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Improving Ostomy Patient's Self-Efficacy and Quality of Living through Prehabilitation and Prevention of Complications Using Telehealth Visits: A Quality Improvement Project

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Abstract

Due to the rise in colorectal cancer and diverticular diseases in the United States, approximately 100,000 to 150,000 intestinal stomas (fecal diversions) are created annually. With approximately 80% of readmissions experiencing post-discharge complications (Agri et al., 2020), quality improvement (QI) initiatives to increase ostomy patient's self-efficacy and quality of living (QOL) are needed. The purpose of this QI project was to enhance the current continuum of care for ostomy patients by adding a Prehabilitation Session prior to surgery followed up with 24 hour Telehealth visits after discharge from the hospital to support their living with an ostomy. The resulting Comprehensive Ostomy Patient Empowerment (COPE) Program was implemented, and outcomes were analyzed using the Stoma Quality of Life Scale (SQOLS) and Stoma Self- Efficacy Scale (SSES) tools. A comparison was made between COPE patients and non-COPE patients' self-efficacy and QOL surveys at 30-60 days post-discharge. The results did not show significant improvement in self-efficacy or QOL. It did reveal a decrease in the number of required in-hospital teaching sessions for ostomy patients who attended a Prehabilitation session versus those ostomy patients who did not attend a Prehabilitation session. Due to the small number of patients participating in the project and the inconsistency in the data collection process, it is recommended to continue the COPE program and enroll additional ostomy patients in the Prehabilitation sessions in order to further evaluate the self-efficacy and QOL outcomes with a larger group of patients.

Keywords: ostomy, ostomy complications, stoma, telephone follow-up call for colostomy patients, follow-up strategies for returning colostomies patients, preventive strategies for ostomy complications, ostomy complication, and health-related quality of life, nursing intervention for ostomy complication prevention, ostomy care, and telehealth, ostomy, and self-care.

Improving Ostomy Patient's Self-Efficacy and Quality of Living through Prehabilitation and Prevention of Complications Using Telehealth Visits: A Quality Improvement Project

The number of ostomy surgeries are increasing in the United States due to the rise in colorectal cancer and diverticular diseases. Approximately 1 million new stomas are created annually, with the largest portion of stomas being created in patients between 50 and 70 years of age (Zelga et al., 2021). In the United States, approximately 100,000 to 150,000 intestinal stomas (fecal diversions) are created annually (Zelga et al., 2021). With the increased need of stomas and the rise of post-surgery ostomy complications, quality improvement (QI) efforts in patient care have become necessary (Sheetz et al. 2014).

Zhang et al. (2013) state that with increasing emphasis on cost containment in the contemporary healthcare environment, people with new ostomies are being discharged earlier after their initial surgical hospital stays. The common practice of hospitals at present, is Enhanced Recovery After Surgery (ERAS) meant to shorten the hospital stay after surgery. However, ERAS negatively affects the patients by providing less time to learn stoma care which results in early post-discharge complications (Zhang et al., 2013). About 80% of readmissions are associated with new post-discharge complications (Agri et al., 2020). Even with new advances in surgery and technology, stoma-related problems still occur with consistent frequency (Kwiatt & Kawata, 2013). As such, early treatment of post-surgical complications leads to better outcomes (Agri et al., 2020).

The most common source of stoma patients' dissatisfaction is the complications they experience affecting their Quality of Life (QOL). Colwell et al. (2019) identified that the average QOL scores of patients with a history of irritant contact dermatitis were lower than those who did not have a history of irritant contact dermatitis. These complications or stoma problems are often

seen by Wound Ostomy Continence Nurses (WOCNs). With shorter hospital stays, the information and advice provided by the healthcare providers and WOCNs becomes critical as patients transition from hospital to the home environment.

With the increase in ostomy surgeries, post-operative complications, and patients' concerns it is essential that the quality of ostomy care be improved in terms of pre-operative patient education and post-operative follow-up care. The clinical problem is twofold: insufficient education provided to the patient which causes them discomfort and fear, and inconsistent follow-up care provided to the patients after their surgery. Therefore, this QI project was developed to evaluate the implementation of Prehabilitation Sessions provided to the patients prior to their ostomy surgery. These sessions identified ways to improve patient's self-efficacy and QOL and any post-operative complications.

Literature Review

John Hopkins Evidence Based Practice (JHNEBP) model was used to appraise research articles for the literature review (Dang & Dearholt, 2022). Keywords used for the literature search were ostomy, ostomy complications, stoma, telephone follow-up call for colostomy patients, follow-up strategies for returning colostomies patients, preventive strategies for ostomy complications, ostomy complication, and health-related quality of life, nursing intervention for ostomy complication prevention, ostomy care, and telehealth, ostomy, and self-care. The databases used to retrieve literature included PubMed, CINAHL, Ovid, Cochrane Library, Google Scholar, and the National Library of Medicine. The reviewed articles focused primarily on patients with a colostomy or an ileostomy and their discharge and follow-up procedures. The literature search was limited to the English language; 70 articles, both qualitative and

quantitative, were reviewed. Twenty-four articles were used for this project with levels of evidence ranging between level I and V with high to good quality ratings.

This JHNEBP Model framework consists of three main steps: first, to form the problem statement then, to conduct the literature review, and finally to translate the evidence (Dang et al., 2022). This model was strategically used to help improve the self-efficacy and quality of life of stoma patients by setting aims and objectives, measuring them, and implementing and evaluating the changes for improvement. This QI project was an interprofessional collaboration between those in academia, Wound Ostomy Department, and Quality Improvement Department. The JHNEBP model (see Appendix A) was used because it is most appropriate for interprofessional work, enhancing team collaboration and patient care coordination (Vera, 2013).

According to Colwell et al. (2019), the wide range of complications related to stoma surgery may be related to the lack of consensus regarding what exactly defines a stomal complication. The definition of ostomy used in this QI project was defined by the United Ostomy Association of America (2023). It is defined as a life-restoring method that allows “bodily waste to pass through a surgically created stoma on the abdomen into a prosthetic known as a ‘pouch’ or ‘ostomy bag’ on the outside of the body or an internal surgically created pouch for continent diversion surgeries” (<https://www.ostomy.org/what-is-an-ostomy/>). In other words, it is a surgery in which an opening is created that connects the intestine wall to the skin outside. The Cancer Treatment Centers of America (2022) explain that this opening is used for the excretion of the intestinal waste that is collected in a pouch at the opening of the stoma. Furthermore, “[t]he creation of a fecal ostomy is an integral part of the surgical management of neoplastic lesions, inflammatory bowel diseases (IBDs), congenital malformations, or trauma of the intestinal tract” (Zelga et al., 2021, p. 427). While ostomy formation is a life-giving surgery, there are some

challenges that continues to influence the life of a patient (Alenezi et al., 2021; Krishnamurty et al. 2017; Kwiatt & Kawata, 2013; Santamaría et al., 2021; Shabbir & Britton, 2010; Vonk-Klaassen et al. 2016).

