

# Moving Forward Despite Obstacles: A Qualitative Study on Healthy Lifestyle Adjustments Among Patients with Coronary Heart Disease After Their First Percutaneous Coronary Intervention

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**Background:** Lifestyle factors, including diet, physical activity, smoking cessation, and stress management, are crucial for reducing the risk of recurrent cardiac events and promoting overall cardiovascular health. Despite their clinical significance, the experiences of patients with coronary heart disease (CHD) in adjusting to and maintaining these lifestyle changes after their first percutaneous coronary intervention (PCI) remain relatively unexplored, especially in China. This study aims to address this gap by exploring the experiences of patients with CHD in central China as they make adjustments to healthy lifestyles following their first PCI.

**Methods:** A qualitative descriptive study was designed. Eighteen participants from a regional teaching hospital in central China participated in the study conducted from 2022 to 2023. Data were collected through face-to-face interviews guided by semi-structured questions, resulting in five sub-themes and one main theme emerging from the thematic analysis.

**Results:** Adjusting to a healthy lifestyle post-PCI was described as “moving forward despite obstacles”, reflecting resilience and determination in overcoming challenges to improve health and well-being. The participants initially trusted their doctors' recommendations and became motivated by the positive effects of lifestyle changes and the desire to alleviate the burden of their loved ones. However, they also faced challenges related to Chinese traditional culture and other physical issues.

**Conclusion:** Adjustment to a healthy lifestyle is essential but challenging. Our findings highlight the influence of external and internal factors on behavioural changes and underscore the need for health professionals to understand and support patients' experiences to inspire and sustain their lifestyle adjustments.

**Trial Registration:** Not applicable.

**Keywords:** experiences, healthy lifestyle adjustments, coronary heart disease, percutaneous coronary intervention

## Background

Among non-communicable diseases, cardiovascular diseases (CVDs) represent the largest disease burden and the leading cause of death globally. Specifically, coronary heart disease (CHD) is a common CVD that affects an estimated 197 million people worldwide, with 9.14 million deaths attributed to the disease in 2019.<sup>1</sup> Percutaneous coronary intervention (PCI) is the most common invasive treatment for CHD, effectively alleviating angina and improving patients' quality of life.<sup>2</sup> However, despite undergoing PCI, patients with CHD still face underlying risk factors such as hypertension, diabetes, smoking, and obesity.<sup>3</sup>

Different cardiac rehabilitation guidelines may vary slight variations in their recommendations, but managing risk factors is one of the most important components of secondary cardiovascular prevention.<sup>4</sup> Key behavioural risk factors for heart disease include unhealthy diet, lack of physical activity, tobacco use, and harmful alcohol consumption.<sup>5</sup> To enhance the long-term prognosis of CHD, individuals must adopt lifestyle adjustments, such as adherence to prescribed

medication regimens, scheduling follow-up appointments at cardiac clinics, managing symptoms, and modifying lifestyle habits and social roles.<sup>6,7</sup>

Substantial evidence supports the beneficial effects of aggressive lifestyle adjustments as a form of secondary prevention among patients with CHD.<sup>8</sup> These adjustments are effective in reducing the risk of adverse cardiovascular events and hospital readmissions, while improving the quality of life of patients with CHD following PCI.<sup>9,10</sup> However, some individuals do not adhere to the recommended lifestyle practices, posing challenges to reaping these benefits.<sup>11</sup> Poor medication adherence<sup>12</sup> and unhealthy lifestyle behaviours such as smoking or exposure to second-hand smoke,<sup>13</sup> low exercise rates, and unhealthy diets are still commonly observed among patients with CHD after undergoing PCI.<sup>14</sup>

