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Couples' Experiences with Healthy Lifestyle Behaviors after Cardiac Rehabilitation

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STRUCTURED ABSTRACT

PURPOSE—Many cardiac patients discontinue heart-healthy eating and physical activity (PA) behaviors in the months following cardiac rehabilitation (CR). Involving the spouse in CR with the patient may be 1 strategy to increase the maintenance of these behaviors after CR. Assisting patients and spouses with the maintenance of healthy eating and physical activity (PA) behavior following CR begins with a better understanding of the couple-focused factors impacting their experiences with these behaviors. The purpose of this study was to qualitatively examine couple-focused facilitators and barriers to maintaining changes in healthy eating and PA behavior from the perspectives of both cardiac patients and their spouses following phase 2 CR.

METHODS—A purposive sample of 11 couples (post-coronary artery bypass graft surgery patients and their spouses) were selected from a larger randomized control trial. Semi-structured, in-person interviews were conducted with patients and their spouses separately following CR. Data were analyzed using line-by-line coding to identify facilitator and barrier themes.

RESULTS—Two couple-focused barrier themes emerged: unnegotiated situations and unshared behaviors. Two couple-focused facilitator themes emerged: supportive exchanges and partnerships.

CONCLUSION—These findings will help guide interventions targeting changes in diet and PA behavior in both patients and their spouses through minimizing unnegotiated situations, fostering supportive exchanges, and creating a partnership for the couple to work together on shared diet and PA goals. Targeting both patients and their spouses may be an innovative and effective way to intervene to increase adherence to healthy eating and PA behaviors post-CR.

CONDENSED ABSTRACT

This study examined couple-focused barriers and facilitators of adherence among cardiac patients and their spouses. Adherence behaviors after CR can be improved through couple-focused strategies of planning for difficult situations, fostering supportive exchanges, and creating a partnership for the couple to work together on shared diet and PA goals.

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Keywords

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Many cardiac patients discontinue heart-healthy eating and physical activity (PA) behaviors in the months following cardiac rehabilitation (CR).[1–4] Additionally, spouses of cardiac patients often share similar diet and PA behaviors as patients and have an elevated risk profile themselves.[5–8] Because couples frequently share the same behaviors that place them at risk for coronary artery disease (CAD), targeting both members may be an innovative and effective way to intervene to reduce risk for both individuals.

Existing couple-oriented interventions involve the spouse as a way to be a benefit to the cardiac patient[9], despite evidence that the spouse would also benefit from making and maintaining diet and PA behavior changes.[10–12] In a recent couple-focused intervention where patients and spouses in the experimental group participated in CR together and spouses were asked to make the same healthy eating and PA changes as patients, Yates et al[13] found promising preliminary effects of the intervention for improving adherence to healthy eating and PA beyond CR. Embedded within this clinical trial, a qualitative study was conducted to describe the couple-focused facilitators and barriers to healthy eating and PA behaviors in patients and spouses after CR. Facilitators were identified if the participant perceived a positive or reinforcing consequence to engaging in the health behavior.[14] Barriers were identified if the participant perceived an obstacle or personal cost to engaging in the health behavior.

METHODS

Study Design

A qualitative descriptive design[15,16] was used to explore facilitators and barriers to adhering to healthy eating and PA behaviors learned in phase 2 CR. All of the patients and spouses in this qualitative study had participated in CR including monitored exercise and educational sessions. In addition, spouses were encouraged to make the same heart-healthy PA and dietary changes as the patient. The CR programs were nationally certified and provided individualized counseling, education, and goal-setting on diet and PA.[17] This qualitative study was conducted after couples had completed the CR intervention and all quantitative data had been collected.

Sample

A purposive subsample of 11 couples (patient and spouse) was obtained from the sample of couples (n = 34) that participated in a larger clinical trial.[13] A maximal variation strategy[16] was used to recruit subsample participants to achieve variation in gender, ethnicity, and socioeconomic status in relation to role (patient-husband, partner-wife versus patient-wife, partner-husband; Hispanic patient and spouse). All patients had undergone coronary artery bypass graft (CABG) surgery at either an academic medical center or community hospital located in the Midwestern United States.

Data Collection

A single investigator conducted in-person interviews with the patient and spouse separately, in their home, within 3 months of completing phase 2 CR. A semi-structured interview format (Table 1) used *a priori* questions and probing[15,18] to identify barriers and facilitators associated with maintaining diet and PA recommendations following CR completion. Interviews were audio recorded and lasted approximately 30–60 minutes with each participant. Each recording was transcribed verbatim.