Many research articles focused on the complications experienced by stoma patients from pre to post surgery. Shorter lengths of hospital stay after ERAS can cause early post-surgical complications (Agri et al., 2020; Bohnenkamp et al., 2010). Shorter hospital stays led to decreased self-efficacy and reports in the literature of increasing ostomy complications, with up to 80% of new ostomy patients experiencing a complication (Agri et al., 2020). Because of advanced surgical techniques and shorter hospital stays due to ERAS, protocols/pathways have decreased the amount of time in the hospital for providing patient education and for the patient and their families to learn the basic self-care skills for management of the ostomy (WOCN Society Clinical Guideline, 2018; Zhang et al., 2013).

According to Krishnamurty et al. (2017), “early complications are ischemia/necrosis, retraction, mucocutaneous separation, and parastomal abscess, while the late complications are parastomal hernia, prolapse, retraction, and varices” (p. 193). Colwell et al. (2019) surveyed 43 ostomates, and most of them reported that they struggled with at least with one complication after the hospital discharge. While some chose to seek help, others did not inform the health care team about their struggles which included problems like leakage and skin irritation (Colwell et al., 2019).

Articles identified that even small steps, like preoperative stoma site marking as a protective factor (Zelga et al., 2021). According to Shabbir & Britton (2009), “ileostomy and colostomy are associated with significant morbidity, but preoperative consultation and marking by a stoma therapist reduce the postoperative morbidity” (p. 963). The common source of

morbidity is the complications that occur after the stoma surgery is performed (Kwiatt & Kawata, 2013). According to Kwiatt & Kawata (2013), an early complication is one that occurs within 30 days of surgery, while the complications after that are considered late complications.

Studies provide evidence that the scope of these complications is widespread from social, financial, emotional, sexual and relational, influencing a patient's quality of life (QOL) negatively (Colwell et al., 2019). According to Vonk-Klaassen et al. (2016), some significant ostomy-related problems affecting the QOL include "sexual problems, depression feelings, gas, constipation, dissatisfaction with appearance, change in clothing and travel difficulties, feeling tired and worry about noises from the ostomy" (p. 131). Alenzi et al. (2021), listed ostomy complications that affected patient's QOL, including, "skin complications, leakage, depression, anxiety, poor body image, sexual problems, impairment in social relations and adjustments to physical, psychological and social problems which are intensified for low income and unemployed" (p. 3121).

Weinstein et al., (2021) mention that "successfully caring for and living with an ostomy requires the development of specific skills and regimens by the patient. Without proper care, ostomy sites may develop irritation or infection" (pp. 8-9). WOCNs play an essential role in helping patients to be more independent by providing both adequate care and education throughout the continuum of care in the ostomy process (Bohnenkamp et al., 2004). Additionally, telemedicine or telehealth care is affirmed to be critical in improving patient's access to care and is an effective mechanism to ensure continuity of care (Bohnenkamp et al., 2004).

Toğluk & Şendir (2021) mentions the Ostomate Bill of Rights points out various rights of ostomy patients, including receiving counselling services to understand the benefits of the

surgery and its process, learn the changes in life with ostomy, and receiving medical support from professionals when needed.

PDSA Framework

This QI project followed the Institute of Healthcare Improvement (IHI) model (see Appendix B), Plan-Do-Study-Act (PDSA) (Institute for Healthcare Improvement [IHI], 2021). The PDSA model was used as the framework because of its versatile nature, and it's being widely adopted as a quality improvement tool in many healthcare settings (Adam, 2018). The PDSA model includes three fundamental questions that frame the improvement efforts: (a) *What are we trying to accomplish?* (b) *How will we know that a change is an improvement?* (c) *What changes can we make that will result in improvement?* The changes proposed are then tested using PDSA cycles (Adams, 2018). Speroff & O'Connor (2004) affirmed the reliability of the PDSA model stating that, "PDSA quality improvement research is outcomes driven and outcomes that define value of care include cost, quality of life, clinical outcomes, and satisfaction" (p. 30). Additionally, Adam (2018) believes that following PDSA is always useful as the results of the trials always improves the knowledge and understanding of the system, and each phase of the model informs the other and help prepare the most adequate step for a change test.

Description of Project

DNP Project Purpose Statement

This QI project, identified as the Comprehensive Ostomy Patient Empowerment (COPE) Program, enhances the continuum of care for the ostomy patient by adding a Prehabilitation session prior to surgery and a follow-up Telehealth visit 30-60 days after discharge from the hospital. These steps were added to the current hospital's ostomy education and supported

practices that occur while the patient is in the hospital for the ostomy surgery. The goal was for the ostomy patients to gain the support, knowledge, and skills to improve their self-efficacy in managing their ostomies to decrease post-surgical complications and improve their QOL. The clinical question was whether the addition of the Prehabilitation sessions and the post-discharge Telehealth visits would improve patients' self-efficacy, decreasing ostomy complications and improving QOL. Using the JHNEBP model, the following PICOT was developed which supported the development of aims and objectives of this QI project.

The PICO elements are:

P - The population includes the ostomy patients and wound care nurses.

I - Implementation of the COPE program which includes the addition of a Prehabilitation sessions and post-discharge Telehealth visits to the current ostomy continuum of care.

C – Compare the difference in patient self-efficacy and QOL between patients in the current ostomy care continuum versus the updated continuum that includes the Prehabilitation session and Telehealth visits.

O- Ostomy patients in the COPE program have increased self-efficacy and QOL, and decreased ostomy complications.

As a result of the PICOT elements the following QI project aims and objectives were identified.

Aim 1 (Plan)

Review the current Ostomy Program compared to the evidence-based literature on ostomy education and support to increase patient self-efficacy and QOL in living with an ostomy.

