Identifying the Most Prevalent Psychosocial Concerns in Lung Cancer Patients and their Caregivers

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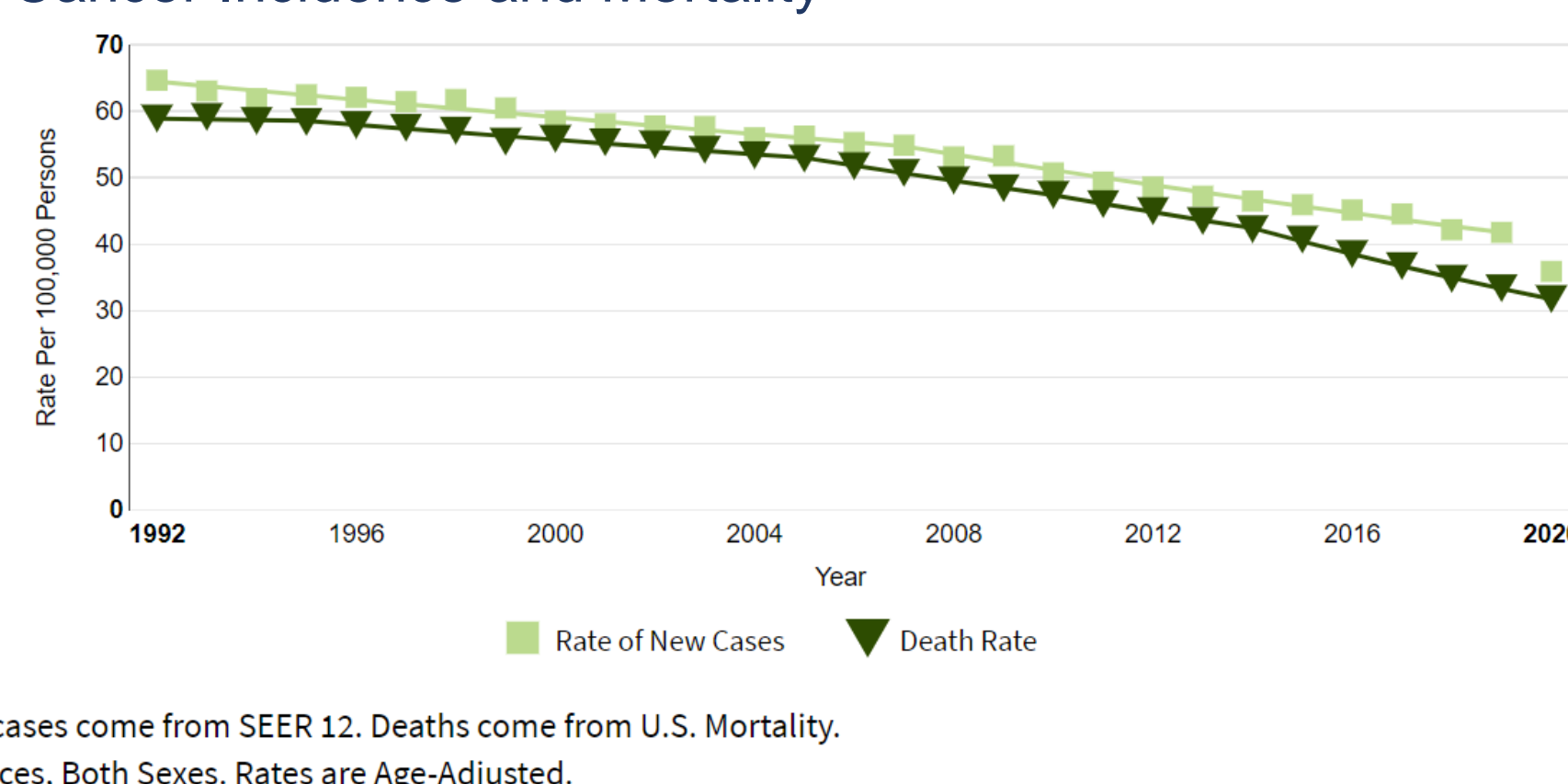
Introduction

Lung cancer (LC) is the deadliest cancer with over 100,000 deaths per year (National Cancer Institute). Because of this high mortality rate, survivorship concerns have not been a primary area of research for many years.

However, due to advances in screening and treatment approaches, patients with LC live longer and thus, survivorship care has become a relevant area of investigation.

Although previous research revealed that over half of LC patients report concerns were psychosocial in nature (V. Lidstone), such as concerns about the future (Sato), research that identifies specific targets of intervention development is needed for preventing future health issues.

