The Effect of Pre-Procedural Video Education on Patients Undergoing Cardiac Catheterization

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A DNP Project Manuscript
Submitted in Partial Fulfillment of the Requirements for the
Doctor of Nursing Practice Degree

University of Maryland School of Nursing
May 2020

Abstract

Problem & Purpose

Nearly half of adult Americans demonstrate poor health literacy and have difficulty understanding health information. Utilizing video in education supports multiple learning styles, promoting better learning outcomes. The standard of care for patients receiving cardiac catheterization is providing outpatient education prior to the procedure date. Evidence has shown that pre-procedural video-based education improves patient satisfaction. Using video in the Cardiac Preparation and Recovery Unit benefits patients by providing audiovisual education the day of cardiac catheterization. Standardizing a process to utilize these videos and increasing the number of patients they are played for, may improve patient satisfaction.

Methods

At the start of implementation, the Cardiac Preparation and Recovery Unit was added to the medical center patient education video viewing system for data tracking and reporting. The pre-procedure checklist in the electronic health record was edited to include the education method provided to the patient, allowing staff to document that video education occurred during admission. Staff received a resource sheet on the process of playing, documenting, and tracking the videos. Monthly staff meetings were attended to provide updates on project progress. Follow up phone call surveys were completed by a patient care coordinator then audited for videos played, benefit, and overall patient satisfaction. Using Microsoft Excel® software, an independent t-test was performed to determine statistical significance ($p<0.05$) of patient satisfaction between patients who watched the pre-procedural video and those who did not.

Results

The median percentage of videos played per week increased from 0% during the pre-implementation phase to 64.5% during the implementation phase. 100% of total patients who watched the video (n=38) found it beneficial. Combining pre-implementation and implementation patient satisfaction scores, total satisfaction scores of patients who watched the video (n=38) was not statistically significant ($p=0.46$) from scores of patients who did not (n=89).

Conclusions

100% of cardiac catheterization patients reported that the video-based education was beneficial, even though patient satisfaction was not statistically significant when associated with pre-procedural video-based education. In settings within the organization where non-emergent surgical procedures are conducted, it is recommended that the staff utilize pre-procedural videos for patient education.

The Effect of Pre-Procedural Video Education on Patients Undergoing Cardiac Catheterization

Introduction

According to the American Heart Association, more than one million cardiac catheterizations (CC) are performed annually in the United States (Mozaffarian et al., 2015). Anxiety is common in these patients and has an associated two-fold increased risk in mortality (Watkins et al., 2013). The Joint Commission and the Society for Cardiovascular Angiography and Interventions include informed consent as well as assessment and management of anxiety in their standards and best practice measures (The Joint Commission, 2016; Naidu et al., 2012).

Nearly half of adult Americans demonstrate poor health literacy and have difficulty understanding health information (Ferguson, 2012). Video in education supports multiple learning styles, improving learning outcomes, and patients have found video-based health education easier to comprehend than other methods (Yousef, Chatti, & Schroeder, 2014; Dahodwala, Geransar, Babion, de Grood, & Sargious, 2018).

According to the literature, over 80% of patients experience fear and anxiety before a CC and multiple studies have demonstrated this is a direct consequence of a lack of understanding of the procedure and possible outcomes (Moradi & Hajbaghery, 2015; Buzatto & Zanei, 2010; Gallagher, Trotter, & Donoghue, 2010). Reducing patients' levels of procedural related stress and anxiety improves overall patient satisfaction (Guo, East, & Arthur, 2012). Evidence has shown that video-based education increases patient knowledge and decreases anxiety, ultimately improving patient satisfaction (Abed, Himmel, Vormfelde, & Koschack, 2014; Friedman, Cosby, Boyko, Hatton-Bauer, & Turnbull, 2011). The purpose of this Doctor of Nursing Practice (DNP) project was to implement and evaluate the effectiveness of pre-procedural video-based education on the satisfaction of patients undergoing CC at a large, urban, academic medical center.

Literature Review

A systematic literature search was performed using the search terms “catheterization”, “coronary angiography”, “educational video”, and “outcomes”. Inclusion criteria included articles published in the past five years from peer-reviewed journals that were written in English and available in full text. The databases CINAHL Plus, Cochrane Library, were used yielding five articles for evidence review (Appendix A: Evidence Review Table). Grading of the articles was conducted using criteria set forth by Melnyk and Fineout-Overholt (2014) and Newhouse (2006). Majority of the researchers provided a Level II, Quality A recommendation for video-based education.

All five studies demonstrated improvement in at least one variable with the use of video-based education. Each of the researchers found decreased anxiety levels in the experimental groups compared to the control groups. However, Lattuca et al. (2018) and Qasim and Kathim (2017) did not show a statistically significant decrease in anxiety levels but identified downward trends. Exploring understanding and satisfaction, Lattuca et al. (2018) did demonstrate statistical significance ($p<0.05$) in the improvement of both variables. Ayasrah and Ahmad (2016) and Haddad et al. (2018) both found statistically significant ($p<0.05$) decreases in anxiety levels at the pre-procedure and post-procedure time points. Habibzadeh et al. (2018), on the other hand, only found a statistical significance ($p<0.05$) at the post-procedure evaluation, as pre-procedure levels were not significantly lower. Ayasrah and Ahmad (2016) as well as Qasim and Kathim (2017) included vital signs as parameters of anxiety; however, both results were inconclusive.

Through analyzing the evidence, common themes for recommendations for the implementation of practice change emerge. The majority of the researchers recommended the use of video-based education done on an individual basis for the patients (Ayasrah & Ahmad,

2016; Haddad et al., 2018; Lattuca et al., 2018). However, group-facilitated video education was also studied and recommended by Habibzadeh et al. (2018). While Qasim and Kathim (2017) recommended the use of educational videos, they do not specify individual versus group setting.

Each of the researchers used videos with slightly different educational content. Ayasrah and Ahmad (2016) included an overview of the cardiovascular system, coronary atherosclerosis, pre/peri/post procedural details, and home care after discharge. Habibzadeh et al. (2018) also included pre/peri/post procedural details as well as the setting of the procedural room. Using American Heart Association guidelines, Haddad et al. (2018) incorporated information on the procedure, risks and benefits, team members, arterial access sites, the use of iodine contrast, and positioning and care after the procedure. Lattuca et al. (2018) also had a basis for their content using information derived from the national information and consent form, which included procedure indications, pre/peri/post procedure details, procedural room environment, and benefits and risks. Qasim & Kathim (2017) did not specify their video content.