Objective 1. 1

Complete a literature search on evidence-based ostomy education and support programs and present a synthesis of findings to stakeholders to determine items to be implemented and evaluated in the current ostomy program.

Objective 1.2

- Identify gaps and inconsistencies in the current ostomy education and support program currently being provided to ostomy patients in hospital.

Aim 2 (Plan)

- Develop Prehabilitation session with a Telehealth follow-up visit to support improved self-efficacy and QOL of ostomy patients.

Objective 2.1

- Work with stakeholders to put together educational and Telehealth content for the Prehabilitation sessions.
- Establish the logistics of the Prehabilitation sessions regarding enrollment of ostomy patients, the dates/times sessions offered, and the location of sessions at community hospital.

Aim 3 (Do)

Implementation of Prehabilitation sessions and Telehealth follow-up visits to support improvements in self-efficacy and QOL of ostomy patients.

Objective 3. 1

- Provide in-person Prehabilitation sessions at community hospital to ostomy patients prior to their surgery on a bimonthly schedule.

Objective 3.2

- Administer program evaluation to ostomy patients attending Prehabilitation sessions.
- Patients fill out the Stoma Quality of Life Scale (SQOLS) and Stoma Self-Efficacy Scale (SSES) tool during this session.

Objective 3.3

- Conduct a Telehealth follow-up visit by WOCNs 24-48 hours after the Prehabilitation session.

Objective 3.4

- Schedule a second Telehealth visit 30-60 days post-discharge from the hospital to conduct a visual examination of the patient's stoma, skin, pouching system, and change technique by the WOCN and address any areas of concern.

Aim 4 (Study)

Evaluate the Prehabilitation sessions and Telehealth follow-up visits to improve the self-efficacy and QOL of ostomy patients.

Objective 4. 1

- Measure self-efficacy in ostomy patients through completing the SSES tool prior to discharge from the community hospital post-ostomy surgery and 30-60 days post-discharge during a Telehealth visit.

Objective 4.2

- Measure the QOL in ostomy patients through completing the SQOLS tool after 30-60 days post-discharge during a Telehealth visit.

Objective 4.3

- Obtain current data on post-discharge ostomy complications and monitor post-discharge ostomy complications after implementation of the COPE program. Complete a cost-benefit analysis based on the findings.

Aim 5 (Act)

Analyze the data obtained during the project to identify the strengths and weaknesses of the pilot COPE program and provide any recommendations for changes.

- **Objective 5.1-** Present community hospital's QI and Wound Ostomy Continence (WOC) department with the results of the evaluated data of the COPE program.
- **Objective 5.2-** Identify the strengths and weaknesses and recommendations for changes to improve and sustain the COPE program.

Overview of Methodology

The institutional review board (IRB) approved this study on November 14, 2022, as a QI project because it met the criteria for exempt status. Participants completing the pre-surveys constituted their consent to participate in the QI project.

The COPE process followed six steps (see Appendix C). First, surgeons referred prescheduled ostomy patients to the WOCNs to schedule a Prehabilitation session. Secondly, the patient attended the Prehabilitation Session which included site marking, education of their ostomy and pouching system management and practice. Patients were instructed to wear the pouch for 24-48 hours at home. A knowledge evaluation was done at the beginning of the Prehabilitation session along with the SSES and SQOLS tools. The Self-Efficacy Scale (SSES), which is a standardized tool, was used to assess the self-efficacy of stoma patients (Karaçay et

al., 2020). The standardized Stoma Quality of Life Scale (SQOLS) tool was used to assess the QOL of stoma patient (Prieto et al., 2005).

Thirdly, 24-48 hours after the Prehabilitation Session, the WOCN did a Telehealth visit to assess the stoma site compatibility with the patient's daily life activities, clothing, and job. During the Telehealth visit the pouching system was assessed along with the patient's ability to use the technology.

Fourth, patients came to the community hospital for their ostomy surgery. Evidence-based education related to ostomy management was provided by the WOCN, including a review of the Patient Education Booklet: pouching system changes, dietary & fluid considerations, and recognition of early signs/symptoms of complications. Prior to discharge the patient completed the SSES tool.

Fifth, post-discharge follow-up took place 30-60 days after discharge using a Telehealth visit to assess: the pouching system for leakages or other issues, patient competency in pouch change, assessment of skin around the stoma for signs of infection or other complications, and early identification and resolution of any issues to prevent further complications. The patient completed the SSES and SQOLS tools to measure any changes in self-efficacy and QOL after the ostomy surgery. The sixth and final step was to analyze the obtained data and inform the stakeholders, to determine any changes in the SSES and SQOLS tools results with the inclusion of the Prehabilitation Session and Telehealth visits.

Intervention

Setting

The project took place at a community hospital in southwestern PA that is part of a healthcare system. The institution emphasizes advanced, high-quality, patient-and-family-

centered care and commits to offering excellent health care in the future. The WOC Department related that they see approximately 140 ostomy patients per year. This QI project involved their enrolled and pre-scheduled fecal ostomy patients that attended the Prehabilitation Session in addition to those patients who received their ostomies as emergency surgery and did not have the opportunity to attend a Prehabilitation session.

Implementation

Plan

The COPE program aimed to transform patient care by extending established teachings done while in the hospital for the ostomy surgery to include a Prehabilitation session and follow-up Telehealth visits. Using the IHIs PDSA cycle this QI project was conducted between June 2022 and July 2023. Appendix C shows the Flow Diagram of the COPE process which will be described in more detail using the Plan, Do, Study, Act phases of this QI project.

In the planning phase, a review was done on the current Ostomy Program compared to the evidence-based literature on ostomy education and support to increase patient self-efficacy and QOL with an ostomy. This included completing a literature search on evidence-based ostomy education, developing support programs, and presenting a synthesis of findings to stakeholders to determine items to be implemented and evaluated in the current ostomy program. The stakeholders in this QI project included the WOCN's, Administrative Director of Nursing Practice and Research & Magnet Program, Quality Improvement Department. Gaps and inconsistencies were identified in the ostomy education and support program currently being provided to ostomy patients in the community hospital.

Based on the literature review and considering the gaps and inconsistencies in the current patient education program, Prehabilitation sessions with a Telehealth follow-up visit was

developed to support improved self-efficacy and QOL of ostomy patients. The key stakeholders and the Project Manager (PM) put together educational and telehealth content for the Prehabilitation session. Logistics were established for the Prehabilitation session regarding enrollment of ostomy patients, the dates/times of sessions offered, and the location of sessions at the community hospital. The anticipated number of patients for the Prehabilitation sessions was approximately forty. Plans were made to secure necessary supplies and equipment for the Prehabilitation session which included: an ostomy care model, iPads, various pouching systems, and a tote bag for the patient.