Sustaining lifestyle adjustments requires intrinsic motivation, self-regulation, skills, resources, and the ability to form habits.<sup>15</sup> Advancements in medical treatment reduce acute mortality and lead to earlier hospital discharge for patients.<sup>16</sup> However, patients with CHD who undergo their first PCI, especially those with unplanned PCI procedures, may feel unprepared to manage their health conditions post-discharge.<sup>17</sup> Some patients lack knowledge about cardiovascular disease, particularly those who have undergone it for the first time,<sup>18</sup> and may mistakenly believe that they are cured after surgery, leading to neglect of their chronic conditions.<sup>19</sup> This misunderstanding could stem from the quick turnaround between disease onset and surgery, as well as post-procedure symptom improvement. Inadequate family and social support also hinder patients' lifestyle adjustments after PCI.<sup>20</sup> Initially vigilant about disease management after discharge, patients' adherence to strict health behaviour management tends to decrease as symptoms ease over time.<sup>21</sup>

In China, medical care has primarily focused on providing therapy, with limited attention to follow-up, prevention, and rehabilitation.<sup>22,23</sup> As a developing country, China faces challenges related to the uneven distribution and disparities in access to medical resources.<sup>24</sup> These challenges affect the effectiveness of cardiac rehabilitation, including preventive efforts for heart health. While there are some qualitative studies on lifestyle self-management among patients with CHD, few studies on patients with CHD after their first PCI,<sup>18,25</sup> and none have focused on lifestyle adjustment in the Chinese context. This study aimed to explore the experiences of Chinese patients with CHD regarding healthy lifestyle adjustments following their first PCI.

## Methods

### Design

In this study, an exploratory qualitative approach was adopted to explore the healthy lifestyle adjustments experienced by Chinese patients with CHD following their first PCI. Data were collected using semi-structured individual face-to-face interviews, and the study was conducted between July 2022 and June 2023. The checklist Standards for Reporting Qualitative Research (SRQR) guided the reporting of this study.<sup>26</sup>

### Study Setting, Recruitment and Participants

According to predefined inclusion and exclusion criteria, potential participants were identified by a cardiovascular specialty nurse prior to discharge from a tertiary public hospital affiliated with a University in Hubei Province, China. Participants were recruited through purposive sampling. To ensure variation in socio-demographic data, participants were purposefully chosen in terms of age, gender, and duration since the PCI procedure. Inclusion criteria were as follows: 1) clinically diagnosed with CHD based on the coronary angiography test; 2) received their first PCI; 3) aged 18 years or older; and 4) able to read, speak, and communicate in Mandarin Chinese. Exclusion criteria were individuals who had 1) been diagnosed with a significant psychiatric illness that would impair their understanding, engagement, and consent, and 2) a history of stroke, cerebrovascular disease, or other severe diseases, such as advanced cancer, which could significantly distort or confound the analysis of the specific health behaviour changes and lifestyle adjustments. Ultimately, 18 participants consented to participate; 12 men and six women, with ages ranging from 49 to 76 years (mean = 62.67 years, standard deviation 7.72 years). The characteristics of the 18 participants are presented in [Table 1](#).

**Table 1** Characteristics of Patients with CHD After Their First PCI (n=18)

Characteristics	n	Characteristics	n
<b>Gender</b>		<b>Duration after the PCI procedure</b>	
Male	12	0–3M	6
Female	6	4–12M	7
<b>Education level</b>		>12M	5
Elementary school or lower	4	<b>Number of implanted stents</b>	
Secondary school	6	1	7
High school or above	8	≥2	11
<b>Living situation</b>		<b>Co-morbidities</b>	
Alone	3	Hypertension	12
With family	15	Diabetes	9
<b>Occupational status</b>		Hypertriglyceridemia	6
Unemployed	14	Hypercholesteremia	6
Employed	4	<b>Cardiovascular pathologies</b>	
		Stable coronary artery disease	12
		Acute Coronary Syndrome	6

## Data Collection

Interview guidelines were developed based on a literature review and discussion within the research group and included the following semi-structured questions: What do you know about PCI? How did you experience your life after undergoing PCI? After PCI, have you attempted to adjust your daily life? Do you plan any adjustments in your daily life that have not yet been completed? What are your thoughts on behaviours that are good for your heart? What are your thoughts on how to maintain a behaviour which is good for your heart? To encourage participants to describe their experiences, probing questions were also asked, such as: “Why?”, “What do you mean by that?”, “What happened next?”, and “Could you tell me more details about that?” Two pilot interviews were conducted to test the appropriateness of these guidelines. A minor revision was then made to the interview guidelines. As these pilot interviews were deemed high-quality and provided relevant information, the collected data were included in the final data analysis.