All CC-related education is recommended to occur prior to the CC. Haddad et al. (2018) conducted their education 24 hours prior to the procedure based on recommendations in their literature search. The remaining researchers conducted their education the day of CC (Ayasrah & Ahmad, 2016; Habibzadeh et al., 2018; Lattuca et al., 2018; Qasim & Kathim, 2017).

Based these recommendations, the most common educational approach is video-based education on the day of the scheduled CC. Some common recommendations of the video content include information on the pre/peri/post procedural details, risks and benefits, procedural room environment and home care. As for the patient population in which to incorporate this practice change, any patient undergoing an elective CC, as opposed to emergent procedures, was included (Ayasrah & Ahmad, 2016; Habibzadeh et al., 2018; Haddad et al., 2018; Lattuca et al., 2018).

Theoretical Framework

Lewin's Theory of Planned Change (TPC), also known as Change Theory, states that the creation of permanent change focuses on changing the present level to the desired level as opposed to simply trying to reach a goal (Lewin, 1947). The TPC views changing as three steps involving unfreezing, moving, and freezing (Lewin, 1947). These steps can be described as unfreezing the current level, moving towards the new level, and subsequently freezing at the new level (Lewin, 1947). According to Lewin (1947), simply reaching a new level is not the sole objective and a desire for sustainability should be included in the plan.

This DNP project was based on Lewin's TPC since the steps of unfreezing, moving, and freezing best align with the actions which took place during the 12-week implementation timeframe. These steps were directly applied to this project (Appendix B: Application of Lewin's Theory of Planned Change to Project). During the unfreezing stage, the proposed practice change of pre-procedural video-based education for CC patients was presented to the nursing staff and stakeholders including the quality improvement (QI) officer and unit nurse manager. This step involved observing current practices and comparing them to the practice changes that were necessary in achieving the aforementioned goals. The moving step involved a detailed plan of action that included the 12-week project timeline, periodic goals for percentage of videos played, and interventions including an electronic pre-procedural checklist that included the use of the videos. This action plan was discussed and reinforced at monthly staff meetings where barriers to implementation were also identified. The final step, freezing, consisted of presenting the findings to staff and stakeholders and incorporating the practice change into unit policies in order for the new level to become daily practice. This step also included the ability to track the videos through the medical center video system to assist in promoting sustainability past the DNP project

timeline.

Methods

This QI project focused on the implementation and evaluation of pre-procedural video-based education on the satisfaction of patients undergoing CC in a cardiac preparation and recovery unit at a large, urban, academic medical center. Inclusion criteria consisted of patients admitted for elective CC and exclusion criteria precluded patients who did not speak English, those admitted for emergent procedures, and patients who did not return home after discharge.

Implementing a QI project with appropriate sustainability required structural changes to the organization. The structure that changed was the electronic health record (EHR) pre-procedural checklist, which was edited to include the education method provided, such as video, verbal, or written. The pre-procedural checklist was changed, under documentation in the EHR, to implement this practice change (Appendix C: Patient Education Videos Resource Sheet). The process that changed was the incorporation of videos into patient care during the admission process. Multiple strategies and tactics were utilized to implement this practice change. The education strategy consisted of monthly staff meetings, which occurred on the third Thursday of every month (Appendix D: Staff Education PowerPoint and Appendix E: Staff Lesson Plan). The project leader attended these meetings to provide updates on project progress and address barriers to facilitation. Patient Education Videos Resource Sheets were distributed prior to implementation to facilitate staff education on the process of playing, documenting, and tracking the videos. Data tactics included audits of follow up phone call surveys and video utilization tracking through the medical center video system. Follow up phone call survey results were emailed to the project leader by the Patient Care Coordinator.

Sustainability was ensured through engaging the unit Medical Director, Nurse Manager and involving a nurse champion to facilitate the process moving forward. Additionally, a request to edit the EHR to include the method of pre-procedural education provided was submitted and approved. This promoted accountability among the nursing staff with the intent to encourage the use of video education. The project leader also worked with information technology to create a place for the unit in the medical center video system. This allowed tracking and analysis of all patient education videos played in the unit, providing an opportunity for future data collection.

To evaluate the project, post-discharge audits were used to assess the percentage of patients who watched videos, whether or not patients found the videos beneficial, and overall patient satisfaction comparing those who did and did not watch the videos. The audit consisted of an internal follow up phone call survey, in which specific questions were asked regarding the videos and overall experience (Appendix F: Internal Follow Up Phone Call Survey and Appendix G: Microsoft Excel® Spreadsheet for Survey Data). While the internal follow up phone call survey was not copyrighted, permission to use the tool and subsequent results for the purposes of this project was granted from the Manager of Administrative Operations for the Heart and Vascular Procedural Services.

The data analysis occurred on a monthly basis when the survey results were collected, and data analysis was performed using Microsoft Excel® software. Run charts were used to demonstrate the percentage of patients who watched the videos at baseline and during the implementation phase. A bar graph was used to display the percentage of patients who did watch the videos and found them to be beneficial versus not beneficial. Independent t-tests were used to examine the overall patient satisfaction scores for patients who did and did not watch the videos, comparing the two results.

To protect human subjects, all collected data was stored in a password-protected computer that only the project leader had access to and de-identified prior to analysis and presentation. The project was

approved by the University of Maryland Baltimore Institutional Review Board for a Non Human Subjects Research determination.

Results

In this QI project, both structure and process changes were necessary to implement this practice change. The structure measure of the pre-procedural checklist was successfully updated in the EHR on September 10, 2019. The process measure of incorporating the videos into the routine admission process began on the project start date of September 10, 2019 to coincide with the EHR update. These results were displayed on a weekly basis during the 12-week pre-implementation phase of November 2018 through January 2019 and the 12-week implementation phase of September 2019 through November 2019 (Appendix H: Pre-Procedural Education Videos Played for Patients Undergoing Cardiac Catheterization). The run chart shows the median percentage of videos played per week was 64.5%, achieving the short-term goal of 50% during the implementation phase.

