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Health-promoting behaviors among patients with coronary artery disease in Palestine

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Abstract

Even though many chronic diseases result from unhealthy behaviors such as physical inactivity, high-fat diets, and smoking, these health behaviors are rarely controlled by coronary artery disease (CAD) patients. This 123study aimed to describe health-promoting behaviors (HPB) and their predictors in patients with coronary artery disease. In this cross-sectional study, 178 participants with coronary artery disease from three primary healthcare clinics in Palestine were recruited. Health-Promoting Lifestyle Profile II was used to measure health-promoting behaviors, the Behavior-Specific Cognitions and Affect scale to measure cognition and affect, and the Multidimensional Scale of Perceived Social Support to measure social support was used. Hierarchical multiple regression analysis was performed to examine the predictive variables on health-promoting behaviors. The mean age of the participants was 53.7 years (SD=14.1). Most participants reported practicing moderate HPB (50.6%) or excellent HPB (2.8%). The mean lifestyle score was 123.7(SD=21.8), which lies in the moderate lifestyle level; the nutrition subscale had the highest score (M=24.3, SD=4.8), while the physical activity subscale had the lowest score (M=15.2, SD=4.4). Participants practice of HPB correlated negatively with age, BMI, and CCI total scores (r = −0.190, r = −0.191, r=−.247, respectively) and positively with behavior-specific cognitions and affect and social support(r =.473, r =.229). A significant difference based on gender, current smoking of cigarettes, current argilla use, marital status, level of education, and work status (t=2.189, t=-2.888, t=-3.109, F=-3.208, F=4.557, F=8.430, respectively);. For the first time in Palestine, it was demonstrated in this study that HPB levels among CAD patients are moderate to good. The authors underline the significance of developing policies to improve HPB practices.

Keywords

Health-Promoting Behaviors, Coronary Artery Disease, Healthy Lifestyle, Cognition And Affect Social Support

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Health-promoting behaviors among patients with coronary artery disease in Palestine

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ABSTRACT

Even though many chronic diseases result from unhealthy behaviors such as physical inactivity, high-fat diets, and smoking, these health behaviors are rarely controlled by coronary artery disease (CAD) patients. This study aimed to describe health-promoting behaviors (HPB) and their predictors in patients with coronary artery disease. In this cross-sectional study, 178 participants with coronary artery disease from three primary healthcare clinics in Palestine were recruited. Health-Promoting Lifestyle Profile II was used to measure health-promoting behaviors, the Behavior-Specific Cognitions and Affect scale to measure cognition and affect, and the Multidimensional Scale of Perceived Social Support to measure social support was used. Hierarchical multiple regression analysis was performed to examine the predictive variables on health-promoting behaviors. The mean age of the participants was 53.7 years (*SD*=14.1). Most participants reported practicing moderate HPB (50.6%) or excellent HPB (2.8%). The mean lifestyle score was 123.7(*SD*=21.8), which lies in the moderate lifestyle level; the nutrition subscale had the highest score (*M*=24.3, *SD*=4.8), while the physical activity subscale had the lowest score (*M*=15.2, *SD*=4.4). Participants practice of HPB correlated negatively with age, BMI, and CCI total scores ($r = -0.190$, $r = -0.191$, $r=-.247$, respectively) and positively with behavior-specific cognitions and affect and social support($r =.473$, $r =.229$). A significant difference based on gender, current smoking of cigarettes, current argilla use, marital status, level of education, and work status (t=2.189, t=-2.888, t=-3.109, F=-3.208, F=4.557, F=8.430, respectively);. For the first time in Palestine, it was demonstrated in this study that HPB levels among CAD patients are moderate to good. The authors underline the significance of developing policies to improve HPB practices.

Keywords: Health-Promoting Behaviors, Coronary Artery Disease, Healthy Lifestyle, Cognition And Affect Social Support.