By reviewing the hospital’s medical record system, potential research participants can be identified and their contact information recorded. The first author contacted and extended invitations to potential participants in this study. Interviews were scheduled at a convenient location for the participants, based on their preferences. All participants chose to have face-to-face interviews during their follow-up visits to the hospital. Participants’ sociodemographic and clinical data were derived from the patients’ medical records before the interviews. To ensure accurate documentation, interviews were recorded using a digital audio recorder. Each interview lasted 24–60 minutes. In the final three interviews, no additional data emerged, indicating that data saturation had been achieved, and the topic had been sufficiently explored.

## Data Analysis

Interviews were conducted in Chinese, the native language of both the interviewer (ie the first author) and interviewees. Verbatim transcriptions of individual interviews were obtained from the audio recordings. To ensure accuracy, the transcripts were cross-checked word by word against the audio recordings.

In the end, a total of 18 interviews were conducted and included in the analysis. The NVivo 20 software was used for data analysis. The analysis involved line-by-line coding, systematic organisation of similar codes, and creation of new codes when necessary. Data analysis followed an inductive thematic analysis approach,<sup>27</sup> which consisted of six phases: familiarising the data, generating initial codes, collating codes into potential themes, reviewing themes, defining and naming themes, and producing reports.

The first three interviews were translated into English to make the data available to all authors. Two members of the research team were bilingual in English and Chinese, facilitating a comparison between the two versions, and thorough discussions were conducted to ensure the accuracy of the translations. Subsequently, these data were independently read

several times to gain a deeper understanding of the content. Data extracted in line with this aim were highlighted and discussed to reach a consensus. The first author extracted the data from the remaining 15 interviews and translated the codes into English. An initial thematic map was created based on coding to form sub-themes. The entire research team engaged in discussions to reach a consensus on code descriptions, and five subthemes and one theme that accurately reflected participants' experiences were identified.

## Ethical Considerations

The study was conducted after obtaining approval from the Ethics Committee of Shiyan Taihe hospital (2019KS01) and Science and Technology Ethics Committee of Hubei University of Medicine (2019-TH-070). Before participation, all participants were provided with information about the study and assured of their right to withdraw at any time. Written informed consent, which included authorization for the publication of their anonymized responses, was obtained from each participant and only the interviewer was aware of their identities. Other researchers focused exclusively on anonymous data transcripts. Access to both hard- and soft-copy data was restricted to the research team.

In this study, several strategies were employed to enhance rigor and reflexivity in terms of credibility, dependability, confirmability, and transferability.<sup>28</sup> Credibility was strengthened through face-to-face interviews, which allowed for the collection of rich, detailed data, and continuous research group discussions about the codes, sub-themes, and the main theme to prevent possible misinterpretation. Dependability was enhanced by maintaining a detailed audit trail of the research process, which provides transparency and enables the study's procedures to be replicated.<sup>29</sup> Illustrative quotations obtained from the original transcribed text were used to make it possible for the reader to determine the conclusions' accuracy, thereby enhancing confirmability. The participants' diversity was maintained through their age, gender, and time since the PCI procedure to ensure transferability.

## Results

### Main Theme: Moving Forward Despite Obstacles

The main theme that emerged from the study was 'moving forward despite obstacles', indicating the resilience and determination required to navigate the challenges of gaining a healthy lifestyle after PCI. Patients with CHD who underwent their first PCI recognised the importance of actively engaging in lifestyle modifications to improve their overall well-being, even if this meant deviating from personal desires. They were driven to follow a particular route towards a healthier lifestyle despite facing obstacles when trying to modify their lifestyle behaviours.