Data Analysis

Two investigators completed analysis of participant interview transcripts. Each investigator independently reviewed each interview transcript for a general gestalt and summary memos were written to capture first impressions.[19] Then each transcript was re-reviewed, line-by-line to identify significant statements about barriers and facilitators to heart-healthy diet and PA. Each investigator independently coded significant barrier and facilitator couple-focused statements with a word or short phrase. Couple-focused was differentiated from individual experiences if the facilitator or barrier occurred in 1 partner because of or in connection with the other. Codes were then compared between investigators and code consensus was attained. Summary memos, significant statements and coding schemes were reviewed and discussed with an expert qualitative researcher to facilitate data analysis consistent with qualitative description. Finally, related codes were organized into couple-focused themes and exemplar quotes were selected.

RESULTS

A total of 11 couples participated in the study. Couples were either male patients and female spouses (n=9) or female patients and male spouses (n=2). The patients' mean age ± standard deviation was 64.3 ± 3.3 (range 60–70) years; the spouses' age was 62.5 ± 6.0 (range 51–71) years. All participants were married, well educated, and Caucasian except for 1 male Hispanic patient. Four couple-focused themes emerged from the analysis (Table 2).

Barrier Themes

Unnegotiated Situations—This theme was defined as the lack of negotiation or lack of resolution about a situation that affected how the couple was adhering to the eating or physical activity behaviors in their daily lives. Many life situations challenged the couples' healthy lifestyle. If couples had not negotiated how a situation would be managed, such as eating at a friend's home, a negative outcome was likely to occur. Exemplars:

Spouse: "We've only had 1 conflict and it was when we went to play cards. The host made some dip that was not fat-free. I told my husband (CABG patient) this but he acted like he didn't hear me so I said it again. He said 'I know'. I said (to the host), if you want us to come over I can make my own fat-free dip. He was upset with me and wouldn't talk to me for a day. We don't get together with them anymore … so we lost some friends. But I told him they just couldn't have been that good of friends."

Negotiating in the moment was difficult for some couples, particularly when the person who opted for the less healthy choice felt criticized. Negative outcomes were also identified for unnegotiated situations in relation to PA. In these cases, couples expressed interest in exercising together, however it was difficult because of differences in exercise pace or schedules. One patient in particular really wanted to exercise with his spouse. He was a lifelong exerciser and really enjoyed it. However, the spouse indicated she did not like exercising with her husband.

Spouse: "If we are riding bikes together, he'll say, you need to sit up straighter, or you need to shift gears, you need to do this or that. He is analyzing it and it takes all the fun out of it for me. If we walk together and we're walking up a hill, he'll say, now shorten your stride; take baby steps. I'll be thinking, yes, I know dear!"

This spouse's solution to this situation was to exercise in the morning, while her husband was at work. She wanted to be supportive of the patient's exercise program by exercising regularly, just not with him.

Unshared Behaviors—This theme was defined as lifestyle behaviors that were not adhered to equally by both members of the couple. Exemplars:

Spouse: "The nutrition part has been pretty easy to incorporate. My wife (CABG patient) watches it a little more closely than she used to but I don't have to follow her diet as closely as she does … like when she was gone, I had [fast food burgers] for 2 days. If she was here, she would let me do it, but she would tease me about it. I am really not interested in that for a steady diet. But it's important to splurge every now and then, to feel like you're not being deprived of something or else you just end up wanting it more."

Spouses who reported that they did not need to watch their diet and exercise program as closely as the patient also described the availability of different food types within the home. These couples reported buying low-salt, low-fat snacks and foods for the patient and higher fat and calorie dense food for the rest of the family. In some cases, departure from a healthier food item by 1 person was of little consequence to the other. In other instances, the departure seemed to have greater consequences.

Patient: "He can eat a whole bag of microwave popcorn with extra butter and it smells so good and I don't eat it, but it makes me ravenous you know. So, I have found if I buy the rice cakes, they do satisfy me. I'll eat 3 of them because I'm trying to think it's buttered popcorn. I've suggested we eat plain popcorn but no, he doesn't like to eat different snacks. I just go downstairs and get away from it 'cause it smells so good."

