and mental clarity. By avoiding intoxicants, one can maintain physical health, mental clarity, and emotional balance, reducing the risk of addiction and related health issues.

The Five Precepts provide a moral framework that supports the cultivation of a balanced and wholesome lifestyle, which is essential for preventing illness and promoting overall well-being. By adhering to these ethical guidelines, individuals can foster positive mental states, reduce the risk of physical and mental health issues, and contribute to a supportive and harmonious social environment. In this way, the Five Precepts play a crucial role in the Buddhist approach to health cultivation and the prevention of illness.

The Eightfold Path and mental health in Buddhism

Ariya Atthangika Magga (The Eightfold Path) is a central teaching in Buddhism, which provides a practical guide to achieving enlightenment and freedom from suffering. It encompasses eight interrelated factors that can be grouped into three categories: pañña (wisdom), sila (ethical conduct), and samadhi (mental cultivation). By following the Eightfold Path, individuals can develop mental resilience, emotional balance, and psychological well-being,
which are essential for preventing illness and promoting overall health. The Eightfold Path consists of the following factors [30]:

Right view (Samma Ditthi). Understanding the Four Noble Truths and the nature of reality, which helps to cultivate wisdom and clarity of mind.

Right intention (Samma Sankappa). Developing wholesome intentions, such as renunciation, goodwill, and harmlessness, which support ethical conduct and a positive mental state.

Right speech (Samma Vacca). Practicing truthful, kind, and responsible communication, which contributes to harmonious relationships and emotional well-being.

Right action (Samma Kammantaya). Engaging in ethical behavior, such as observing the Five Precepts, which promotes physical and mental health.

Right livelihood (Samma Ajiva). Choosing a livelihood that aligns with ethical principles and contributes to the well-being of oneself and others.

Right effort (Samma Vayama). Cultivating wholesome mental states and abandoning unwholesome ones, supports emotional balance and psychological well-being.

Right mindfulness (Samma Sati). Developing awareness of the present moment and observing the body, feelings, mind, and mental objects without judgment or attachment, enhances self-awareness and emotional regulation.

Right concentration (Samma Samadhi). Practicing meditation to develop mental focus and stability, which leads to inner peace and psychological resilience.

The Eightfold Path offers a comprehensive approach to mental health, addressing various aspects of psychological well-being, such as self-awareness, emotional regulation, and cognitive functioning. By cultivating the qualities associated with each factor of the Eightfold Path, individuals can develop the mental resilience and emotional balance necessary for preventing illness and maintaining overall health. Furthermore, the Eightfold Path supports the integration of physical, mental, and spiritual dimensions of well-being, emphasizing the importance of a holistic approach to health and the prevention of illness in Buddhism.

The Four Noble Truths and the Buddhist view of health

Cattari Arijasacani (The Four Noble Truths) are the foundational teachings of Buddhism, which provide a framework for understanding human suffering, its causes, and the path to overcoming it. These truths can also be seen as a basis for the Buddhist view of health, emphasizing the importance of addressing the root causes of suffering and cultivating a balanced lifestyle to achieve overall well-being [31].

The Four Noble Truths are as follows [32]:

The truth of suffering (Dukkha). This truth acknowledges the existence of suffering in its various forms, including physical pain, illness, aging, and death, as well as mental and emotional suffering. From a health perspective, recognizing the reality of suffering enables individuals to develop a realistic and compassionate understanding of their own and others' health challenges.

The truth of the origin of suffering (Samudaya). This truth identifies the root causes of suffering, such as craving, attachment, and ignorance. In terms of health, this insight highlights the importance of understanding the underlying factors that contribute to illness, such as unhealthy lifestyle choices, stress, and negative mental states.

The truth of the cessation of suffering (Nirodha). This truth offers hope for the cessation of suffering through spiritual practice and personal transformation. In the context of health, this implies that it is possible to prevent and overcome illness by addressing its root causes and cultivating a balanced lifestyle that supports physical, mental, and spiritual well-being.

The truth of the path to the cessation of suffering (Magga). This truth prescribes the Eightfold Path as the way to achieve enlightenment and freedom from suffering. By following the Eightfold Path, individuals can develop the skills and qualities necessary for maintaining health, preventing illness, and achieving overall well-being.

The Four Noble Truths provide a foundation for the Buddhist view of health, which emphasizes the interdependence of physical, mental, and spiritual dimensions of well-being. This holistic approach to health encourages individuals to address the root causes of illness and cultivate a balanced lifestyle that supports overall well-being. By integrating the teachings of the Four Noble Truths into daily life, individuals can develop a compassionate and realistic understanding of health and illness, and adopt preventive measures that promote long-term well-being.