### Sub-Theme I: Trusting and Acting on the Doctor's Recommendation

Patients, regardless of prior knowledge of CHD, expressed a strong willingness to modify their lifestyle in line with their doctors' health promotion advice post-PCI. This included adopting a low-salt and low-fat diet, increasing vegetable intake, moderating alcohol consumption, quitting smoking, adhering to medication schedules, engaging in regular exercise, and managing stress.

Before the procedure, I used to enjoy salty and spicy food. However, after PCI, the doctor advised me to be cautious about my diet and reduce my intake of fatty and salty foods. As a result, I have become more conscious of the food choices I make. (P11, 71-year-old male)

During the lifestyle adjustment process, individuals shifted their focus from personal preferences to making informed decisions based on their circumstances. They consciously chose a suitable diet that included nutritious foods while reducing their intake of unhealthy foods. They also considered their physical capabilities and preferences when selecting a type of exercise that benefitted them. By considering these factors and making mindful choices, they actively worked towards improving their heart health.

Actually, I never really liked milk before, but after PCI, I thought I should include it in my diet. So now, I drink plain milk and go for low-sugar or no-sugar milk options to boost my nutrition, you know? (P4, 52-year-old female)

One primary factor contributing to individuals' adherence to doctors' advice was their unwavering trust in their physicians' medical expertise and ethical standards. Individuals perceived doctors as deeply dedicated to their patients' well-being, prioritising their care above all else.

Doctors give their all to ensure patients' recovery. They are true heroes in the healing process! Their noble medical ethics profoundly touch us as patients, and sometimes, we even find ourselves thinking about them (the doctors) when we are at home. (P10, 67-year-old male)

However, the journey was not without its struggles. Quit smoking, in particular, presented a formidable challenge, with physical and psychological withdrawal symptoms testing patients' resolve. They yawned nonstop, felt drowsy, and had an urge to smoke to stay awake. They also experienced a sense of emptiness as if something was missing. Despite these difficulties, individuals were determined to follow their doctors' advice and reduce or quit smoking. To overcome these challenges, they found alternative ways of coping, such as eating snacks and walking outside.

## Sub-Theme 2: Self-Motivating Through Positive Health Effects

After implementing lifestyle adjustments, many individuals experienced significant physical improvements. They found that activities such as walking uphill became less tiring as their physical strength improved. They also experienced a reduction in symptoms such as shortness of breath, palpitations, and chest pain following physical exertion. The tangible benefits of lifestyle changes post-PCI served as a powerful motivator for many individuals, driving them to embrace a more active role in their health maintenance.

I have noticed a significant improvement in how my body feels, you know? Whenever I used to have a drink, it would mess with my heart rate (palpitation), but now that I have stopped drinking, I do not experience those symptoms anymore. It has been a positive adjustment for me, for sure. (P9, 60-year-old male)

For some, the post-PCI period was a time to find a balance between their rehabilitation and daily life, allowing them to tackle physical challenges they had previously overlooked.

Before PCI, I did not exercise much. After PCI, I also underwent a period of physical rehabilitation that lasted for more than a month under the doctor's guidance. However, owing to work-related reasons, unsuitability of the work environment, and personal inertia, I was unable to adhere to it. Now, I have developed a good habit of walking. I usually go for a walk in the morning, around ten times a month. (P18, 54-year-old male)

Despite these positive strides, some individuals also expressed uncertainty regarding the appropriate level of physical activity for their condition, often relying on their intuition to guide their exercise routines.

Since getting the stent, I shouldn't push myself too hard. So now, I walk a bit shorter, taking slower steps than before. I am not sure if this is the right way to do it. (P12, 58-year-old female)

## Sub-Theme 3: Proactive Health Activities to Reduce the Burden of Loved Ones

After undergoing PCI, individuals often experienced well-intentioned actions from their family members, who showed constant concern about their well-being through reminders to take medication and taking additional responsibilities. These actions were not only perceived as expressions of love but also a call to action for the individuals to actively engage in their health journey. They felt a deep sense of responsibility to reciprocate the care they received by prioritizing their health, which became a driving force in their commitment to recovery.