The foundation affiliated with this community hospital sought out new ideas and innovations which resonated with the COPE program (Beckwith Institute., n.d.-b). Thus, a grant proposal was submitted with the collaboration of the interprofessional team involved in the project and was approved by the hospital's foundation.

Do

The "Do" phase of this project included implementation of the in-person, bi-monthly Prehabilitation sessions prior to surgery. It also included a follow-up Telehealth visit with ostomy patients 24-48 hours after the Prehabilitation session. The ostomy patients received the current education sessions while in the hospital for their ostomy surgery, and again 30-60 days post discharge when they had a follow up Telehealth visit. Patients that required ostomy surgeries due to emergency conditions were provided the current hospital education sessions and the 30-60 Telehealth visit post discharge. The timeline for this phase was from April 2023 to July 2023. The SSES tools were completed at the Prehabilitation session, prior to hospital discharge, and at the 30-60 day Telehealth visit, depending upon the patients' circumstances.

Also, the SQOLS tools were completed at the Prehabilitation session and at the 30-60 day Telehealth visit.

The COPE program aimed to transform ostomy care by extending the established ostomy teaching and support model to include a Prehabilitation session and follow-up Telehealth visits. During Prehabilitation sessions, patients were introduced to ostomy management and self-care through a hands-on teaching session that occurred before admission for surgery. The ostomy surgical site was marked on the patient, and the pouching system was applied to emulate having an ostomy and pouch. Patients filled out SSES and SQOLS tools.

Follow-up was conducted by the WOCN via a Telehealth visit within 24 -48 hours of the Prehabilitation Session to assess the stoma site location and to ensure that it did not interfere with the patient's daily life activities, clothing, job and identify any concerns with pouch placement and to address any questions.

During the patient's hospital stay, they received the current ostomy education provided to this patient population. The SSES tool was filled out by the patient before the discharge. Thirty to sixty days after discharge from the hospital, a second post-surgery follow-up Telehealth visit was performed by the WOCN to assess the pouching system for any issues/leakage, patient competency in changing the pouch, the skin around the stoma for signs of early identification of complications, and resolution of any issues to prevent further complications. The SSES and the SQOLS tools were again completed by the patient.

Intervention Timeline

The timeframe to complete the COPE project was June 2022 to July 2023. The baseline data was obtained from June 2022 to August 2022. The COPE intervention was implemented from April to July 2023. Data analysis was done from June 2023 to July 2023, and the

presentation of the COPE project information and outcomes occurred in July 2023 to the University faculty and staff as well as the hospital stakeholders.

Data Management Plan

Data Collection

This QI project utilized a quantitative data methodology using the following tools: The Stoma Self-Efficacy Scale (SSES) and Stoma Quality of Life Scale (SQOLS). These tools helped to generate quantitative data for the project. Gathered quantitative data provided essential information to determine the outcome of the implementation of the two new processes, the Prehabilitation session and the Telehealth visits after hospital discharge. The project manager (PM) went over the SSES and SQOLS tools with the WOCNs team and performed consistent data collection. Scoring was done by the PM in the data analysis. The QI department looked over the results. Quantitative data was collected using a scoring system based on the tools.

DNP Project Results/Findings

As part of this QI project a literature search was completed on evidence-based ostomy education and support programs. Gaps and inconsistencies were identified by the PM within the current ostomy care process provided by the WOC department to the stakeholders. The PM, in collaboration with the stakeholders decided to create the COPE program which resulted in creation of Prehabilitation sessions prior to ostomy surgery, followed by a Telehealth visit 24 – 48 hrs. A second Telehealth follow up visit was done 30-60 days post-discharge for the COPE Program. Educational and Telehealth content for the Prehabilitation Session was developed by WOCNs. This content consisted of key information regarding the anatomy of creating the ostomy, pouching systems, ostomy site marking, and care of the ostomy site. The logistics of the Prehabilitation program, regarding enrollment of ostomy patients, the dates/times of sessions

offered, and the location of sessions at community hospital were organized. Necessary supplies and equipment were secured: ostomy care model, iPads, various pouching systems, and a tote bag for the patient.

Appendices D-G present the demographic information of the COPE participants. A total of 20 patients had ostomy surgery during the intervention time frame of April 2023-July 2023. There were 11 males and 9 females in different age groups ranging from 30-90 years of age. Males between the ages of 61-80 had the highest number of ostomy surgeries, and for females it was 51-70 years of age (See Appendix D). During the implementation of the COPE project, the total number of ostomies created was 20, for eleven different diagnoses. The two dominant causes for the stoma formations were rectal cancer, noted in 7 patients, and bladder cancer, noted in 3 patients (see Appendix E). Three kinds of ostomies were performed, colostomy 50 %, ileostomy 40%, and urostomy 10% (see Appendix F).

There were reasons why patients attended or did not attend Prehabilitation sessions. Twenty-five percent chose to attend a Prehabilitation session as they were enrolled by the surgeon. Fifty percent who were not enrolled by the surgeon did not attend, and 15% did not attend due to the urgency of the ostomy surgery. The remaining 10% could not participate because of the quick turnaround of their surgical date and distance factor (see Appendix G).

