The Impact of Visual Aids in Patient Understanding of Coronary Artery Disease and its Effects on Medication Adherence

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INTRODUCTION

- Coronary Artery Disease (CAD) is the leading cause of death in the US with 1 in every 20 adults having this condition
- Occurs through a process called atherosclerosis where the lumen of the arteries are narrowed over time due to plaque buildup
- Increases risk of patients developing heart attacks or strokes

CURRENT RESEARCH

- Process can be slowed or stopped through conservative and pharmacological therapies
- However, studies have shown low health literacy rates and low medication compliance amongst CAD patients
- Studies have suggested that interventions in improving health literacy in patients could improve medication compliance. Few studies have tested this with this specific population of patients

OBJECTIVE

- **to further examine this concept through determining if the usage of a visual aid could improve CAD patients' understanding of their condition and increase adherence to medications**

HYPOTHESIS:

1. **If coronary artery disease (CAD) patients better understand their disease process, they will be more likely to adhere to their prescribed medications.**
2. **If CAD patients better understand the reason why they are taking a medication, they are more likely to adhere to their prescribed medications.**
3. **If patients are provided with a document that further explains their medications and disease process, their medication adherence will be improved.**

METHOD

- **Target population**: Individuals diagnosed with CAD who were at least taking an aspirin or cholesterol lowering medication
- **Recruited via** online forums (FB, Instagram, Reddit, etc.) as well as local clinics
- Participants completed **2 convenience-based surveys,** one prior to and after viewing the visual aid document
- **Document consisted of** an explanation of CAD and the common medications prescribed
- **Survey was made available from** 07/2024-04/2025
- **Data obtained** was then compiled onto an Excel sheet and pre- and post-surveys were matched using the unique ID code the participant created in the pre-survey
- **Analysis**: Comparative and Contingency tables were generated for analysis based on 3 main hypothesis (listed below)
- No p-values were reported due to small sample size

Link to Visual Aid Document Used in the Study

RESULTS

- A total of **nine** participants completed both the pre- and post-surveys. Of the nine, **four** participants affirmed that they had a diagnosis of CAD. **Five** participants denied a CAD diagnosis but were either taking aspirin or a cholesterol-lowering medication
- **Figure 1** shows participants generally agreed to understanding CAD and its risks as well as its management

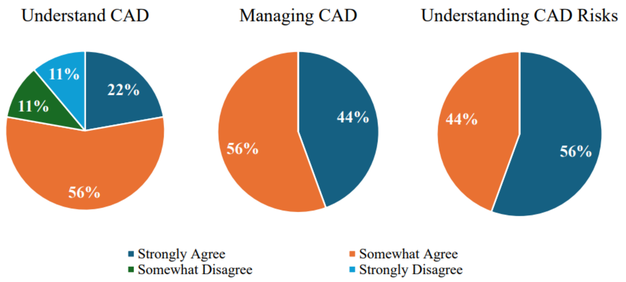

Figure 1. Survey participant responses to their understanding of CAD, confidence in managing their condition, and understanding of the associated risks of CAD.

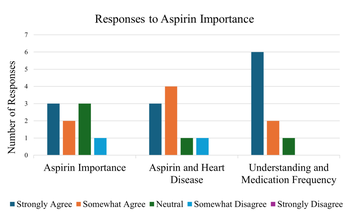

Figure 2. Participant' responses to understanding aspirin importance, its role in heart disease, and whether understanding CAD influences medication adherence.

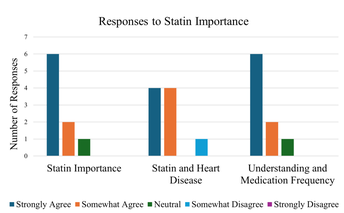

Figure 3. Participants Responses to Understanding Statin Importance, Its Role in Heart Disease, and Whether Understanding CAD Influences Medication Adherence.

- **Figures 2 and 3** shows responses regarding aspirin were more mixed whereas statins were generally more uniform and positive
- **Tables below** compared medication frequency before and after viewing the visual aid in both aspirin and statin groups
- **Aspirin**: 3 participants showed no change in their medication frequency, while 3 reported an increase in use after viewing the visual aid (highlighted in yellow)

Participant	Frequency Prior	Likelihood of changing Medication Frequency	Aspirin Frequency After
1	None	Neither	None
2	1-3 Days	Neither	4-6 Days
3	None	Neither	None
5	None	Somewhat Agree	Daily
6	None	Strongly Agree	Daily
8	None	Neither	None

- **Statins**: Most participants were already taking the medication daily. Participant 6, who initially was not taking a statin, reported an intention to begin daily use of the medication after viewing the visual aid.

Participant	Frequency Prior	Likelihood of changing Medication Frequency	Statin Frequency After
1	Daily	Neither	Daily
2	Daily	Neither	Daily
3	Daily	Neither	Daily
5	Daily	Somewhat Agree	Daily
6	None	Strongly Agree	Daily
8	Daily	Neither	Daily

DISCUSSION

- Three participants increased their aspirin adherence, and one initiated statin use.
- Participants who reported a strong understanding of CAD were correlated with strong medication adherence.
- This study further demonstrated that health literacy can impact medication adherence.

LIMITATIONS

- Small sample size
- Self-reported data

FUTURE DIRECTIONS

- Future research using a larger, more diverse cohort targeting clinical settings
- Further studies on the efficacy of different types of educational interventions to improve health literacy among patients

CONCLUSIONS

- Findings suggest a potential correlation between patient education through visual aids and medication compliance among patients with CAD
- Provides support for the integration of educational materials into clinical practice

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Link to Paper:

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