Figure 1. Lung Cancer Incidence and Mortality

New cases come from SEER 12. Deaths come from U.S. Mortality.
All Races, Both Sexes. Rates are Age-Adjusted.

https://seer.cancer.gov/statfacts/html/lungb.html/

Current Study Goal

Thus, to improve survivorship care and quality of life (QOL) after treatment of an understudied and vulnerable patient population, the current study aims to:

1. identify the most pressing survivorship concerns in LC patients and their family caregivers.

2. determine behaviors and attitudes they hold towards implementing strategies to address their concerns.

These data will inform the development of targeted survivorship care strategies

Methods

- The current study presents secondary analyses of an ongoing parent trial targeting symptom management in LC patients undergoing radiotherapy and their primary family caregiver. Here, we present on 33 dyads randomly assigned to the educational program group (control arm)
- As part of the program, both patients and caregivers were asked to complete a "Concern Inventory" where they rated their level of concern on 18 items that have been identified as frequent concerns among cancer patients in the US. Then, participants were instructed to discuss their most pressing concern with each other with the goal of problem solving the issue.
- First, we conducted statistical analyses (including frequencies, paired sample t-tests, and Pearson correlations) in SPSS to describe the quantitative findings obtained from the Concern Inventory.
- Then, using the audio recordings of the session, we performed content analyses of these qualitative data to identify nuances related to their concerns (e.g., what specific healthy lifestyle changes dyads wanted to make).
- We also developed and implemented a coding scheme to rate the qualitative data including codes for each participant's self-identified facilitators and barriers as well as their partner's identified barriers and facilitators (Figure 2).
- The coding data were used evaluate patient and caregiver attitudes for making a healthy lifestyle change.

Figure 2. Legend of behavioral codes used to convert patient and caregiver attitudes towards making a healthy lifestyle change.

Variable	0	1	2	3
Facilitator Self	no self support	minimally self supportive	mostly self supportive	fully self supportive
Barrier Self	no self sabotage	minimal self sabotage	mostly self sabotages	fully self sabotages
Facilitator Partner	no support	minimal support	mostly supportive	fully supportive
Barrier Partner	no sabotage	minimal sabotages	mostly sabotages	fully sabotages
Action Plan	no plan	area of focus but vague plan	specific plan	

Results

Sample Characteristics:

Patients: 53% male; mean age = 66 yrs; 89% White, 5% Asian, 5% Black; 84% not Hispanic/Latino

Caregivers: 58% female; mean age = 62 yrs; 74% White, 11% American Indian or Alaska Native, 11% more than one race, 5% Black; 95% not Hispanic/Latino

Concern Inventory Results:

- See Fig 3 for mean ratings on Concern Inventory (0-3) by role.
- 19 out of 33 (58%) dyads had at least one member rate 'making a lifestyle change' as a moderate to high concern
- Of those 19 dyads, 10 (53%) dyads had <u>both</u> members with moderate to high concerns in making healthy lifestyle changes