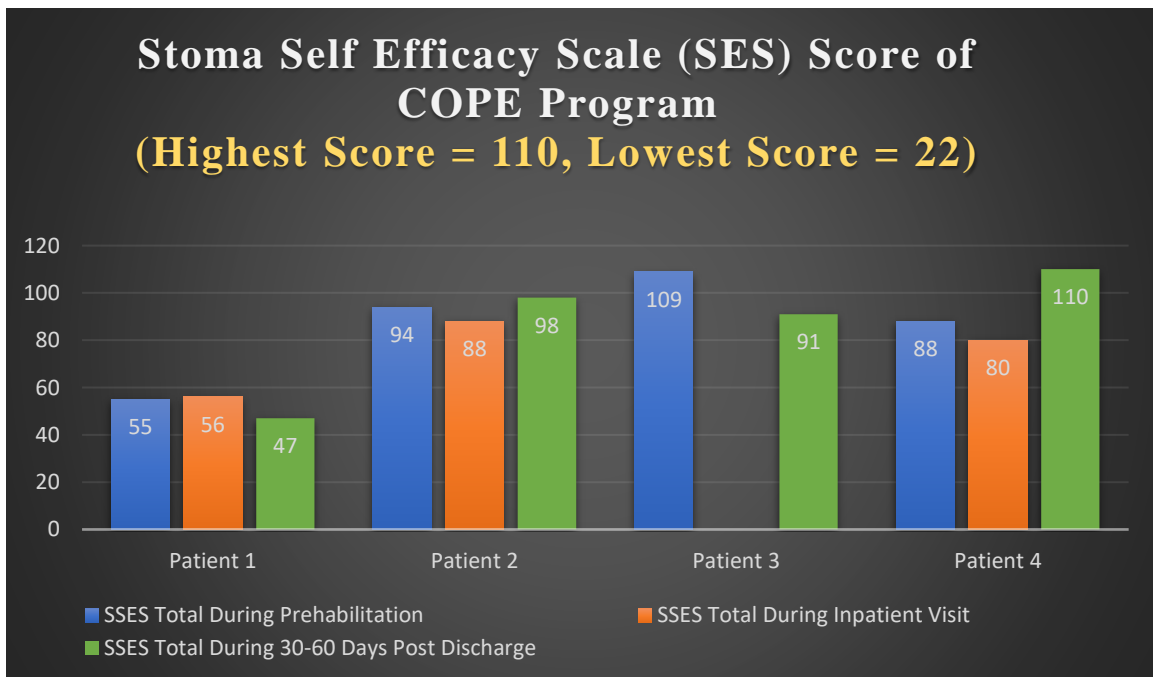
However, only 9 patients were included for data analysis, due to inconsistencies in the data collection process by the WOC department. Four patients were included in COPE program, who had a Prehabilitation session, and five patients were non-COPE patients who did not attend a Prehabilitation session due to various reasons noted above. The COPE patients filled out the SSES tool a total of three times: during the Prehabilitation session, inpatient visit, and 30-60

days post-discharge follow up Telehealth visit. The SQOLS tool was completed during the Prehabilitation Session and 30-60 days post-discharge during the Telehealth visit.

Table 1 shows the SSES scores of the four patients who attended the COPE program which included the Prehabilitation Session, inpatient visit, and 30-60 post-discharge Telehealth follow up visit. The highest possible score of this scale is 110 and the lowest is 22. The third patient was discharged during the weekend and did not complete an inpatient SSES tool. Two patients recorded increased self-efficacy during the 30-60 days post-discharge Telehealth visit when compared to their Prehabilitation SSES.

Table 1

Self-Efficacy Score-COPE Patients

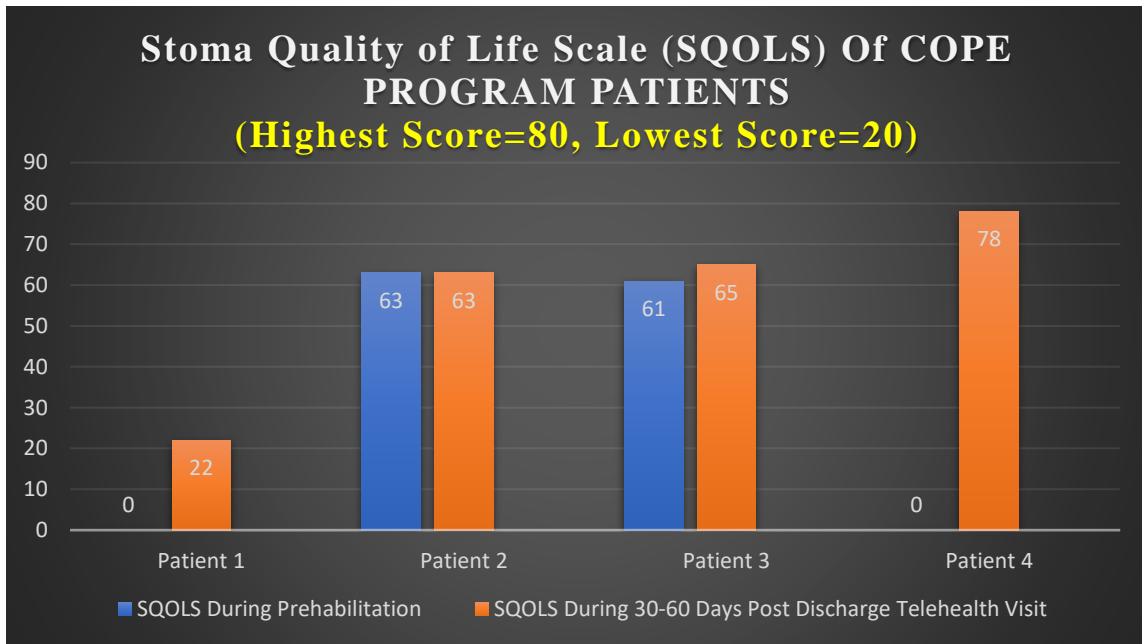


The QOL of COPE patients during the Prehabilitation Sessions and 30-60 days post-discharge Telehealth follow up visit is shown in Table 2. The highest possible score of this scale is 80 and the lowest score is 20. Patients one and four refused to fill out the SQOLS during the

Prehabilitation session. In the remaining results the second patient’s SQOLS remained the same, however, patient three showed an increase QOL in the 30-60 day Telehealth visit post-discharge.