There were also unshared behaviors in relation to PA. One patient started the habit in CR of walking first thing in the morning. However, his spouse could not walk with him because she had to leave the house early for work. She would attempt to exercise after work but this often was interrupted by family or friends dropping by.

Patient: "Those things that you really want to do for the day (exercise) you want to get it done pretty early. Because there are so many things in our lives that could change the

schedule throughout the rest of the day. Any time during the day our schedules could get interrupted and I could lose my walk."

Although the couple could not exercise together during the week because of differences in schedules, they would walk and go birding together on week-ends to meet their exercise goals.

Facilitator Themes

Supportive Exchanges—Supportive exchanges were defined as communication within the couple that was perceived as helpful in promoting adherence to healthy eating and PA behaviors. Patients and spouses would support each other to select a healthier snack option or encourage each other to get their workout done for the day. Exemplars:

Spouse: "If I ever get the feeling like I don't want to go (exercise), he will say 'you don't have your walk in for today', so I think that helps."

Spouse: "I don't say anything [about what he should and shouldn't eat] and the other day I put some raisins and walnuts by his chair and I think if I make those things available, he will start making the right choices."

Most couples had come up with an agreed upon plan to support each other. For some couples this meant needing to remind or prod each other. Other couples said that they did not need to prod each other. Both approaches seemed to work for couples; the key was figuring out what worked best for them to encourage the other person to follow the eating or exercise regime.

Spouse: "I don't need to prod. We know to follow diet."

Patient: "We are good role models for each other."

For the majority of the couples, the wife (who was often the spouse) was the primary chef and grocery shopper. In describing supportive exchanges, patients indicated that wives had gotten "on board" with the diet and were eating the healthy diet right along with them in addition to stocking healthy foods for snacks. One spouse described her support by keeping the refrigerator well-stocked with fresh fruits and vegetables. The patient indicated that he "really appreciated this and said that it helped him stick with the healthy diet".

Partnership—Partnership was defined as when the couple's adherence to lifestyle behavior change was a shared experience. The sense of partnership started with the spouse participating in CR with the patient. Not every spouse was able to exercise at the same time as the patient, but the patient still appreciated the spouse's participation. Recurrent comments were:

Patients: "I was grateful my wife was included in this (CR program). Without her involvement, I would go back to my old ways. It was like 2 sets of ears; she knows what's best for me and helps me to accomplish it."

"They should make it mandatory, because people I talked to wanted their wives there too."

"The fact that she is participating in (CR) helps the relationship because there is a relationship gap when someone has been through a major surgery and someone hasn't."

Spouse: "If I hadn't disciplined myself to participate in CR and he was gone, I would feel terrible. You can't eat 2 different ways in a house; and you can't understand what they're going through until you are doing the very same things; you have no idea."

The sense of partnership continued into the home environment after CR. That is, patients and spouses used "we" statements to report strategies used by the couple to adhere to a heart-healthy diet and activity. These statements were numerous and varied including: "we share the treadmill, we use it at different times of the day"; "we are both doing it [exercise] - it doesn't have to be at the same time"; "we even exercise when we travel"; "we are both following the diet"; we eat off small plates"; "we read food labels"; "we grill"; and "if we eat out, we split a dessert or main entrée portion to reduce calories".

DISCUSSION

The results of this study provided insights into couple-focused strategies that facilitated adherence (supportive exchanges, partnerships) or acted as barriers (unnegotiated situations, unshared behaviors) after CR participation. Prior qualitative studies have explored reasons for adherence or non-adherence but they have focused primarily on the patient's perspective and on patient outcomes.[20,21] This is the first qualitative study to explore couple-focused strategies used to maintain healthy eating and PA changes after CR. The results indicate the importance of eliciting the perspectives from both members of cohabitating dyads to better understand facilitators and barriers to adherence.

One of the major findings of this study was that it was difficult to adhere when situations presented themselves that had not been discussed or resolved between the dyad. Further, these unnegotiated situations usually resulted in conflict or distress for 1 or both members of the dyad, often because they did not agree on how to manage them. Couples need to be forewarned about possible risky situations they may encounter (eg, eating out or at homes of friends) and encouraged to "game plan" preemptively how these situations will be managed. They may need an opportunity to discuss potential risky situations with a health care provider[12] and participate in role-playing in a safe environment about how to manage these situations.