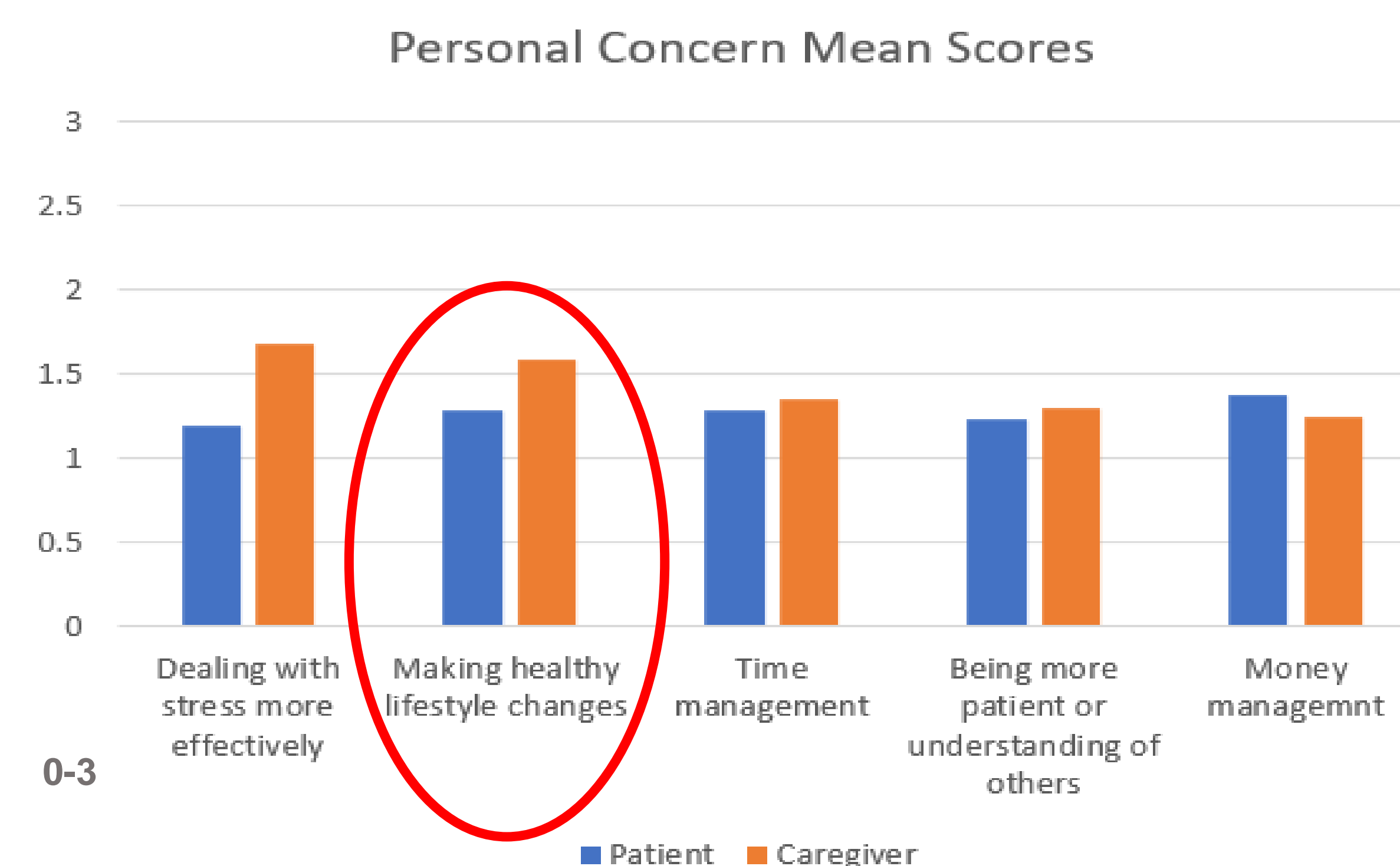Figure 3. Results from Personal Concern Inventory.

0-3

Figure 4. Lifestyle change priority in patients and caregivers

Lifestyle	Caregiver	Patient
Exercise	7	7
Diet	2	1
Staying smoke-free	0	3
No answer	6	2