Meditation and the cultivation of mind-body wellness

Meditation is a central practice in Buddhism, which focuses on developing mental clarity, concentration, and insight. Through various meditation techniques, individuals can cultivate mindfulness, emotional balance, and inner peace, which contribute to the prevention of illness and the promotion of overall health and well-being [33]. By incorporating meditation into daily life, individuals can enhance their ability to prevent illness and maintain overall health and well-being. There are several meditation techniques commonly practiced in Buddhism, such as Vipassana (mindfulness), Samatha (concentration), and Metta (loving-kindness) meditation [34]. These practices offer various benefits for the cultivation of mind-body wellness, including:

Stress reduction. Meditation helps individuals develop awareness of their thoughts, emotions, and bodily sensations, allowing them to recognize and manage stress more effectively. Through a 4-year qualitative study, Schure et al. found that meditation therapy showed a positive impact on young [35].

Emotional regulation. Meditation practices, such as loving-kindness and compassion meditation, can help individuals cultivate positive emotions, such as love, empathy, and gratitude. By fostering emotional balance and resilience, meditation can contribute to mental health and overall well-being [36].

Enhanced self-awareness. Through meditation, individuals can develop a deeper understanding of their thoughts, emotions, and behavior patterns, enabling them to make healthier choices and adopt preventive measures for maintaining well-being [37].

Improved immune function. Research has shown that meditation can have a positive impact on the immune system, potentially reducing the risk of illness and promoting overall health [38].

Pain management. Meditation techniques can help individuals develop a more effective approach to pain management, enabling them to cope with chronic pain and reduce their reliance on medication [39].

The application of preventing illness in Buddhism in modern medicine

The integration of Buddhist health cultivation theories with modern health concepts

The Buddhist principles of health cultivation and preventing illness offer valuable insights and practices that can be integrated with modern health concepts. This integration can contribute to the development of a holistic and balanced approach to health and well-being, which recognizes the interdependence of physical, mental, and spiritual dimensions [40]. Several aspects of Buddhist health cultivation theories resonate with modern health concepts, including:

Emphasis on prevention. Both Buddhism and modern health concepts recognize the importance of preventing illness through a balanced lifestyle, mental cultivation, and ethical conduct. This shared emphasis on prevention encourages individuals to adopt healthy habits, manage stress, and cultivate positive mental states to maintain overall well-being. Based on six high-quality studies about mindfulness-based interventions, Hathaisaard et al. found it’s effective in reducing subjective stress in both the short- and long-term intervention time points [41].

Holistic approach. Buddhism and modern health concepts both emphasize the interconnectedness of the mind, body, and spirit in...
health and well-being. This holistic approach encourages individuals to address all aspects of their lives, including physical, mental, and spiritual dimensions, in order to achieve optimal health [42].

**Mind-body connection.** The Buddhist practice of meditation and mindfulness highlights the importance of the mind-body connection in health and well-being. Modern health concepts also recognize the significant role of mental and emotional factors in physical health, with increasing evidence supporting the benefits of mindfulness and meditation in stress reduction, emotional regulation, and immune function [43].

**Ethical conduct and social harmony.** The Buddhist teachings on ethical conduct, such as the Five Precepts, and the importance of social harmony in health and well-being resonate with modern health concepts that emphasize the role of social support and positive relationships in overall health. By fostering ethical behavior and harmonious relationships, individuals can create a supportive and nurturing environment that contributes to their well-being [44].

**Ethical conduct and social harmony.** The Buddhist teachings on ethical conduct, such as the Five Precepts, and the importance of social harmony in health and well-being resonate with preventive medicine's emphasis on the role of social support and positive relationships in overall health. By fostering ethical behavior and harmonious relationships, individuals can create a supportive and nurturing environment that contributes to their well-being [28, 29].

The integration of Buddhist health cultivation theories with modern health concepts can contribute to the development of a more comprehensive and balanced approach to health and well-being. By recognizing the value of this traditional wisdom and practices, modern medicine can enhance its focus on prevention, holistic care, and the mind-body connection, ultimately promoting overall health and well-being for individuals and communities.