I am nearing 60, I need to pay more attention to my health, you know, like avoiding late nights. My brother, sister, relatives, and even kids keep reminding me about it. But hey, I do not want to be a burden to anyone. Now, if I play cards, I start earlier in the afternoon, finish by 9 p.m., and go to bed around 10 p.m. (P4, 52-year-old female)

This proactive approach to health was not just for personal benefit but also to alleviate the burden on their loved ones. Those with limited financial resources experienced anxiety about the financial strain their illness could impose, motivating them to take an active role in their recovery to regain independence and reduce the load on their families.

If my health goes downhill, it is just going to be an added burden for my son and daughter-in-law. They will have to take care of me, and that means less money in their pockets. So, I just want to enjoy myself a bit, you know? I would rather play some cards, relax a bit, lift my spirits, and hey, my body feels great. I have got this illness, but I have no choice but to handle it. (P14, 62-year-old female)

#### Sub-Theme 4: The Influence of Traditional Chinese Culture on Healthy Lifestyle

After being discharged from the hospital, individuals reintegrated into society and encountered cultural and social norms that significantly influenced their behaviour, often impacting their journey towards a healthier lifestyle. Traditional practices, such as offering drinks to guests, sharing cigarettes, and providing lavish meals and beverages, were common expressions of hospitality. Refusing these offerings raised concerns about appearing impolite or disrespectful. Individuals expressed concerns about appearing impolite or disrespectful if they refused these offerings.

Although my wife and son refrain from drinking and smoking, when we host guests, we still feel the need to socialise by smoking or drinking. (P2, 49-year-old male)

These cultural influences sometimes tempted individuals to revert to unhealthy habits that they had previously discontinued, such as smoking and excessive alcohol consumption. The desire to conform to societal expectations sometimes came at the expense of their health and well-being.

Although my wife and son refrain from drinking and smoking, when we host guests, we still feel the need to socialise by smoking or drinking. (P2, 49-year-old male)

However, some individuals managed to resist these pressures and made healthier choices, highlighting the need for support and understanding from their social circles. There was also a noticeable positive shift in health awareness within Chinese culture, with less encouragement to indulge in tobacco, alcohol, and fatty foods, particularly among guests. This change reflected a growing emphasis on promoting healthier choices and behaviours, alleviating the pressure to conform to unhealthy practices and fostering a supportive environment for maintaining a healthier lifestyle.

Nowadays, body care has become more important with improved living conditions. In the past, rural culture would pressure others to drink alcohol, but now, we cannot really encourage people to drink anymore. We have seen the negative consequences and financial losses that come with alcohol consumption, even when hosting guests. So, it is just not something we want to promote anymore. (P3, 53-year-old male)

Furthermore, during the recovery process, some individuals followed the traditional belief in “resting” after surgery, which involved reducing physical activity or exercise to speed up health restoration.

When I returned home (from hospital), I stayed in my room for half a month and rested daily by lying down. (P14, 62-year-old female)

#### Sub-Theme 5: Navigating the Complexities of Other Physical Challenges

Following their first PCI, some individuals grappled with the intricacies of adhering to their medication schedules owing to unexpected side effects. These side effects, such as abdominal pain and gastrointestinal bleeding, prompted them to evaluate the necessity of each prescribed medication. To address these challenges, individuals engaged in proactive dialogue with their healthcare providers, discussing their symptoms and the side effects they experienced. This dialogue often resulted in adjustment or replacing of medications to identify alternatives with reduced adverse effects. In some cases, additional medications were prescribed to counteract primary medications’ side effects.



After PCI, I noticed my stool was black. Initially, I thought it was because of something I ate. I did not even consider that it could be a side effect of anticoagulant medication. I went to see a doctor, and was advised to be hospitalized for rectal bleeding and to adjust my medication regimen accordingly. (P16, 71-year-old male)

Age-related dental issues, including tooth loss, gum disease, and masticatory difficulties, posed challenges for some individuals in obtaining essential nutrients, thereby affecting their ability to maintain a balanced diet.