From the pre-implementation and implementation phases, 100% of total patients who watched the video (n=38) reported that they found it to be beneficial (Appendix I: Patient Opinions of Pre-Procedural Education Video). Anecdotally, one patient who was not offered the video by the nursing staff commented that watching the video would have been preferable.

An independent t-test was performed using Microsoft Excel® software to determine statistical significance ($p<0.05$) of patient satisfaction between CC patients who watched the pre-procedural educational video versus those patients who did not. Combining pre-implementation and implementation patient satisfaction scores, total satisfaction scores of patients who watched the video (n=38) was not statistically significant ($p=0.46$) from total satisfaction scores of patients who did not watch the video (n=89) (Appendix J: Satisfaction of Patients during Pre-

Implementation and Implementation). Satisfaction scores are displayed on a scale of 0 to 5 where a score of 0 is poor and a score of 5 is excellent.

Throughout the implementation phase, there was an observed association between specific interventions and outcomes. The project leader attended three monthly staff meetings from September 2019 through November 2019. During these meetings, the project leader updated the nursing staff and site representative on the project progress and addressed any questions or concerns. When examining the run chart of Pre-Procedural Education Videos Played for Patients Undergoing Cardiac Catheterization, there is a notable increase in the percentage of videos played after the project leader attended the three monthly staff meetings. This association can be described using the Hawthorne effect, or observer effect, where the nurses demonstrated a temporary increase in video compliance around the times when the project leader made an appearance on the CPRU.

A few unintended consequences were encountered throughout this project. Some unexpected barriers were a lack of nurse champions as well as resistance to the updated EHR pre-procedural checklist. Even though the CPRU is a small unit with limited nurse staffing, there was only one nurse champion who volunteered at the beginning of the project. During the implementation phase, the initial nurse champion became less responsive to communications and an alternative, and more senior, nurse unofficially took over the role of championing the use of the patient education videos. Also, some nurses were resistant to the change in the EHR checklist and using it to document the method of pre-procedural education that was provided to the patients.

Discussion

Interventions for this QI project incorporated the education of the nursing staff, which occurred prior to, and during the implementation phases. Through educating the staff on the importance of pre-procedural video-based education, it was anticipated that this information would drive the nurses' compliance with the videos. As mentioned, there was a potential Hawthorne effect where the presence of the project leader coincided with in an increase in videos shown to patients. Even though this led to temporary spikes in compliance, there was an overall increase in videos played from the pre-implementation to implementation phases. Therefore, there was a positive association between nursing staff education and educational video compliance.

Comparing the results of this project to those from the publications previously mentioned in the literature review, differences emerged. The article by Lattuca et al. (2018) found a statistically significant ($p<0.05$) increase in patient satisfaction among those in the video information group as compared to those in the standard information group. Other articles mentioned used surrogates for patient satisfaction such as anxiety levels, which were measured using vital signs and/or validated questionnaires (Ayasrah & Ahmad, 2016; Habibzadeh et al., 2018; Haddad et al., 2018; Qasim & Kathim, 2017). This QI DNP project that measured solely patient overall satisfaction scores, however, did not find a statistically significant difference in satisfaction scores between patients who did and did not watch the educational video.

The most significant anticipated outcome of this project was that the CC patients who watched the video would report higher overall satisfaction scores than patients who did not watch the video. The observed outcome was no statistical difference between reported overall satisfaction scores between patients who did, and did not, watch the video. The rationale for this difference could be multifactorial. One potential explanation is that the majority of patients

reported an overall satisfaction score of 5 whether or not they watched the video, resulting in minimal room for improvement. Additionally, the overall satisfaction scores were derived from a single question as part of an internal follow up phone call survey that could not be altered.

Noteworthy strengths of the project involve interventions that occurred during the project itself. The CPRU was added to the medical center video system for current and future data analytics on all patient education videos, not solely CC-related. Finally, the EHR pre-procedural checklist was updated to allow for standardized documentation of CC patient education methods, providing an opportunity for future initiatives to examine associations between patient education methods and other outcomes.

Limitations of this project affect both external, as well as internal, validity. Limitations of external validity involve population validity. This project was not generalizable from the specific patient population to other populations or settings due to the nature of the unit and their specific internal educational videos and follow up surveys. Limitations related to internal validity consist of measurement imprecision related to using a non-validated patient satisfaction scoring tool. Other limitations include a small sample size, short data collection period, and limited literature surrounding patient satisfaction as the specific outcome for interventions.

Efforts were made to minimize and adjust for limitations. In terms of using a non-validated patient satisfaction scoring tool, a validated tool was initially considered. However, changing the measurement tool, which was previously in-use, in between the pre-implementation and implementation phases would have posed a threat to internal validity through instrumentation and was therefore aborted. In addition, inclusion and exclusion criteria were used to clearly define the population, even though this may have been a potential contributor to the small sample size previously mentioned.

Conclusion

With the support of the hospital leadership, the nursing staff embraced this project and demonstrated dedication to patient education. The addition of the CPRU into the medical center video system for data analysis and the updated EHR checklist for video documentation promotes sustainability of this QI initiative past the project timeline.

This project has the potential to spread to other settings with different patient population within the medical center. Since the video system already exists hospital wide, there would be no additional equipment needed or cost associated with the initiative. Given that the literature supports it, getting the buy-in of the Medical Director, Nurse Manager, and senior nursing staff is important to successfully promote the intervention to facilitate success among the rest of the staff. While patient education is valued by the organization, it would be helpful if the staff shared the same values so a readiness assessment could be beneficial.

Of the cardiac catheterization patients, 100% reported that the video-based education was beneficial, even though patient satisfaction was not statistically significant when associated with pre-procedural video-based education. In settings within the organization where non-emergent surgical procedures are conducted, it is recommended that the staff utilize pre-procedural videos for patient education. Future QI projects should be aimed at determining if video-based education can positively impact satisfaction of other patient populations. While educational videos did not statistically improve satisfaction among CC patients, it may have the ability to make a difference with patients in other settings.