**The integration of meditation and psychotherapy**
The practice of meditation in Buddhism has gained increased attention in modern medicine, particularly in the field of psychotherapy. As research continues to highlight the benefits of meditation for mental health and well-being, therapists are increasingly integrating meditation techniques into their treatment approaches [45]. Several areas where the integration of meditation and psychotherapy has been particularly effective include:

**Mindfulness-based interventions.** Mindfulness-based interventions, such as Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT), incorporate Buddhist meditation techniques to help individuals develop greater self-awareness, emotional regulation, and stress management skills [46]. These interventions have been shown to be effective in reducing symptoms of anxiety, depression, and stress, as well as improving overall mental health and well-being [47].

**Acceptance and commitment therapy (ACT).** ACT is a form of psychotherapy that incorporates mindfulness and acceptance strategies, drawing on the principles of Buddhist meditation. The goal of ACT is to help individuals develop psychological flexibility and adaptability, allowing them to cope more effectively with difficult emotions and life challenges [48]. Research has demonstrated the effectiveness of ACT in treating various mental health disorders, such as anxiety, depression, and chronic pain [49].

**Dialectical behavior therapy (DBT).** DBT is a comprehensive treatment approach that combines cognitive-behavioral techniques with mindfulness practices inspired by Buddhist meditation. DBT is particularly effective in treating borderline personality disorder and other disorders characterized by emotional dysregulation, helping individuals develop skills for managing intense emotions, reducing self-destructive behaviors, and improving interpersonal relationships [50].

**Compassion-focused therapy (CFT).** CFT is a therapeutic approach that integrates Buddhist meditation practices, such as loving-kindness and compassion meditation, with cognitive-behavioral techniques. CFT aims to help individuals develop self-compassion and empathy for others, which can contribute to improved mental health, reduced symptoms of depression and anxiety, and enhanced well-being [51].

Mindfulness-based interventions, ACT, DBT, and CFT, have proven effective in treating anxiety, depression, and emotional dysregulation, fostering self-awareness, empathy, and stress management skills. This integration of Buddhist meditation techniques with modern psychotherapy offers a promising approach to addressing mental health challenges and promoting overall well-being.

**The application of Buddhist thought in the integration of traditional Chinese medicine (TCM) and western medicine**
The integration of traditional Chinese medicine (TCM) and western medicine has become an increasingly popular approach to healthcare, as it combines the strengths and wisdom of both systems. Buddhist thought, with its emphasis on prevention and holistic health, can provide valuable insights and guidance for this integration process, promoting a more comprehensive approach to health and well-being [52, 53]. Several areas where Buddhist thought has been applied in the integration of TCM and western medicine include:

**Holistic health.** Both TCM and Buddhist thought emphasize the importance of a holistic approach to health, considering the interconnectedness of the mind, body, and spirit. By integrating Buddhist principles with TCM and western medicine, healthcare providers can develop more comprehensive and personalized treatment plans that address the root causes of illness and promote overall well-being [54].

**Preventive medicine.** The Buddhist concept of preventing illness aligns well with the TCM principle of “treating disease before it arises”. By incorporating Buddhist teachings on prevention, such as the Five Precepts and the Eightfold Path, healthcare providers can encourage patients to adopt healthy lifestyle habits, manage stress, and cultivate mental and emotional resilience, ultimately reducing the risk of illness and promoting long-term health [54].

**Mind-body therapies.** Both TCM and Buddhist thought recognize the importance of the mind-body connection in health and well-being. By integrating Buddhist meditation and mindfulness practices with TCM therapies, such as acupuncture, herbal medicine, and qigong (a system of coordinated body-posture and movement, breathing, and meditation used for the purposes of health, spirituality, and martial-arts training), healthcare providers can enhance the effectiveness of treatments and support patients in cultivating [54]. And a randomized controlled study involving 80 patients based on mindfulness-based therapy combined with acupuncture in China found that the combination therapy can significantly improve anxiety and sleep quality in patients with ulcerative colitis [55].

**The dissemination and influence of preventing illness in Buddhism around the world**
The spread of preventing illness in Buddhism in Asia

As Buddhism originated in India and spread throughout Asia, the concept of preventing illness has become an integral part of health and well-being practices in various Asian cultures. The dissemination of Buddhist teachings on preventing illness has not only influenced traditional medicine systems in these regions but has also contributed to the development of unique health practices and philosophies [56–59]. Key areas of the spread of preventing illness in Buddhism in Asia include:

**India.** As the birthplace of Buddhism, India has a long history of integrating Buddhist concepts of preventing illness into its traditional health system, known as Ayurveda. The holistic approach to health and well-being in Ayurveda is influenced by Buddhist principles, emphasizing the importance of mental cultivation, ethical conduct, and balanced living [60].