INTRODUCTION

Eating a low-fat diet, regular physical activities, maintaining a healthy body weight, and avoiding smoking and stress represent health-promoting behaviors (HPB) practices. HPBs are a fundamental factor in reducing the risk of several disease conditions [1]. Integrating HPBs into an individual's lifestyle may improve health, functional ability, and quality of life [2].

Recently, cancer, heart diseases, and cerebrovascular disease, considered chronic disease conditions, have become the major causes of death worldwide [3]. 17.7 million people died from heart diseases in 2015, accounting for 31% of all worldwide deaths. Of these deaths, 7.4 million cases were caused by coronary artery disease (CAD) [4]. Chronic disease conditions combined are accountable for 50% of the total mortality cases in the USA. Despite the significant progress in preventing and treating (cardiovascular diseases) CVDs, they are considered a severe public health issue worldwide; CAD represents the highest rate of mortality among all CVDs [5].

In Palestine, non-communicable diseases (NCDs) like heart diseases, the complication of diabetes mellitus, and cancer are the leading cause of mortality [6]. CVD is documented as the first leading cause of death with a

proportion of 30.6% of total deaths, and the prevalence of CADs among Palestinians has increased [6]; 66% of those older than 60 years are diagnosed with increased blood pressure, diabetes mellitus or both, furthermore, they are tobacco smokers. The presence of chronic disease and tobacco smoking present significant risk factors for CVD in Palestine [7].

Even though many chronic diseases are caused by unhealthy behaviors such as physical inactivity, high-fat diets, and smoking, their negative effect on health remains unchanged among CAD patients due to their inability to control or modify these behaviors [2]. The patient's inability to control or modify these behaviors is due to low-quality hospital discharge planning, lack of community-level follow-up interventions, and lack of practicing HBP [8]. In Palestine, patients with CAD receive unorganized health counseling from healthcare providers, and tertiary cardiovascular programs offered by hospitals or the ministry of health (MOH) are unavailable [9]. Additionally, absence of community health nurses to provide and maintain follow-up care for patients with CAD after discharge. Consequently, patients make decisions without official help from the health care providers after their discharge from the hospital [9].

Palestinian studies focusing on HPB among CAD patients are rare [9]. The vast majority of the studies focused on identifying the risk factors and the prevalence of CAD? among the Palestinian population. The findings in these studies confirmed that hypertension (HTN), hypercholesterolemia, increased body weight, stress, diabetes mellitus (DM), and cigarette smoking were all dominant risk factors among adults in Palestine [9, 10]. However, An integrative review was used to find studies that the HPB guided. Data search was conducted between 2013 to 2018 using Google Scholar, Scopus, Web of Science, Science Direct, PubMed, Medline, CINAHL, EBSCO, Cochrane, ERIC, Joanna Briggs Institute, and EBSCO host. No studies were found focusing on the practice of HPB among Palestinian patients with CAD.

Conceptual framework

The conceptual model of HPB originated from Pender's health promotion model (HPM) [11]. The study's framework hypothesized that demographic and clinical characteristics influence HPB practices; furthermore, behavior-specific cognitions and affect factors and social support factors mediate the practice of HPB among patients with CAD in Palestine (Figure.1).