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Appendix A

Evidence Review Table

Author, Year	Study Intervention	Design	Sample (*N*/*n*)	Outcomes Studied	Results	*Level & Quality Rating
Ayasrah & Ahmad, 2016	Periprocedural education video including an overview of the cardiovascular system, coronary atherosclerosis, CC related education, and after discharge information to reduce anxiety in patients undergoing CC	Randomized Controlled Trial	*N*=182 patients undergoing CC from June-September 2013: Experimental group (*n*=91) Control group (*n*=91)	Anxiety level was measured using: 1. Physiological parameters of anxiety – BP, HR, RR 2. Spielberger State Anxiety Inventory – to asses how an individual feels in terms of situations or events using a 4-point Likert scale	No statistically significant differences in vital signs between the two groups The mean preprocedural anxiety differed significantly for the experimental group compared to the control group *t*(180=11.88, *p*=0.001), the experimental group (*M*=39.03, *SD*=5.7) was about 10 points lower than the control group (*M*=49.34, *SD*=6.0) The mean postprocedural anxiety for the experimental group (*M*=29.18, *SD*=5.42) was about 12 points lower than the control group (*M*=41.73, *SD*=5.41)	II A
Habibzadeh, Milan, Radfar, Alilu, & Cund, 2018	Peer-facilitated, video-based, or combined peer-and-video training to reduce anxiety in patients undergoing CC	Randomized Controlled Trial	*N*=120 patients undergoing CC from April-July 2016: Peer education group (*n*=30) Video education group (*n*=30) Peer-and-video education group (*n*=30)	Anxiety level was measured using the Spielberger State Trait Anxiety Inventory questionnaire – to assess an individual feels in terms of situations or events as well as due to a predisposition or personal characteristic using a 4-point Likert scale	Mean pre-intervention anxiety scores were not statistically different between groups (*p*=0.81) Mean post-intervention anxiety scores were 34.30 ± 7.21, 36.23 ± 7.29, 30.73 ± 5.56, and 42.86 ± 11.64 for the peer education, video education, combined peer-and-video education, and control groups (*p* <0.01) The mean difference between pre-intervention and post-intervention anxiety scores was -6.70 ± 4.39, -5.53 ± 2.19, and -7.56 ± 6.45 for the peer education, video education, and combined peer-and-video education, in contrast to the control group (5.85 ± 2.86; *p* <0.01)	II A

			Control group (*n*=30)		A pairwise comparison showed a statistically significant mean difference between pre-intervention and post-intervention anxiety scores of the participants; there was no significant difference in terms of the type of intervention used	
Haddad, Saleh, & Eshah, 2018	Video-based education about the CC procedure based on American Heart Association guidelines	Randomized Controlled Trial	*N*=99 patients undergoing CC from June 2015-July 2016: Comparison group (*n*=48) Intervention group (*n*=51)	Anxiety level was measured using the Spielberger State Anxiety Inventory – to asses how an individual feels in terms of situations or events using a 4-point Likert scale	The mean anxiety scores at baseline between the groups were not statistically significant Mean anxiety scores 2 hours before the procedure were statistically different between the control (60.88 ± 11.38) and intervention (33.08 ± 7.52) group (t=14.42, p<0.001) Mean anxiety scores post-procedure were statistically different between the control (44.17 ± 11.38) and intervention (24.10 ± 4.81) group (t=13.84, p<0.001)	II A
Lattuca et al., 2018	Video education on coronary artery disease and its treatment, angiography procedure, potential complications of coronary angiography, and hospitalization length	Randomized Controlled Trial	*N*=821 patients undergoing CC from September-October 2015: Standard information group (*n*=415) Video information group (*n*=406)	Patient information, satisfaction, and anxiety levels were measured using a questionnaire, comprised of 16 questions and subdivided into 4 categories, that was designed specifically for the study	The mean information score was significantly higher in the video information group (11.8 ± 2.8) than the standard information group (9.5 ± 3.1) (p<0.001) Patient satisfaction was significantly greater in the video information group (8.4 ± 1.9) compared to the standard information group (7.7 ± 2.3) (p<0.001) There was a trend towards a decrease in anxiety among the video information group (-1.2 ± 2.5) compared to the standard information group (-0.9 ± 2.7) although not statistically significant (p=0.07)	II A
Qasim & Kathim, 2017	Video health instruction to reduce anxiety in patients undergoing	Randomized Controlled Trial	*N*=80 patients undergoing CC from October 2016-April	Anxiety level was measured using: 1. Physiological	There is no statistically significant difference between the physical parameters of the study and control group at pre-test	II B

	CC		2017: Study group (*n*=40) Control group (*n*=40)	parameters of anxiety – BP, HR, RR 2. A scale, comprised of 10 items and using a 3-point Likert scale, that was constructed for the study	The significant difference between the physical parameters of the study and control group at post-test is 72.00 ± 14.65 and 81.10 ± 11.87 (*t*=3.21, *p*=0.003) for HR and 18.35 ± 2.97 and 20.78 ± 4.18 (*t*=2.45, *p*=0.019) for RR Mean scores from the anxiety scale, where 3=always and 1=never, for the study group are 1.25, 1.22, 1.47, 1.5, 1.27, 1.72, 1.4, 1.3, 1.15, and 1.62 compared to the control group 2.02, 1.65, 2.65, 2.55, 1.82, 2.52, 2.12, 2.1, 1.25, and 2.6	

Notes. CC = coronary/cardiac catheterization, BP = blood pressure, HR = heart rate, RR = respiratory rate.

***Rating Scale for Level of Evidence**

Level of Evidence	Type of Evidence
I	Systematic review or meta-analysis
II	Randomized controlled trial
III	Controlled trial without randomization
IV	Case-control or cohort study
V	Systematic review of qualitative or descriptive studies
VI	Qualitative or descriptive study
VII	Expert opinion or consensus

Melnyk, B., & Fineout-Overholt, E. (Eds.). (2014). *Evidence-based practice in nursing & healthcare: A guide to best practice* (3rd ed.). Philadelphia: Lippincott, Williams & Wilkins. ISBN-13: 978 1451190946.