Table 2

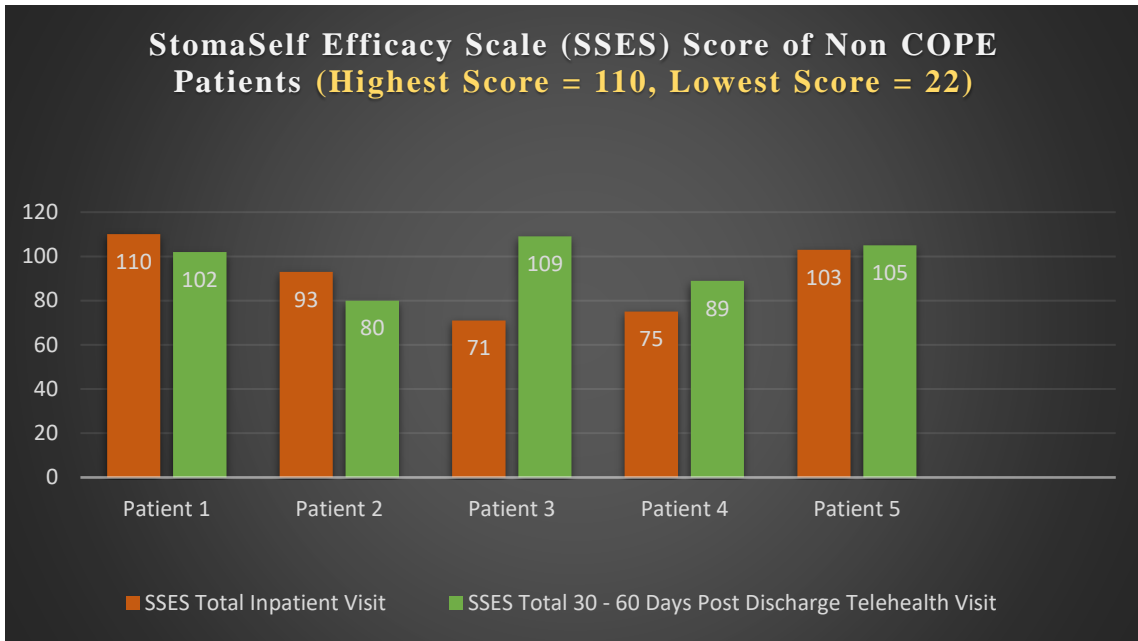
Quality of Living Score-COPE Patients



Reviewing this information for the non-COPE patients who only received the current inpatient hospital education sessions and the 30-60 days post discharge Telehealth visit, the SSES scores showed that two patients had decreased self-efficacy during 30–60-day post discharge Telehealth visit, while three of the patients had increased self-efficacy as noted in Table 3.

Table 3

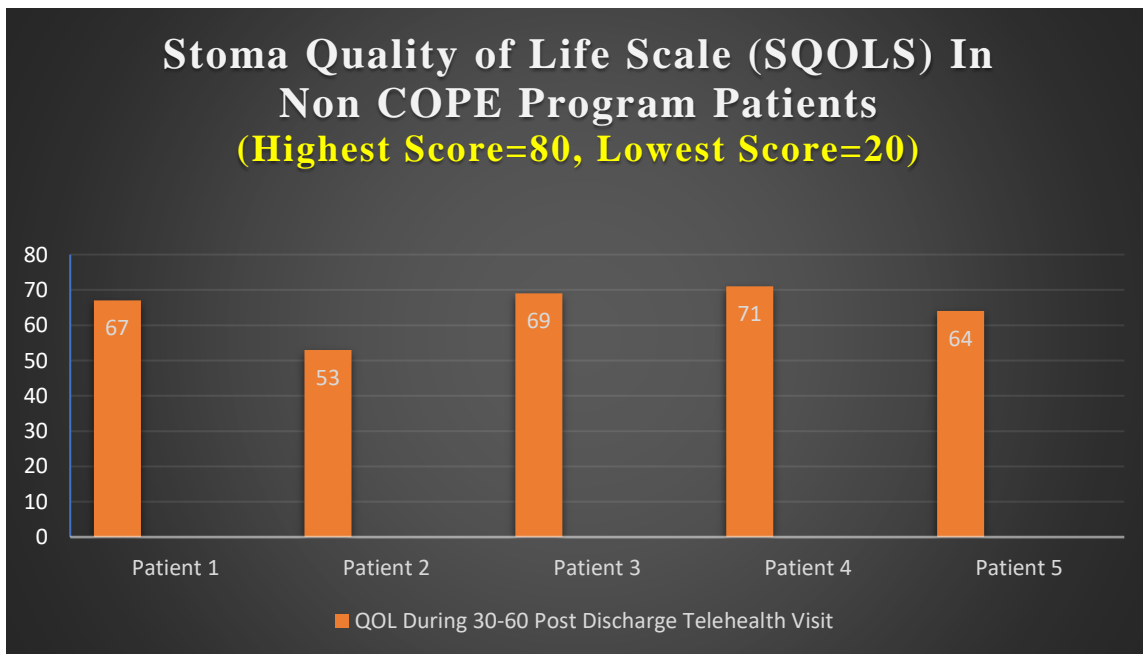
Stoma Self-Efficacy Score-Non-COPE Patients



The non-COPE patients only filled out the SQOLS during their 30-60 days post-discharge Telehealth visit and Table 4 shows their QOL. The highest possible score of this scale is 80 and the lowest score is 20. The range of their scores was 53-71.

Table 4

Stoma Quality of Life Scale Score-Non-COPE Patients



A comparison was made between COPE and non-COPE patients' SSES and SQOLS results at 30-60 days post-discharge Telehealth visit. Results show that COPE patients had less self-efficacy and QOL as compared to non-COPE patients as noted in Table 5. This may be due to the small number of patients involved in the COPE program and the inconsistencies in the data collection process.