During the summer, my appetite was really poor. I yearned for green vegetables, but my teeth issues made chewing nearly impossible. How can I fulfill my nutritional requirements under such circumstances? (P1, 76-year-old female)

Moreover, some older individuals with comorbidities, such as diabetes, benign prostatic hyperplasia, and osteoporosis, encountered challenges of adapting their diet and physical activity to manage their conditions effectively. They experienced uncertainty regarding the appropriate level of physical activity for maximizing health benefits. For example, they were concerned about the potential risks of overexercising on their cardiac health and the consequences of underexercising on blood glucose levels. Individuals were left to navigate the disease prevention by themselves, striving to make informed decisions about the most suitable dietary and lifestyle adjustments.

I used to follow a strict diet for my uric acid, but now, with CHD, I am not sure how to adjust my eating habits. I have seen brochures suggesting certain foods for CHD patients, but I am a bit sceptical. I do not want to risk raising my uric acid levels or causing any new health issues. It is a tough decision to make. (P11, 71-year-old male)

## Discussion

This study explored the experiences of Chinese patients with CHD in changing their lifestyle after their first PCI. The main theme that emerged was the sense of moving forward despite obstacles, depicting the challenging journey for Chinese post-PCI patients with CHD as they continuously adjusted their healthy behaviours during the cardiac recovery process. This theme highlighted the resilience and determination of individuals to overcome challenges and strive for improved health and well-being after undergoing PCI.

Participants demonstrated a strong inclination to trust and act on their doctors' recommendations regarding healthy lifestyle adjustments following their first PCI. Participants, regardless of their pre-existing knowledge of CHD, showed a pronounced willingness to align their behaviours with the health advice received from their doctors. It was a testament to the strong trust patient-provider relationship. Similar studies<sup>11,14</sup> have indicated the importance of this relationship for improved adherence and a healthy lifestyle among patients with CHD. This trust-based relationship is important in health education for patients after PCI,<sup>30</sup> where the capacity to build trust and customize education to the individual needs is perceived as the hallmark of an effective educator. Despite the general adherence to medical advice, occasional deviations were noted, suggesting that while trust is a strong motivator, individual preferences and personal struggles can also play a role in the complex dynamics of lifestyle modification. This highlights the need for supportive strategies that can assist patients in overcoming such challenges.

In this study, participants were driven to adjust their lifestyle behaviours not only by the positive health effects but also the desire to prevent disease recurrence and alleviate the burden of their loved ones. During their hospital stay, patients received a comprehensive understanding of the treatment and prevention knowledge related to the disease through health education. Over time, individuals became increasingly aware of the physical and psychological benefits of adopting healthier lifestyle behaviours, and they were motivated to continue these practices, forming virtuous cycles in their lives. This kind of education can help patients recognise and acknowledge their unhealthy behaviors by highlighting the perceived risks associated with the disease,<sup>31</sup> acting as a catalyst for them to make the necessary adjustments to their lifestyles. In a study on patients post-PCI, the stronger the sense of benefit derived from disease-related health behaviours, the higher the patients' enthusiasm was for maintaining healthy habits and cooperating with treatment, resulting in improved recovery and prognosis.<sup>32</sup> This study also highlighted the emotional dimension of health behaviour, where individuals were driven by a sense of responsibility and the wish to reciprocate the care received from their families, further reinforcing the virtuous cycle of health adoption. A previous study<sup>33</sup> involving patients who have undergone angioplasty shows that they fear death and disease recurrence, and social support facilitates their behavioural modifications.

Traditional Chinese culture significantly influences individuals' lifestyle behaviours, including dietary preferences, physical activities, and attitudes towards illness, although the negative impacts have lessened somewhat.<sup>34</sup> Offering high-quality, rare, and expensive dishes (particularly meat dishes) along with costly alcohol, is a traditional way of demonstrating hospitality and the social status in China. This can make it difficult for guests and hosts to make healthy dietary choices. A study on older adult with heart failure highlighted the potential impact of cultural factors such as family lifestyle, kinship, and financial factors on dietary and fluid management<sup>35</sup> and other self-management aspects. However, the rise of Western fast food culture among young people in China, who may not adhere to traditional dietary practices like older adults, results in the consumption of calorie-rich, unhealthy foods, increasing risks such as CHD.<sup>36</sup> Moreover, cultural beliefs may create barriers to regular physical activity by fostering misunderstandings about overwork and exercise.<sup>37</sup> This may lead some individuals to rest post-surgery to "accelerate" their recovery. Therefore, healthcare professionals must understand cultural practices and norms to effectively support individuals in managing their condition and adopting healthier lifestyle behaviours. Furthermore, educating family members and the public about CHD is also vital for preventing CHD and promoting support for healthier patient habits.<sup>38</sup>