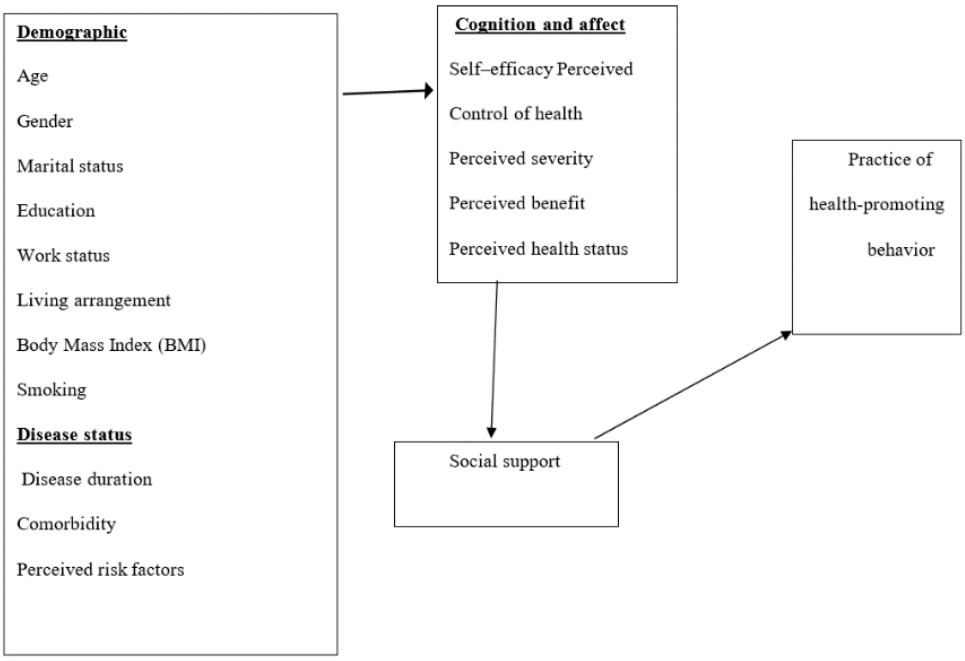

Figure (1): Conceptual framework adopted from Pender's model.

METHODS

Study settings and design

A cross-sectional, correlational design was utilized to investigate more than one variable and describe the predictors of health-promoting behaviors in Palestinian patients with CAD. Participants were recruited from three primary governmental healthcare (PHC) clinics in three central governorates in the northern region of Palestine.

Population

A convenient sample of 178 patients with CAD was recruited from three governmental primary healthcare clinics in three central governorates in the northern region of Palestine. The inclusion criteria for selecting the participants were: aged ≥18 years, known cases of CAD for at least 6 months to avoid acute cases, and speaking Arabic. Conversely, patients with mental or cognitive disorders and physical disabilities were excluded.

Measurement

The instruments used in this study consist of a group of scales and items that measure the study variables. The entire study survey was presented to the participants in a paper-and-pencil self-report format. The Arabic version of Health Promoting Lifestyle Profile II (HPLPII), the Multidimensional Scale of Perceived Social Support (MSPSS), Behavior-Specific Cognitions and Affect scale, and Perceived Cardiovascular Risk Factors Checklist were utilized as valid and reliable tools to measure study variables. All tools were translated and adapted according to the WHO guidelines for translation and back-translation [12]. First, the scale was translated from English to Arabic by a bilingual consultant with a public health background, knowledge, and proficiency in English, whose mother language is Arabic. Then an expert in English and Arabic languages was asked to identify and resolve the inadequate expressions of the translation from step one and any differences between the forward translation and the previous version of the questions. Then the scale was back-translated to English by an independent translator whose mother tongue is English. The rationale in the back-translation emphasizes conceptual and cultural equity rather than linguistic equity. Potential differences were addressed and reviewed until reach a satisfactory version of the scale. Finally, pilot testing among 10% of the sample was conducted to check for cultural variations, understanding, clarity, and time required for filling the questionnaires, which was not included in the analysis.

Data collection consisted of five self-reported scales. Besides these scales, the researcher developed a data sheet to collect participants' demographic and clinical characteristics.

Demographic and clinical characteristics

Descriptive demographic and clinical characteristics statistics include age, gender, marital status, educational level, work status, and living arrangement—weight and body mass index (BMI).

The Charlson Comorbidity Index (CCI) was used to assess the influence of comorbidities on the prognosis of the disease, directly or indirectly affecting the treatment options [15].

The perceived cardiovascular risk factors is a twelve-item checklist that measures the participant's perception of risk factors [16].

(Behavior-Specific Cognitions and Affect Scale (BSCAS) BSCAS is a five-item scale developed by Tulloch et al. [20]. Each item is measured using a 4-point Likert scale from (1) to (4). The total score ranges from 4 to 16, with higher scores indicating better self-efficacy, better-perceived control of health, better perceived benefit and severity, and more excellent perceived health status**.** The validity and reliability of the five-item scale reported high internal consistency ranging between (α = 0.59 and 0.91) [20]. The participants received the questionnaire in their language (Arabic). In this study, the alpha coefficient was 0.71 for the total scale.

(Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet et al. [21], the MSPSS scale is a 12-item self-reported scale used to assess the perception of social support adequacy from family,

friends, and significant others such as a healthcare team. This scale had an excellent internal consistency, where psychometric investigation revealed MSPSS to be a 3-factor construct that demonstrated good to excellent internal consistency and test-retest reliability (a Cronbach's alpha of 0.81 to 0.98 in non-clinical samples and 0.92 to 0.94 in clinical samples) [21]. The Cronbach α coefficient of the MSPSS was between .74 and .81among a sample of nurses in Taiwan [22]. Moreover, .87 among Arabic Muslim Jordanian women serving in the military services. [23]. The reliability and validity of the Arabic version of the MSPSS were measured by a previous study conducted in Lebanon [24]. In the current study, Cronbach's alpha coefficient was 0.96 for the total scale and ranged from 0.87 to 096 for the subscales.

Health Promoting Lifestyle Profile II (HPLPII), the HPLPII scale is a 52-items self-reported scale to assess HPB [25, 26]. Each item is measured using a 4-point Likert scale ranging from (1) sometimes to (4) routinely. The scale has six subscales; health responsibility (9 items), physical activity (8 items), nutrition (9 items), spiritual growth (9 items), interpersonal relations (9 items), and stress management (8 items). Therefore, the total score can range between 52 and 208. The total HPLP-II score is calculated based on the mean score of the responses to all 52 items. In addition, the health-promoting lifestyle scores are divided into four levels: 52–90, poor; 91–129, moderate; 130–168, good; and 169–208, excellent. Therefore, higher scores in each dimension indicated a greater frequency of HPB Table 3. The reliability and validity of the Arabic version were tested by a previous study conducted in Jordan [27]. In the current study, the Cronbach alpha coefficient was 0.94 for the total scale, ranging from.78 to .83 for subscales.

Both descriptive and inferential statistics were used to answer the research questions. The Statistical Package for Social Sciences (SPSS, version 21.0) [28] was used to analyze the data. A *p*-value of .05 or less was considered statistically significant.

Statistical Analysis

The central tendency measures (means and medians) and the dispersion measures (standard deviation and ranges) were utilized to describe the variables. Pearson correlation coefficient (Pearson r) was used to test the correlation between the selected factors. The t-test for two independent samples and ANOVA has been used to test differences in HPLP II total scores and subscales' mean scores with demographic variables. Hierarchical regression analysis was performed to examine the prediction power of health-promoting behavior among CAD patients controlling for selected demographic characteristics. Alpha has been set to 0.05, with two-tailed significance levels and a power of 0.80**.**

RESULTS

Sample characteristics

Of the 200 questionnaires that were distributed conveniently, 178 were restored (response rate=89%). The data collection occurred between the end of April and late June 2018. Table 1 shows the demographic characteristics of the participants. The mean age of the participants was 53.7 years (*SD*=14.1), ranging from 25 to 79 years. The majority of the participants were male (64%, *n*=114), married (75.3%, *n*=134), hold primary school (35.4%, *n*=63), current workers (50%, *n*= 89), and (91%, *n*=162) lived with others. Participants' average BMI ranged from 20-47 kg/m^2 (*M*=30.8, *SD*=5.3), while their average disease duration ranged from 1-25 years (*M*=5.4, *SD*=4.6). Furthermore, 91 participants (51.1%) reported smoking cigarettes between1-3 packs daily (*M*=1.6, *SD*=0.7), while 37 participants (20.8%) reported smoking argileh.

Table (1): Description of the study participants (N=178).