Table 5

Comparison of SSES and SQOLS Between COPE and Non-COPE Patients

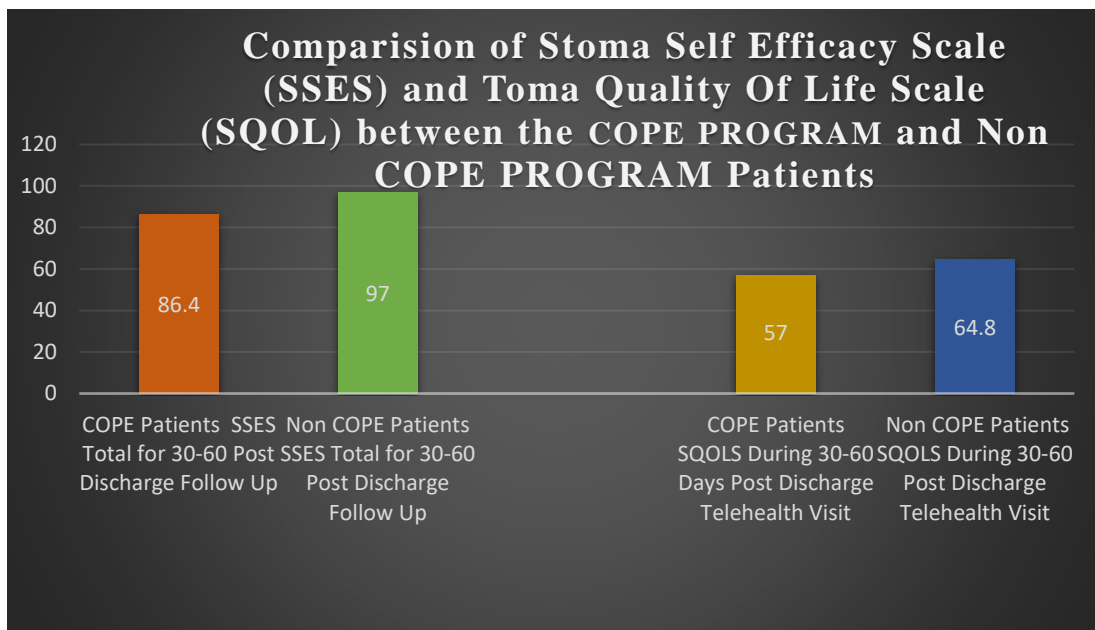
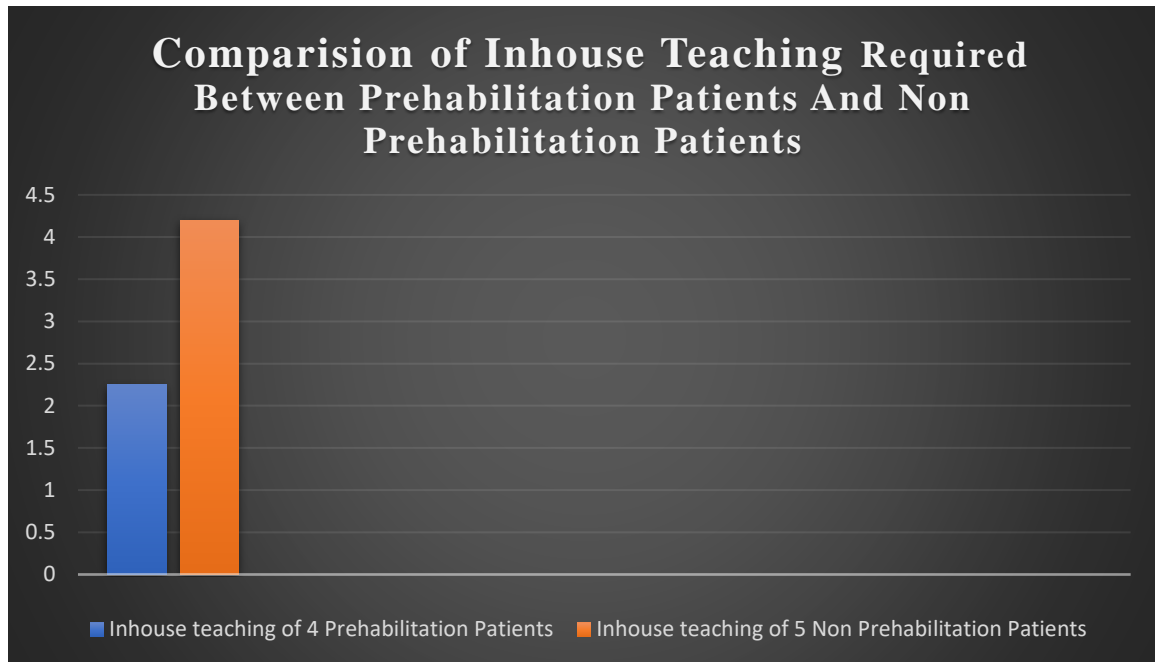


Table 6 shows the number of required in-house teaching sessions for patients who attended versus those who did not attend a Prehabilitation session. Results indicated that the COPE patients required less teaching, on average, compared to the non-Prehabilitation session patients; two sessions versus four sessions, respectively. During the intervention timeframe no ostomy complications from the COPE and non-COPE patients were reported. The only issues were related to ordering ostomy supplies.

Table 6

Comparison of Required Inhouse teaching Between COPE and Non-COPE Patients

While there was no measured collection done for qualitative data, some comments that the PM and the WOCNs received were favorable and helpful in understanding the overall performance of the program. A patient said, “How could anybody go through the surgery without having the Prehabilitation?” A patient also commented that sitting down and learning about ostomy ahead of time reduced their anxiety about the surgery. Most patients appreciated and thanked the nurses, considering the COPE program to be a valuable process. The WOCNs also acknowledged that patients who went through the Prehabilitation sessions appeared less anxious and did much better in their pouch changing.

An executive summary of the project was submitted and presented to the community hospital’s key stakeholders. The strengths and weaknesses of the pilot COPE program were identified, and recommendations for changes for improvement and sustainability of the program were shared.

Strengths and Weaknesses

There are at least four strengths that were identified in this QI Project:

- The COPE program is helping the organization adopt new evidence-based practices to improve the QOL and self-efficacy in ostomy patients.
- The COPE program is easy to replicate with minimal costs, but the impact on patients living with ostomies may show clinical significance.
- This QI project was enthusiastically supported by the WOC department. The hospital was also supportive of this initiative.
- The COPE program received a grant funded by a foundation affiliated with the hospital.

Smith (2018) encourages project managers and stakeholders to be honest about the limitations as they are common in every project. Acknowledging the limitation and resolving it can lead to a better outcome. There are a few weaknesses in the project that were identified and need to be addressed:

- Inconsistent data collections resulting in limited and incomplete data due to the limited orientation of the WOCNs on getting the SSES and SQOLS tools completed by the ostomy patients.
- Inconsistency in WOC processes followed by the WOCNs involving the ostomy patient's enrollment and following the COPE process which resulted in limited data available for analysis as only a few patients went through the planned process.
- Incomplete data from patients, as some refused to do the QOL questionnaire during prehab because they felt it was not applicable to them at this point.

- Inconsistency in enrollment due to the support from all surgeons performing the ostomies posed a barrier. Patients who did attend the Prehabilitation sessions were instructed to do so by their surgeon.
- One major limitation was the time lapse as the surgeon who does most ostomy surgeries was on medical leave which caused a decrease in the number of ostomy patients enrolled during the project time frame.

Morris et al. (2021) establishes that lack of time or time inconsistencies can have “a negative impact on the overall rigor of the project itself “(1007). Nevertheless, as it is a funded project, it will go for another six months, and those gaps can feasibly be overcome.