**China.** The spread of Buddhism to China resulted in the integration of Buddhist principles into traditional Chinese medicine (TCM). The concepts of preventing illness, mindfulness, and meditation became essential components of TCM, influencing the development of health cultivation practices such as qigong, acupuncture, and herbal medicine [61].
Japan. As Buddhism spread to Japan, the concept of preventing illness became a significant part of Japanese healthcare and well-being practices. The Japanese developed unique approaches to health cultivation based on Buddhist principles, such as Zen meditation, tea ceremonies, and traditional healing arts like shiatsu and reiki [62].

Southeast Asia. In Southeast Asian countries such as Thailand, Myanmar, and Cambodia, the teachings on preventing illness in Buddhism have influenced traditional health practices and beliefs. For instance, Thai traditional medicine and massage incorporate Buddhist principles of mindfulness and ethical conduct, promoting holistic well-being and balance [62].

The spread of preventing illness in Buddhism in Europe and America

With the increasing interest in eastern philosophies and practices in the west, the concept of preventing illness in Buddhism has begun to gain attention and acceptance in Europe and America. The dissemination of Buddhist teachings on preventing illness has not only influenced healthcare practices in these regions but has also contributed to the growing popularity of mindfulness, meditation, and holistic health [63]. Key areas of the spread of preventing illness in Buddhism in Europe and America include:

Mindfulness and meditation. The popularity of mindfulness and meditation in the west can be attributed, in part, to the influence of Buddhist teachings on preventing illness. Techniques such as Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT) have been widely embraced in Western healthcare settings, demonstrating the effectiveness of these practices in managing stress, anxiety, and depression [64].

Integrative medicine. The influence of Buddhist thought on preventing illness has contributed to the growth of integrative medicine in the West. This approach combines the best of conventional Western medicine with complementary and alternative therapies, such as acupuncture, herbal medicine, and mindfulness practices, creating a more holistic and patient-centered approach to healthcare [65, 66].

Health and wellness movement. The principles of preventing illness in Buddhism have resonated with the growing health and wellness movement in Europe and America. This movement emphasizes the importance of a balanced lifestyle, mental cultivation, and self-care for maintaining health and well-being. As a result, practices such as yoga, meditation, and vegetarianism have become increasingly popular in the West [67].

Cross-cultural exchange and collaboration. The spread of preventing illness in Buddhism has fostered cross-cultural exchange and collaboration in healthcare research and practice. Western healthcare providers and researchers are increasingly working with their counterparts in Asia to study the effects of Buddhist practices on health and well-being, leading to the development of new treatments and therapies that incorporate these principles [68].

The spread of preventing illness in Buddhism in Africa

Although Buddhism has historically been less prevalent in Africa compared to other regions, the recent spread of Buddhist teachings, including the concept of preventing illness, has begun to impact healthcare practices and well-being in some African countries. The dissemination of these teachings has led to increased interest in holistic health, mindfulness, and meditation as valuable components of health and well-being [69, 70]. Key areas of the spread of preventing illness in Buddhism in Africa include:

Mindfulness and meditation. Similar to Europe and America, the growing interest in mindfulness and meditation in some African countries can be attributed to the influence of Buddhist teachings on preventing illness. These practices have been adopted in various healthcare and community settings, helping individuals manage stress, improve mental health, and promote overall well-being [71].

Holistic health practices. The concept of preventing illness in Buddhism has resonated with traditional African health systems, which also emphasize a holistic approach to health and well-being. By integrating Buddhist principles with indigenous African healing practices, some communities have developed unique and comprehensive approaches to healthcare that prioritize prevention, mental cultivation, and spiritual growth. In the book named *Black Buddhists and the Black Radical Tradition*, writer Vesely-Flad drawing on interviews with forty Black Buddhist teachers and practitioners, found that Buddhist teachings, through their focus on healing intergenerational trauma, provide a vitally important foundation for achieving Black liberation [72].

Cross-cultural exchange and collaboration. As Bentley wrote in the book *Cross-Cultural Interaction and Periodization in World History*, Buddhism has enabled more and more blacks to grow and transform through its tolerance of skin color, body shape, gender, education, and growth experience. They practiced in the form of community or monastery and helped many black teenagers and families to overcome psychological trauma [73].