Rating Scale for Quality of Evidence

A: High – consistent results with sufficient sample size, adequate control, and definitive conclusions; consistent recommendations based on extensive literature review that includes thoughtful reference to scientific evidence

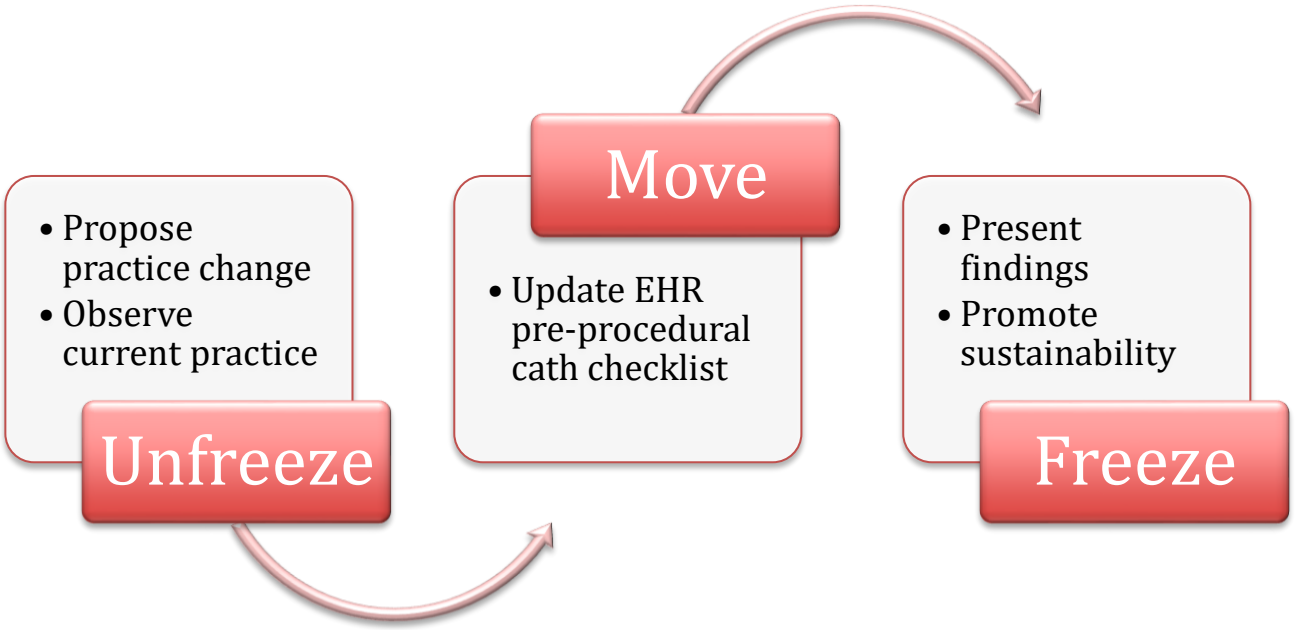
B: Good – reasonably consistent results, sufficient sample size, some control, with fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence

C: Low/major flaws – Little evidence with inconsistent results, insufficient sample size, and conclusions cannot be drawn

Newhouse, R. P. (2006). Examining the support for evidence-based nursing practice. *Journal of Nursing Administration, 36*(7), 337-340. doi:10.1097/00005110-200607000-00001

Appendix B

Application of Lewin's Theory of Planned Change to Project



Appendix C

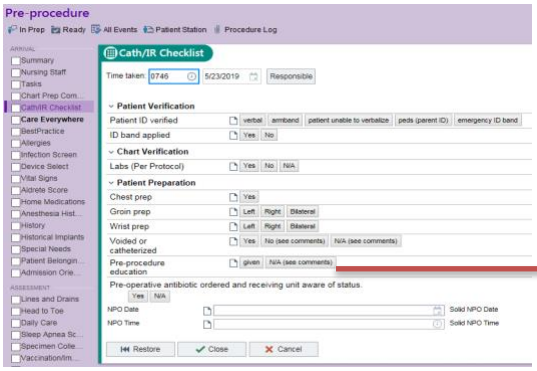
Patient Education Videos Resource Sheet

Instructions for Playing the Patient Education Videos

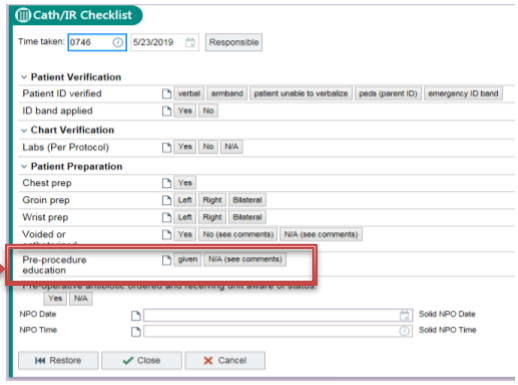
- Dial extension 8-0981 with patient phone
- Select your language
- TIGR says “Turn your TV to channel XX”
- Use the Pillow Speaker to tune TV as directed
- Press the # key when you see Welcome Screen
- Listen to phone prompts to navigate menu options
- Use Key Pad on phone to select screen options
- TIGR ON-DEMAND CHANNELS: 42-46 and 48-51

Documenting in the Electronic Health Record

Current Catheterization Checklist



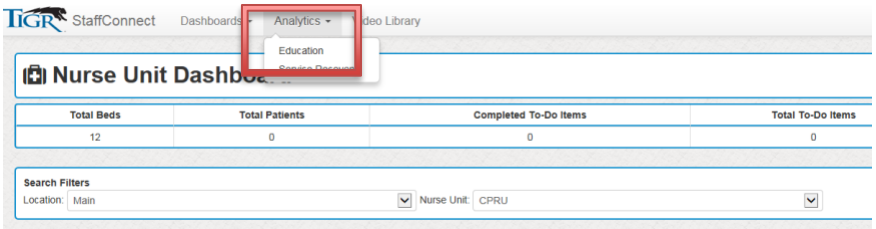
New Checklist will include: Verbal, Written, Video



Tracking Education Video Utilization for the Unit

1

2



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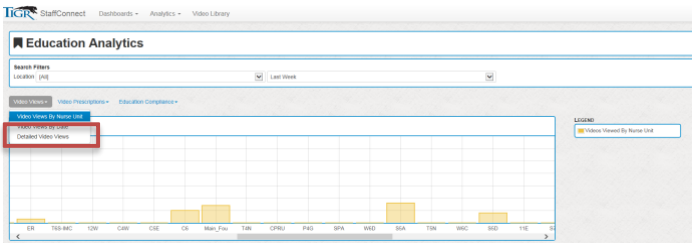