Figure 5. Extent of an action plan developed by cancer patients and their caregivers
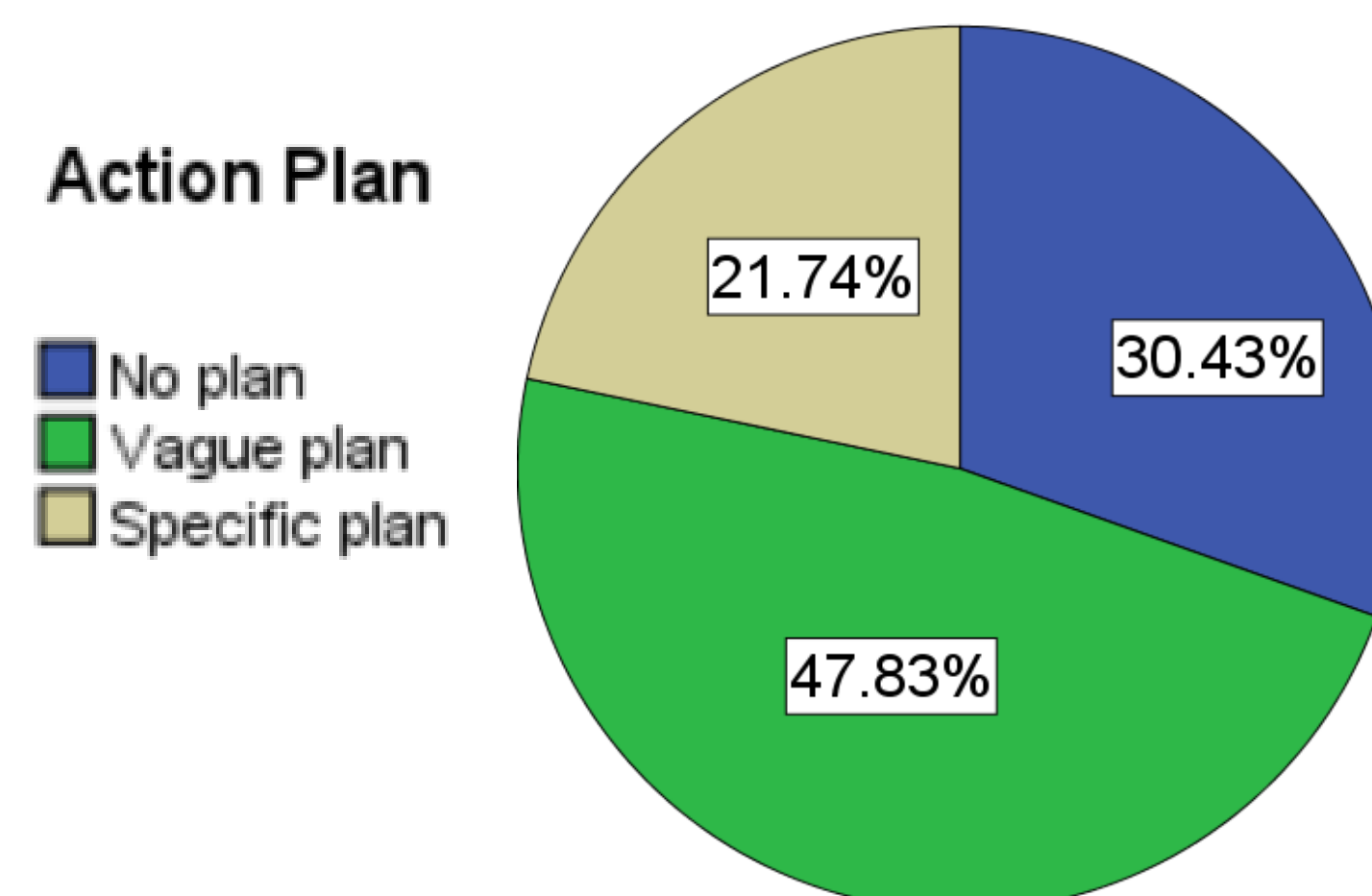

Figure 6. Paired sample t-test show the level of self-barriers for making a healthy lifestyle change is higher in patients than in caregivers.

Variable	Patient	Caregiver	Paired t-test
	Mean (SD)		
Facilitator Self	1.88 (0.64)	2.63 (0.74)	0.080
Facilitator Partner	2.50 (1.07)	2.38 (1.06)	0.844
Barrier Self	1.75 (0.71)	0.50 (0.54)	0.002**
Barrier Partner	0.63 (1.06)	0.25 (0.46)	0.402
Action Plan	0.88 (0.84)	0.88 (0.64)	1.000

**significance at 0.005 level

Partner Effects for Making Healthy Lifestyle Changes

- Patients have more facilitators (i.e., support) from their partner than from themselves (paired t = − 2.6; p < 0.03)

- Patients have more barriers from themselves than from their partner (paired t = 4.3; p = 0.002)

Discussion

About half of the sample had moderate to high concerns in making a healthy lifestyle change, but less than a third of them had a specific action plan for it. Patients also have more facilitators from their partner to make healthy lifestyle changes than themselves.

These findings highlight the need for survivorship programs for lung cancer patient and their caregivers that focus on dyadic level interventions to leverage the support within the family to remove barriers and increase facilitators (i.e., support) to develop and implement action plans for behavioral changes (exercising, staying smoke-free, healthy diet, etc.) that can improve quality of life and survivorship for dyads.

Figure 6. Making long lasting healthy lifestyle changes could be more effective if approached in a dyadic manner.

https://www.ahealthiermichigan.org/2020/08/20/10-healthy-lifestyle-tips-for-seniors/

Future Directions

- Develop behavioral intervention programs that focus on developing skills for specific action planning and maintaining long term motivation for healthy lifestyle changes in lung cancer patient dyads.

- Scientific trials to determine efficacy of an action planning intervention to improve the quality of life and survivorship for the dyads could be an additional next step.

Responsible Conduct of Research

To ensure security and privacy of the participants' data, the database holding data collected from participants is hosted by a FileMaker Server stored at the MD Anderson Data Center where automatic backups are performed on a regular basis. Dyads were also randomized using minimization; Factors used for randomization include patient variables of age (70 years old and older and 69 years old and younger), sex, ethnicity (non-Hispanic white vs other), baseline 6MWT (below 400m vs 401-499m vs </= 500m), and disease stage (II and IIIA vs IIIB).

References

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