Another important finding of this study was the theme of unshared behaviors. Although patients and spouses were asked to make the same lifestyle changes, spouses did not always adopt them to the same extent as the patient. In addition, they often regarded the need to improve diet choices and PA as more important for the cardiac patient than for themselves. Because spouses often share the same lifestyle behaviors as the patient,[5–8] the healthy eating and PA recommendations made in CR programs are relevant for them, even though they may not perceive themselves at-risk for CAD. Although spouses have long been included in CR educational sessions, it was to benefit the patient, not necessarily the spouse. Targeting spouses directly with an expectation for health promotion/risk reduction and the provision of

effective cognitive-behavioral strategies (ie, self-monitoring, goal setting, etc.) may extend the beneficial effects of CR for both patient and spouse. Prior studies have found that identifying barriers and developing plans for relapse prevention were most frequently associated with positive behavioral outcomes.[24] Thus, if both members of the dyad identify barriers to health promotion and develop plans for relapse prevention, this may help both individuals remain adherent and achieve better behavioral outcomes.

Other key findings were that each couple developed their own process of providing support (ie, prodding vs no need to prod) that worked for them in their relationship and, further, that support was exchanged, not unidirectional. Typically, patients are the primary recipients of support after a cardiac event and spouses are the main providers of this support.[22] In contrast, by creating this partnership, the spouse also received support from the patient for their lifestyle changes. An important topic for future research is identifying the best sources of support for both individuals. For eating behavior, best supporters might be individuals whom they eat most of their meals with. For exercise behavior, the best supporter may be someone who can keep the same exercise pace and schedule. Health care providers can guide couples in identifying how to best exchange support within a couple to improve adherence.

A final contribution of this study was that the partnership, initiated by the study design, was viewed as a key component in assisting couples with adherence to diet and PA. When the spouse was asked to also make these changes, it had a positive effect on the following: adherence by both individuals; understanding what each other was going through; and the relationship, in general. In cardiac couples, Goldsmith et al[23] found that 1 of the main communication strategies was “framing it cooperatively”, where couples talked directly about the challenges of a healthy lifestyle and acknowledged and praised each others’ efforts. Currently, health care providers involve families superficially and implicitly in the patient’s lifestyle changes but rarely encourage spouses or family members towards health promotion efforts. CR services that specifically target the family may be more efficacious than current individually-oriented interventions. If the family members build new habits together, they can motivate and support one another to engage in these behaviors and continue with them long-term.

There were limitations in this study. One limitation was that the majority of the sample (82%) was recruited from only 1 of the clinical sites. This was due, in part, to the larger pool of participants recruited from this site for the larger study (74%). The other limitation was that this subsample included only married couples. In the larger study, the majority of the couples were married (94%); the 2 remaining couples were cohabitating and had lived together for several years. Thus, the generalizability of our findings is limited to married couples. Finally, although the findings cannot be used to make generalizations about the success of the risk management efforts, they are intended to serve as a basis for developing and testing future interventions to assist couples in managing these high risk situations.

In summary, these findings can help guide interventions targeting diet and PA behavior change in both patients and their spouses through minimizing unnegotiated situations, fostering supportive exchanges, and creating a partnership for the couple to work together on

shared diet and PA goals. Targeting both patients and their spouses may be an effective way to intervene to increase adherence to healthy eating and PA behaviors post-CR.

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Table 1

Interview Guide

1	Describe your home environment as it relates to facilitators and barriers to regular exercise.
2	Describe your home environment as it relates to facilitators and barriers to a low-fat diet.
3	How is cooking and grocery shopping managed in your house?
4	Describe any difficulties you had in following the exercise regimen or low-fat diet.
5	How did you manage relapse situations?
6	How were any of the changes in your personal exercise and eating habits aided or held back by your partner?

Table 2

Summary of Couple-Focused Facilitator and Barrier Themes to Adherence

Themes	Definition of Themes
Couple-focused Barrier Themes	
1. Unnegotiated situations	Lack of negotiation or lack of resolution about a situation that affected how the couple was adhering to the eating or physical activity behaviors in their daily lives
2. Unshared behaviors	Lifestyle behaviors that were not adhered to equally by both members of the couple
Couple-focused Facilitator Themes	
1. Supportive exchanges	Communication within the couple that was perceived as helpful in promoting adherence to healthy eating and physical activity behaviors
2. Partnership	When the couple's adherence to lifestyle behavior change was a shared experience