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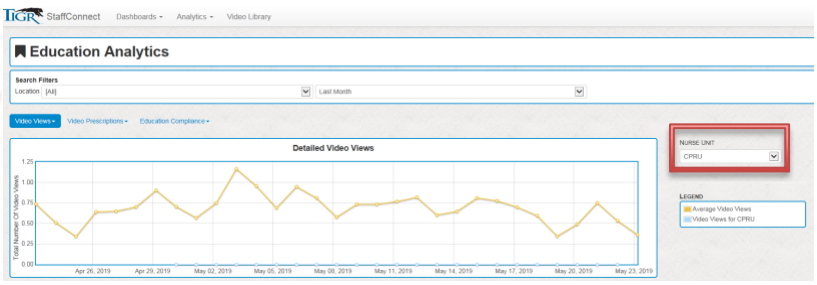
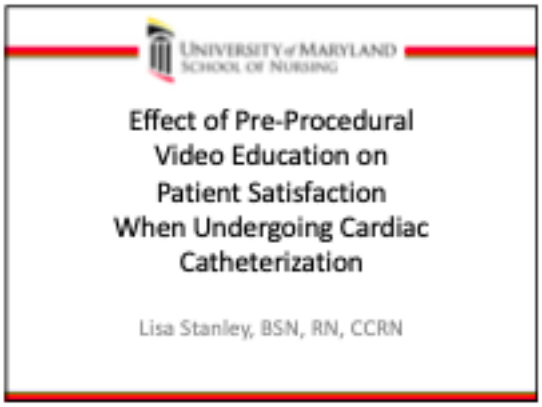
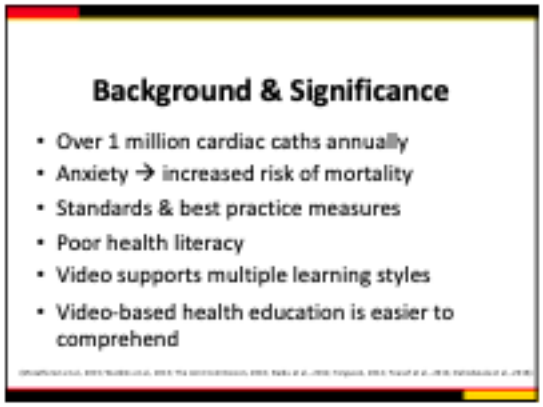
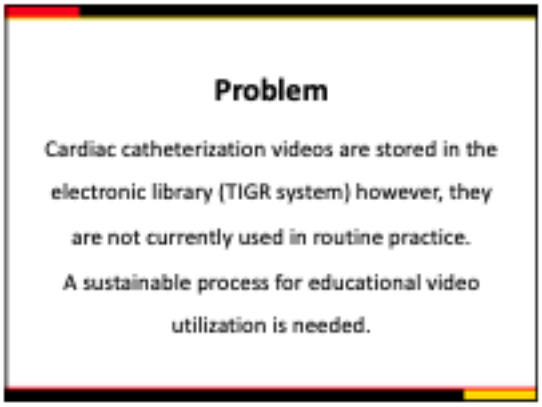


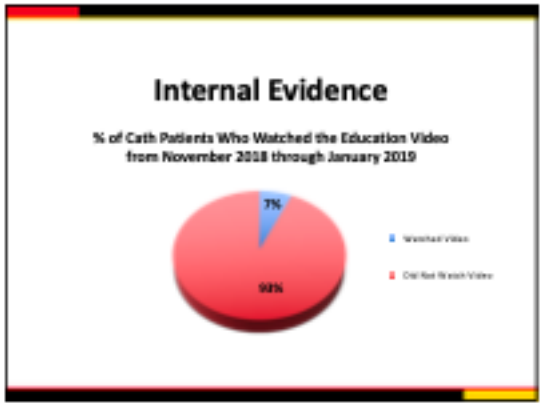
Appendix D

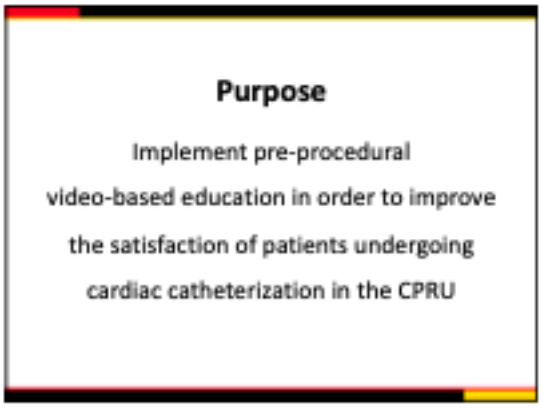
Staff Education PowerPoint

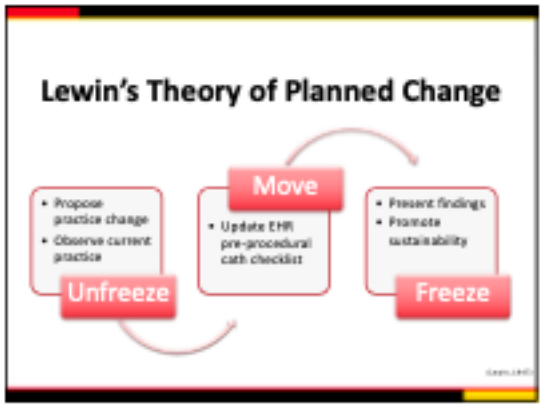












Literature Review

Studied Parameters	Ayesah & Ahmad (2016)	Habibzadeh, Milan, Radfar, Alibi, & Curd (2018)	Haddad, Saleh, & Erhab (2018)	Lefaux et al. (2018)	Cipolle & Kathrin (2017)
Patient Anxiety					
Informed Consent					
Patient Satisfaction					

Implementation Plan

Cath Checklist

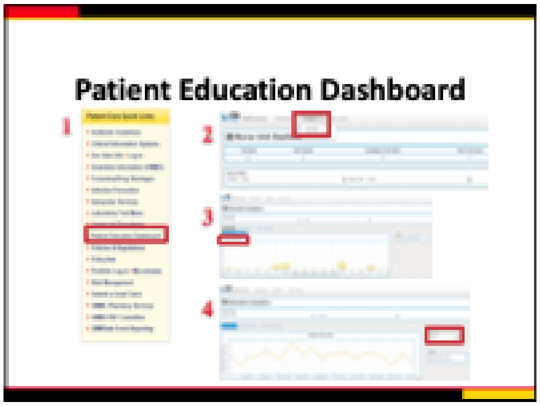
The Process: What Works?