Variable	n(%)	M (SD)	Range
Age		53.7(14.1)	25-79
Body Mass Index (BMI)		30.8(5.3)	20-47
Normal	23(12.9%)		
Overweight	55(31.5%)		
Obese	99(55.5%)		
Disease duration		5.4(4.6)	1-25
Gender			
Male	114(64)		
Female	64(36)		
Marital status			
Single	18(10.1)		
Married	134(75.3)		
Divorced	6(3.4)		
Widowed	20(11.2)		
Educational level			
Primary	63(35.4)		
Secondary	56(31.5)		
University	59(33.1)		
Work status			
Works	89(50)		
Not working	78(43.8)		
Retired	11(6.2)		
Living arrangement			
Live with others	162(91)		
Live alone	16(9)		
Current cigarette use			
Yes	91(51.1)		
No	87(48.9)		
Pack per day		1.6(0.7)	1-3
Current Argilla use			
Yes	37(20.8)		
No	141(79.2)		
The usual pattern of Argilla use			
Daily	20(11.2)		
Weekly	11(6.2)		
Monthly	6(3.4)		
None	141(79.2)		

Factors associated with health-promoting behaviors

The mean score of HPB practice was 123.7/208 (*SD*=21.8), which is classified as a moderate practice of HPB. The *nutrition* subscale had the highest score (*M*=24.3/36, *SD*=4.8), while the *physical activity* subscale had the lowest score (*M*=15.2/32, *SD*=4.4) (Table 2).

Table (2): Participants' scores on HPLP II total and subscales.

Dimension	# of Items	M(SD)	Min	Max
Health-promoting lifestyle profile	52	123.7(21.8)	79	176
Health responsibility	9	23.6(4.4)	12	34
Physical activity	8	15.2(4.5)	8	27
Nutrition	9	24.3(4.8)	12	35
Spiritual growth	9	20.1(5.2)	9	32
Interpersonal relations	9	22.4(4.4)	9	32
Stress management	8	18.2(4.6)	8	29

HPLP: Health-promoting lifestyle Profile.

Based on the scores, 50.6% of the participants' practice of HPB were classified as having moderated, while only 2.8% were classified as being excellent (Table 3).

Table (3): Participants' classification according to their practice of HPB (N=178).

Health-promoting behavior	Range	n(%)
Poor	52-90	14(7.9%)
Moderate	91-129	90(50.6%)
Good	130-168	69(38.8%)
Excellent	169-208	5(2.8%)

Hierarchical regression analysis was used to find potential predictors among demographic and clinical characteristics, behavior-specific cognitions and affect, and social support of participants' practice of HPB (Table 4).

The hierarchical regression analysis revealed a 3-predictor in 3 models (argilla smoking, behavior-specific cognitions and affect the total score, and social support total score). In model 1, argilla smoking was a significant predictor of demographic characteristics (β=-.188, p<.05) that explained about 15.3% of the variance in participants' practice of HPB [R^2=.153, F(7,170)=4.378, p=.000]. Including clinical characteristics and behavior-specific cognition and affect variables in model 2 yields behavior-specific cognition and affect variables as a significant predictor (β=.404, p<.01), resulting in a 16.2% increase in the explained variance in participants' practice of HPB [R^2=.315, F(9,168)=8.578, p=.000]. In model 3, the social support variable was added to the model and found as a significant predictor (β=.160, p<.05), resulting in a 2.2 % increase in the explained variance in participants' practice of HPB [R^2=.337, F(10,167)=8.475, p=.000].

To investigate the mediating effect of social support on the association between participants' demographic and clinical characteristics, cognition, affect, and practice of HPB were assessed. When social support was entered into the regression models, an accepted effect was found in the participants' practice of HPB, which resulted in a 2.2% increase in the explained variance. For that reason, social support mediated the association between participants' demographic and clinical characteristics, cognition and effect, and practice of HPB.

Table (4): Hierarchical regression of health-promoting behavior among CAD patients (N= 178).