Individuals expressed that their management of side effects, age related dietary issues, and multiple chronic conditions they faced had been insufficiently addressed. After PCI, patients encountered unexpected side effects promoting them to reevaluate their medications. Age-related dental issues and comorbidities led to prevalent dietary difficulties. Moreover, individuals had to bear the high cost and time-consuming process of visiting hospitals for consultations, given the insufficient number and range of cardiac rehabilitation services in mainland China.<sup>39</sup> This underscores the importance of personalized health education, which not only helps individuals in finding a balance for their condition but also equips them with the confidence and skills for effective self-management. Open communication with individuals and addressing their need for self-care knowledge are key steps for health professionals to enhance medication adherence and to maximize self-care capabilities.<sup>25</sup> Additionally, smartphone apps and web-based interventions can be effective in preventing and treating non-communicable diseases such as CHD,<sup>40–42</sup> as these people-centered digital and mobile health technologies inspire health behaviour changes and provide necessary psychological support.<sup>43</sup>

## Limitations of the Work

One study limitation is the potential lack of transferability owing to the sample's specific origin. Participants were exclusively recruited from a regional teaching hospital in central China, which may not fully represent the experiences of patients with CHD in other geographical regions or healthcare settings. Variations in cultural norms, economic levels, and access to medical resources could influence the experiences of patients with CHD in adjusting their healthy lifestyles post-PCI. Another limitation arises from the fact that this study's data collection occurred during the COVID-19 pandemic, which potentially impacted participants' experiences.

Future research should employ longitudinal and multisite sampling approaches to gain a comprehensive understanding of lifestyle adjustments in CHD patients post-PCI. This includes exploring the long-term sustainability of lifestyle changes, the psychological and social impacts, and the effectiveness of individualized interventions. Additionally, it is crucial to consider the influence of traditional cultural norms and socioeconomic factors on these adjustments, aiming to develop effective, person-centred care strategies that support patients in maintaining healthy behaviours within their unique cultural and social contexts.

## Conclusions

In summary, individuals who underwent their first PCI displayed strong trust in lifestyle recommendations provided by their doctors. Over time, they became increasingly motivated to embrace healthier habits, driven by two main factors: the positive impacts of their behavioural adjustments and the desire to avoid imposing burdens on their loved ones. However, they faced significant challenges in integrating into social life owing to traditional Chinese cultural norms as well as in addressing other physical issues. This study offers a nuanced understanding of how traditional Chinese cultural practices, family dynamics, and personal motivations intersect with the need to adopt a healthier lifestyle post-PCI. Healthcare providers should recognise and address the multifaceted factors that influence patients' lifestyle adjustments and adopt person-focused care approaches to support patients in achieving and maintaining healthy lifestyle behaviours.



## Abbreviations

CHD, Coronary Heart Disease; CVD, Cardiovascular Diseases (CVDs); PCI, Percutaneous coronary intervention; SRQR, Standards for Reporting Qualitative Research.

## Data Sharing Statement

The data analysed during this study are not publicly available because of privacy or ethical restrictions but are available from the corresponding author upon reasonable request.

## Ethics Approval and Consent to Participate

The study was conducted in accordance with relevant guidelines and provisions of the Declaration of Helsinki and approval from the ethics committees of the study hospital and university (2019KS01, 2019-TH-070). Written informed consent was obtained from all study participants.

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## Author Contributions

All authors made a significant contribution to the work reported, whether that was in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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## Disclosure

The authors declare no conflicts of interest in this work.

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