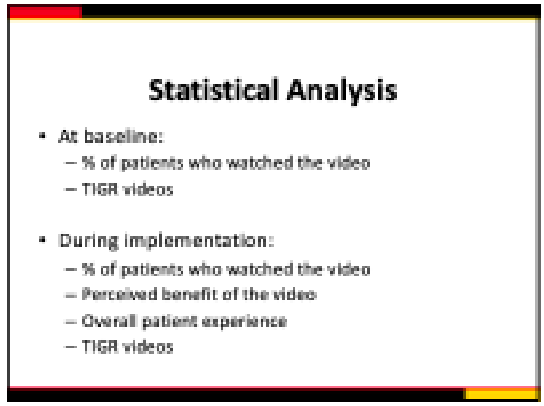
- Telling the patient you will play a video
- Getting the family involved
- Timing is everything

Data Collection

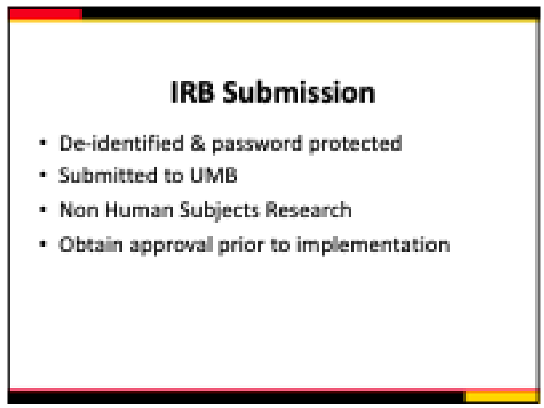
- Follow up survey
  - Did the patient watch a video?
  - Did they find it beneficial?
  - What do they rate their overall experience?
  - Anticipated sample size = 75 patients
- Patient education dashboard
  - CPRU has been added

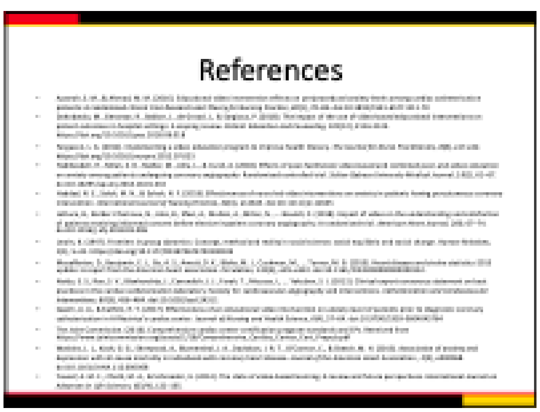
Follow Up Survey


Patient Education Dashboard
1
2
3
4


Statistical Analysis
• At baseline:
– % of patients who watched the video
– TIGR videos
• During implementation:
– % of patients who watched the video
– Perceived benefit of the video
– Overall patient experience
– TIGR videos


Baseline Data
Education Analytics


IRB Submission
• De-identified & password protected
• Submitted to UMB
• Non Human Subjects Research
• Obtain approval prior to implementation


References

Appendix E

Staff Lesson Plan

Learning Objectives	Content Outline	Method of Instruction	Time Spent	Method of Evaluation
Nursing staff will be able to verbalize the importance of video-based education	-Background and Significance -Problem Statement -Project Purpose	PowerPoint presentation at staff meeting	15 minutes	Verbal confirmation & staff meeting attendance sheet
Nursing staff will be able to verbalize their ability to play the videos	-Instructions for Playing the Patient Education Videos	Patient Education Videos Resource Sheet handout at staff meeting	5 minutes	Verbal confirmation & staff meeting attendance sheet
Nursing staff will be able to verbalize understanding of the new process of documenting pre-procedure education	- Documenting in the Electronic Health Record -Current vs New Catheterization Checklist	Patient Education Videos Resource Sheet handout at staff meeting	5 minutes	Verbal confirmation & staff meeting attendance sheet

Appendix F

Internal Follow Up Phone Call Survey

1. Were you offered to watch any educational videos during your stay?
2. Did you watch the educational videos?
3. Were the videos beneficial?
4. Rate overall experience 0-5 (0 = poor to 5= excellent).