Although the spread of preventing illness in Buddhism in Africa is still in its early stages, the influence of these teachings on healthcare practices and well-being in some African countries is becoming increasingly apparent.

Conclusion and future prospects

Main findings and limitations of the present study

This review has provided an in-depth examination of the concept of preventing illness in Buddhism, its origins, content, applications in modern medicine, and dissemination around the world. The main findings of this study can be summarized as follows: (1) The concept of preventing illness in Buddhism has its roots in ancient Indian culture, the birthplace of Buddhism. Its development was influenced by Indian classical medicine and the integration of Buddhist teachings into various healthcare practices across Asia. (2) The content of preventing illness in Buddhism includes ethical conduct, mental cultivation, and holistic health practices, such as the Five Precepts, the Eightfold Path, the Four Noble Truths, and meditation. (3) The application of preventing illness in Buddhism in modern medicine has contributed to the development of integrative medicine, mindfulness-based therapies, and the promotion of holistic health and well-being. (4) The concept of preventing illness in Buddhism has been disseminated globally, influencing healthcare practices and well-being in various regions, including Asia, Europe, America, and Africa.

Despite these significant findings, the present study has some limitations that should be acknowledged: (1) The scope of this review is limited by the available literature and research on the topic of preventing illness in Buddhism. As such, some aspects of this concept might not have been covered in depth or may require further exploration. (2) The cultural and historical context of the various regions where Buddhism has spread might influence the interpretation and implementation of the concept of preventing illness. (3) The relevant literature in this review mainly comes from Chinese and English, and there is a lack of relevant literature supplements such as Japanese, Korean, and Thai. (4) The assessment of the impact of preventing illness in Buddhism on modern medicine and global health is mostly based on qualitative analysis and anecdotal evidence. Future research could benefit from more rigorous quantitative and experimental studies to further validate these findings.

Recommendations and outlook for future research

Based on the findings and limitations of the present study, several recommendations and directions for future research on the concept of preventing illness in Buddhism can be proposed:

Interdisciplinary research. Future studies should adopt an interdisciplinary approach, involving collaboration between scholars and practitioners in the fields of religion, medicine, psychology, and public health. Such interdisciplinary research can enhance our understanding of the complex relationship between Buddhist principles, healthcare practices, and well-being outcomes.

Quantitative and experimental studies. To provide more robust
evidence on the effectiveness of preventing illness in Buddhism, future research should employ quantitative and experimental methodologies, such as randomized controlled trials, longitudinal studies, and systematic reviews. These methods can help to elucidate the causal relationships between Buddhist practices and health outcomes and identify potential mechanisms underlying these effects.

Cultural and contextual analysis. Further research should explore the cultural and contextual factors that shape the interpretation and implementation of the concept of preventing illness in Buddhism across different regions and communities. This includes examining the role of local beliefs, customs, and healthcare systems in the integration and adaptation of Buddhist principles and practices.

Implementation and scaling-up. Future research should investigate the practical aspects of implementing and scaling-up preventive health practices based on Buddhist principles in various settings, such as hospitals, clinics, schools, and community centers. This includes the development of guidelines, training programs, and evaluation tools to ensure the effective and sustainable integration of these practices into mainstream healthcare and public health systems.

Policy and advocacy. To promote the widespread adoption of preventing illness in Buddhism, researchers and practitioners should engage in policy and advocacy efforts aimed at raising awareness of the benefits of these practices among policymakers, healthcare providers, and the general public. This includes the development of policy recommendations, guidelines, and communication strategies to facilitate the integration of Buddhist principles into healthcare and public health policies and programs.

Conclusion

The concept of “prevention before disease” in Buddhism has deep roots in traditional Indian medicine and has been integrated into Buddhist philosophy. Through the cultivation of mindfulness and the practice of meditation, Buddhist philosophy has been successfully applied in modern medicine through the development of mindfulness-based interventions, which have shown positive effects on physical and mental health. The integration of Buddhist philosophy into modern medicine has also led to the development of new approaches to patient care, such as patient-centered care, which emphasizes the importance of the patient’s experience and perspective. While the spread of Buddhist philosophy and mindfulness-based interventions has been more widely accepted in western medicine, their integration into traditional Chinese medicine and other forms of alternative medicine is still in its early stages. Further research is needed to fully understand the potential benefits of mindfulness-based interventions and the integration of Buddhist philosophy into modern medicine. By incorporating these ancient practices and philosophies into modern medicine, we can create more patient-centered and holistic approaches to health and well-being.

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