Predictors	Model 1				Model 2				Model 3			
	B	SE	β	*T*	B	SE	β	*t*	B	SE	β	*t*
Age	.006	.143	.004	.042	.046	.103	.030	.357	-.011	.131	-.007	-.088
Female gender	-3.940	3.535	-.087	-1.114	-3.463	3.202	-.076	-1.081	-3.471	3.160	-.077	-1.098
Primary education	-4.814	3.625	-.106	-1.328	-1.173	3.330	-.026	-.352	-1.113	3.286	-.024	-.339
Working	6.328	3.826	.146	1.654	3.620	3.504	.083	1.033	2.047	3.523	.047	.581
BMI	-.540	.302	-.130	-1.786	-.262	.278	-.063	-.943	-.369	.278	-.089	-1.328
Smoking cigarette	-2.669	3.789	-.061	-.704	-3.188	3.440	-.073	-.927	-2.391	3.412	-.055	-.701
Smoking argilla	-10.089	3.925	-.188	-2.570*	-8.569	3.571	-.160	-2.400*	-9.086	3.531	-.170	-2.573*
CCI total score					-1.825	1.092	-.116	-1.671	-1.879	1.078	-.119	-1.743
BSCAA total score					3.198	.531	.404	6.005*	2.904	.538	.368	5.396*
Social support total score									.298	.127	.160	2.343*
R^2			.153				.315				.337	
F			(7,170) = 4.378				(9,168) = 8.578				(10,167) = 8.475	
P			.000				.000				.000	

* p < .05, Bonferroni post hoc test used to show significance level between variables with more than two categories.

DISCUSSION

In this study, the level of HPB practices among CAD patients from Palestine is moderate; a possible explanation is the lack of knowledge regarding the risk factors that coexist with their illness, taking into consideration the increased body weight as a public health issue in Palestine [29]. The moderate level of HPB found in the study urges attention from participants to take steps toward all dimensions of HPB, especially the lowest ones, physical activity and stress management, to maintain their health using interventional educational programs. The moderate level of practicing HPB among patients with CAD in Palestine is similar to another study among CAD patients in China [30], which reported moderate HPB. In the same stream, another study among patients with CAD in Taiwan reported a moderate level of HPB [15]. Average scores on the HPLP indicated that the patients with CAD engage with some aspects of HPB and require rapid intervention, represented by an interventional action plan [30].

The participants reported the highest score in the *nutrition* subscale; they prefer a diet low in fat, limited use of sugar, and eat a balanced diet of cereal, rice, and pasta. While *the physical activity subscale had the lowest score, the participants rarely followed the* planned exercise program. The results of the highest *nutrition* subscale and lowest *physical activity* subscale were consistent with another study in China [30], and both were higher than a previous study for the *nutrition* subscale reported among CVD patients in Iran [31], and the *physical activity* subscale reported among elderly patients with chronic NCDs in China [30].

The analysis revealed statistically significant factors related to HPB, including age, BMI, CCI, behavior-specific cognitions and affect, and social support. The correlation between demographic factors and the HPB score showed that both age and BMI were negatively correlated with

the participants' practice of HPB, indicating that an increase in age and BMI is expected to decrease participants' practice of HPB. This outcome is comparable to a previous study, where the practice of HPB was reduced among overweight patients over 65 years of age in Iran [31]. Several essential etiological factors, including environmental, socioeconomic, diet, and daily physical activity, contribute to increased body weight and obesity among Palestinian older adults. Additionally, older age and overweight were risk factors for CVDs [5]. This was suggested by applying policies that control the CVD risk factors in health care settings, like increasing awareness regarding CAD risk factors like age and BMI, which will improve the practice of HPB [32].

Additionally, a significant positive correlation was present between the participants' practice of HPB and behavior-specific cognitions and affected variables (self-efficacy, perceived control of health, perceived benefit, and perceived health status), indicating that an increase in awareness of behavior-specific cognitions and affect factors are expected to increase the participants' practice of HPB. The behavior-specific cognitions and affect variables are positively correlated with the practice of HPB among CAD patients, consistent with another study [15]. The statistics showed that the Palestinians internalize and externalize the desire to take actions required to deal with prospective situations, the belief in one's control over health, and the willingness to take action in risk reductions [33]. Similarly, [34] supported our result when it reported that behavior-specific cognitions and affect positively impact the practice of HPB among CVD patients.