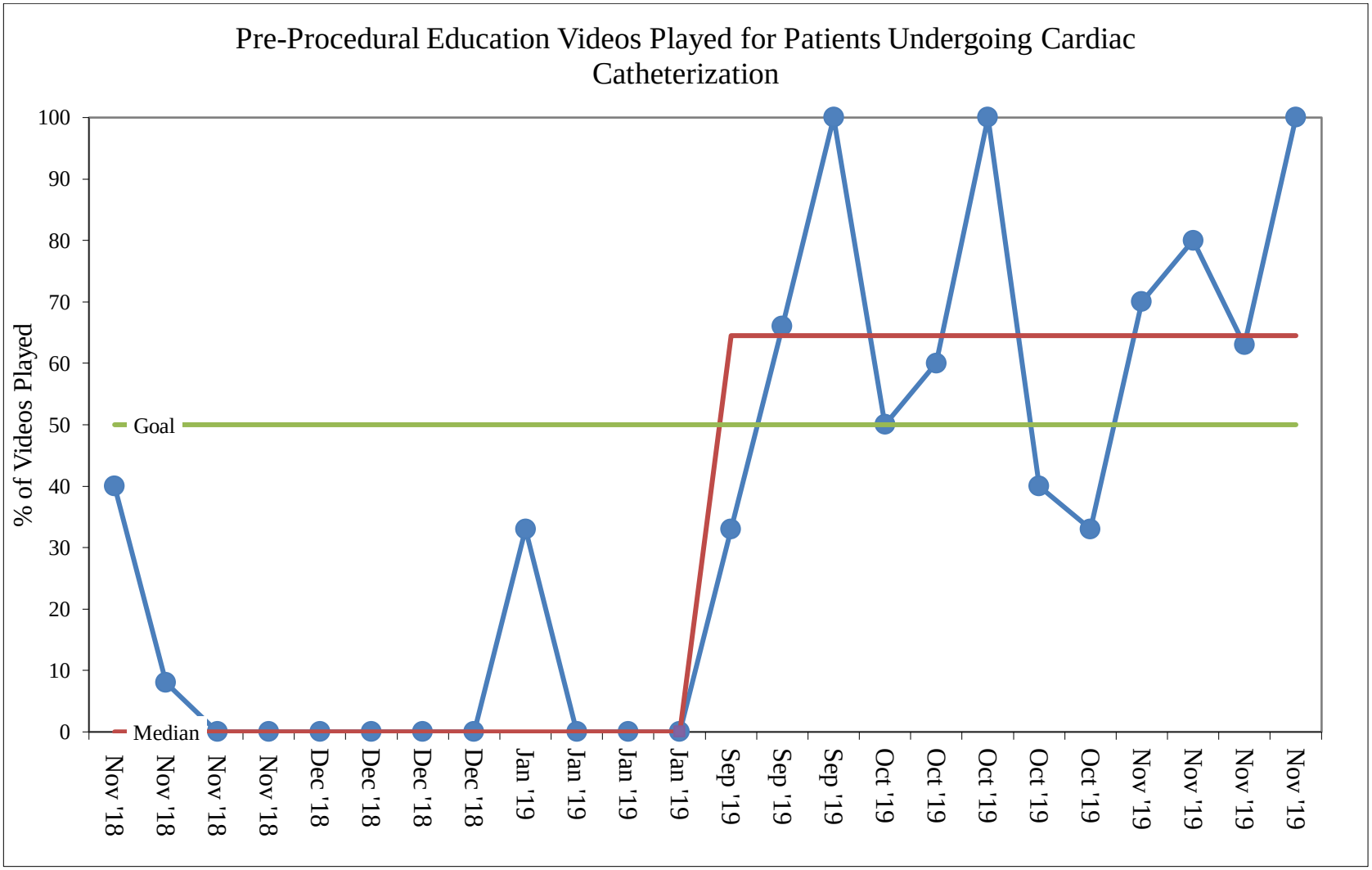
Appendix G

Microsoft Excel® Spreadsheet for Survey Data

A	B	C	D	E	F
Procedure	**Date**	**Video Presented**	**Watch Video**	**Video Beneficial**	**Overall Experience 0-5**

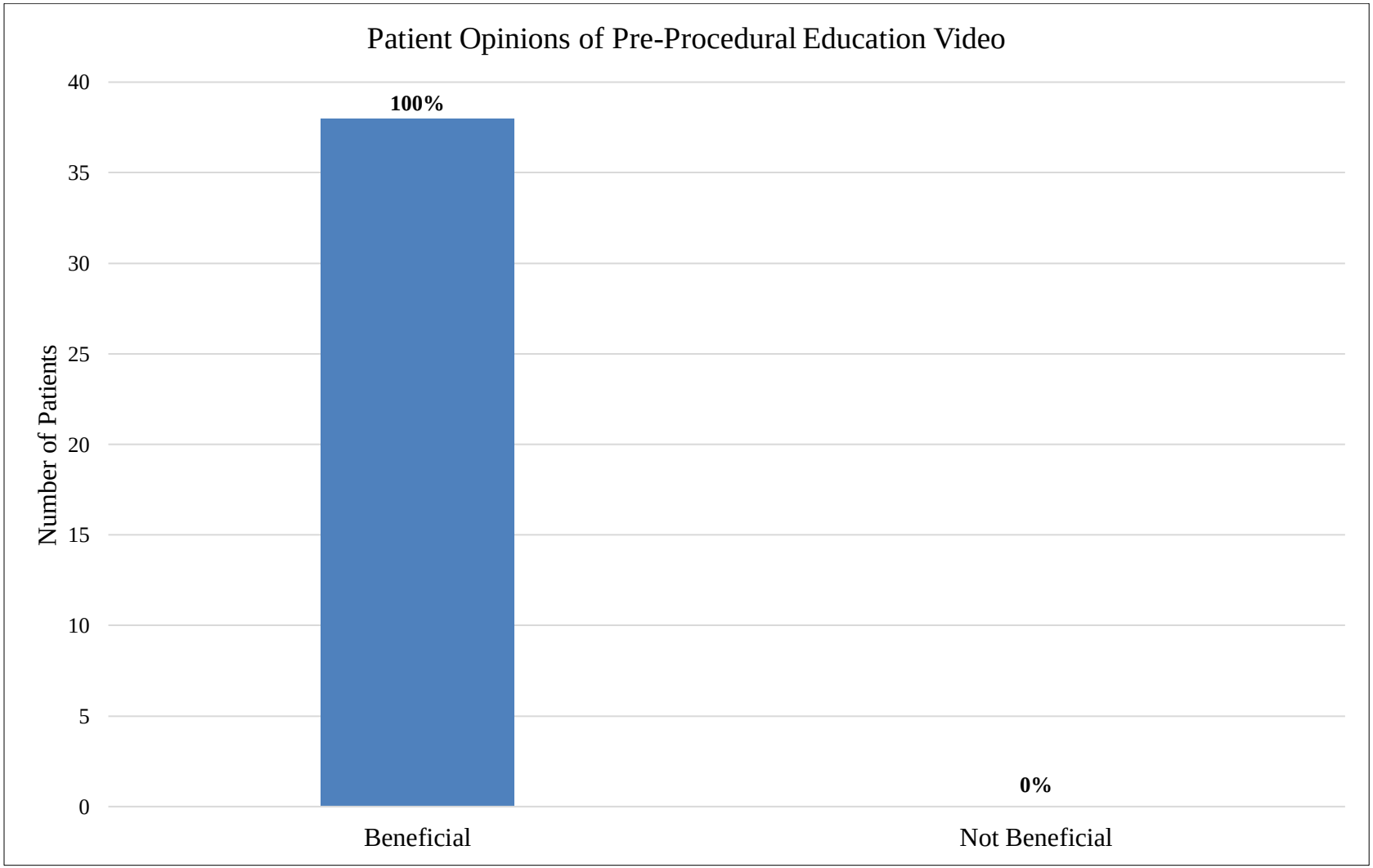
Appendix H

Pre-Procedural Education Videos Played for Patients Undergoing Cardiac Catheterization



Appendix I

Patient Opinions of Pre-Procedural Education Video



Appendix J

Satisfaction of Patients during Pre-Implementation and Implementation