The analysis also found a significant positive correlation between the participants' practice of HPB and social support, indicating that an increase in social support is expected to increase the participants' practice of HPB. This result was confirmed by [35], who investigated the contribution of CVD among Korean blue-collar workers, where a significant positive correlation was present between social support and the practice of HPB. The results suggested that the study participants might perceive or believe that social support or assistance from relatives, friends, and significant others is expected to increase their practice of HPB. Authors in another study found a connection between social support and the practice of HPB among cardiovascular patients.

Examining predictors of HPB among CAD patients revealed only three predictors (smoking argilla, behavior-specific cognitions and affect, and social support). Journals were assorted concerning variables that can estimate patients' practice of HPB. Surprisingly, smoking argilla was a strong predictor of participants' practice of HPB not smoking cigarettes, which implies that quitting argilla will enhance a healthy lifestyle among CAD patients. The argilla smoking was more prevalent among the targeted three governorates in this study, which is socially accepted and considered a liberal issue. This finding was consistent with [37] study among 557 Jordanian patients with CAD, which found that smoking argilla strongly predicts an unhealthy lifestyle among patients with CAD.

Additionally, behavior-specific cognitions and affect variables (self-efficacy, perceived control of health, perceived benefit, and perceived health status) intensely predictor participants' practice of HPB. This result is supported by [38], who approved that biological and mental responses to CVDs are essential in influencing healthy lifestyle practices.

The last predictor was social support, which was positively connected with the participants'' practice of HPB. The result was consistent with another study; in that study, social support was a predictor of exercise and diet among patients with CAD in China [36]. The authors concluded that social support would support patients acquire

better self-confidence in overcoming obstacles to healthy everyday life adaptation. Including social support as a mediator between variables may help healthcare professionals plan healthcare program development, patient education, effective and efficient use of healthcare resources, and rehabilitation for those who lack social support [39].

In this paper, the conceptual model of HPB was obtained from Pender's health promotion model (HPM) [10]. Several papers used the HPM variables to construct conceptual frameworks to estimate HPB in various chronic diseases [40]. The hypothesized conceptual model of HPB was, to some extent, efficient in guiding this paper. This paper revealed that demographic and clinical factors linked to HPB to be multidimensional as well as age, gender, educational level, work status, BMI, smoking cigarettes, and smoking argilla. Also, our findings support HPM, which examined social support as a cause of interpersonal influence (mediator) and therefore affected HPB.

CONCLUSION

This study initially showed a moderate HPB level among CAD patients in Palestine. Even though the attractiveness of HPB in nutrition, health responsibility, interpersonal relations, and spiritual growth factors in this group, their level of HPB in physical activity and stress management factors were disagreeable. The results of the study entail that HPB between CAD in Palestine, particularly in the primary healthcare settings, is an alarming subject and urges the need for further studies to confirm our result

Consent for publication

Informed consent has been obtained from all the participants.

Competing interest

The authors declare no conflict of interest, financial or otherwise.

Ethical approval and consent to participate

The study was carried out following the ethical standards, Declarations of Helsinki. Approval was obtained from Institutional Review Board "IRB" at Jordan University in Jordan prior to the research conduction. Approval from the Palestinian Ministry of Health was taken prior to research conduction. All study participants were freely accepted to join the study and provided a signed consent form. All were assured that all collected data would be confidential and available for the researcher only. It was explained to the participants that they had the right to withdraw from the research anytime.

Author's contributions

I.Aqtam wrote the initial draft of the manuscript. I. Aqtam, M.Darawad, J. Alshrideh, M. Nabolsi, N. Shoqirat, and A.Ayed contributed to the study design, literature the search, and carried out the data collection I. Aqtam and A.Ayed analyzed the data and prepared data tables. All authors were involved in interrupting the data and had the full approval of the submitted and published version, and all authors approved the final manuscript.

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