Interpretation and Sustainability

The COPE program adopted evidence-based practices, such as the Prehabilitation sessions, Telehealth visits, and utilization of SSES and SQOLS to improve the continuum of care for ostomy patients. Prehabilitation sessions helped in various ways, from addressing the patient’s social, emotional, financial, or sexual questions to the educational needs of a patient requiring an ostomy surgery. These sessions required the help of a WOCN to go through the educational materials and answer questions and concerns, to discern the need for additional patient resources, like joining a support group, etc. (Brock & Alagappan, 2021). Patients who are about to have stoma surgery go through psychosocial problems such as concerns over leakage, odor. The patients attending the Prehabilitation sessions commented on the value of these sessions and the support they provided as they prepared for their ostomy surgery. They also thanked the WOCNs for the information related to their ostomy surgery.

Koç et al. (2022) affirms that perioperative education can be an instrument in helping patients be acquainted with the process and learn efficacy with stoma care and be prepared to

cope with the changes it might bring. As noted in the results, the Prehabilitation group reached the self-care endpoint in less time, requiring less in-hospital education sessions. This may be a benefit of Prehabilitation to reduce the length of stay and the need for support after discharge” (Koç et al. 2022, p. 12).

Stoma site marking and attaching a stoma pouch helped the ostomy patients experience life with a stoma and its care (Koç et al. 2022). The results obtained in COPE program showed the importance and usefulness of Prehabilitation sessions. Even though the number of patients in the COPE program is small and the corresponding data from the SSES and the SQOLS tools are showing some clinical significance this may become more established with a larger number of patients as the COPE program continues.

According to Augestad et al. (2020) telecommunication is also a helpful way for follow-up with ostomy patients; it is cost-effective and can help nurses to provide better consultation especially to patients who have complications and require visual assessment. The experience of COPE patients was positive towards Telehealth visits and found it convenient. There were no complications noted by the WOCNs except for questions regarding how to order the supplies. The experience of COPE patients was positive towards Telehealth visits and found it convenient.

The COPE process also included the use of two reliable and validated scales to measure the QOL and self-efficacy of patients (Karacay et al., 2020; Prieto et al., 2005). These tools were useful, however some patients refused to fill it out during Prehabilitation Session saying, it made no sense to them to fill it before the surgery.

Cost Benefit Analysis

The approximate cost of the COPE program is \$19,950. It includes Prehabilitation patient educational costs of \$4,760, a patient experience cost of \$1,350, and follow-up Telehealth visit

costs of \$400. For the COPE Program's successful implementation, an additional 0.25 FTE is needed to fulfill the required 420 hours at the cost of \$13,440.

A cost-benefit analysis includes tangible items that can be quantified such as the average money spent on ostomy complications, readmissions to the hospital, planned consultation and travel expenses to outpatient clinics, etc. According to a study on ostomy patients by Taneja et al. (2017), they found that most complications occur in the first 90 days after surgery and the charges for healthcare over 120 days was approximately \$78,160 higher for those patients who developed complications compared to those who did not.

The expected intangible benefits are a decrease in the number of complications through earlier identification of them by the patients, improved self-efficacy, improved quality of life, and an increase in self-care.

The amount invested in the project is insignificant compared to the tangible and the intangibles costs and benefits that the COPE program offers. Therefore, this project can be beneficial for both the hospital and the ostomy patients utilizing the COPE program.

Recommendations

This QI program has completed the initial phase of the COPE program. Currently, the COPE program is in middle of its project implementation as it relates to the grant received from the foundation affiliated with the hospital. Areas of improvement have been identified with recommendations for the WOC department to consider as the COPE program moves forward. The recommendations are presented in three categories, data collection, COPE processes, and improved team coordination.

In the first category, data collection, there is a need to have an increase in the numbers of ostomy patients participating in the COPE program to be able to increase data on its clinical

impact with ostomy patients. An improved process of inviting patients to participate in the COPE program needs to occur with the ostomy surgeons and their surgical offices. Regular communication and reminders to the surgeons and a designated person in their surgical offices to direct patients to the WOC department would support enrollment efforts. Follow-up on referrals not being made to the COPE program would help identify missed patients and possible reasons as to why they were not referred or did not wish to attend the Prehabilitation session. It is also recommended that someone in the WOC department be responsible for keeping the data on all ostomy patients who call regarding complications, questions, or requiring assistance. Additionally, each COPE and non-COPE patients' data should be organized and kept in separate folders.

The second recommendation is related to COPE processes. Asking open-ended questions during the 30-60 days post discharge Telehealth visit would provide qualitative data that could be used to improve the program. For example, "Would you have wanted us to contact you sooner than 30 days?" It is also recommended that the SQOLS be done during the inpatient hospitalization for the stoma surgery instead of doing it during the Prehabilitation session. Finally, consider Telehealth Prehabilitation session(s) for patients living too far from the hospital or unable to attend a session due to their schedules.

Thirdly, have improved team coordination within the WOC department. The entire department needs to be oriented to the COPE program and meet regularly to plan, schedule and divide the tasks (Who will do prehab? Who will do telehealth? Who will do data keeping?). Also, there should be regular communication and debriefing within the WOC department and the WOCNs regarding the COPE program.

Morris et al. (2021) establishes that lack of time or time inconsistencies can have “a negative impact on the overall rigor of the project itself” (p.1007). Nevertheless, since this QI project receive funding, it will go for another six months, and these gaps can easily be overcome to evaluate the projects outcomes and benefits to their ostomy patients.

Conclusion

In conclusion the outcomes of this pilot COPE program is helping the WOC department discern and adopt evidence-based practices to improve the self-efficacy and QOL in their ostomy patients with the addition of the Prehabilitation sessions and post-discharge Telehealth visit. The overall results are promising and show improvement in the self-efficacy with ostomy patients managing their ostomy care and maintaining or improving their QOL. Given the small number of ostomy patients participating in this pilot QI project, additional ostomy patients need to be enrolled in the COPE program to provide further data needed to determine its clinical impact and provide opportunities for changes if needed in order to be consistent with best practices in this area. The COPE program is extended to all ostomy patients at this hospital and could be implemented in other hospitals in their healthcare system, locally and nationally. The WOC department would willingly serve as a resource to assist these other facilities in improving their continuum of care by implementing their COPE program. If the COPE program is successful over the remaining grant period, the hospital management is agreeable to sustaining the program by incorporating the additional costs into the WOC department’s budget, thus ensuring long-term sustainability of the COPE program and its efforts to improve ostomy patients’ outcomes, self-efficacy, and quality of life.

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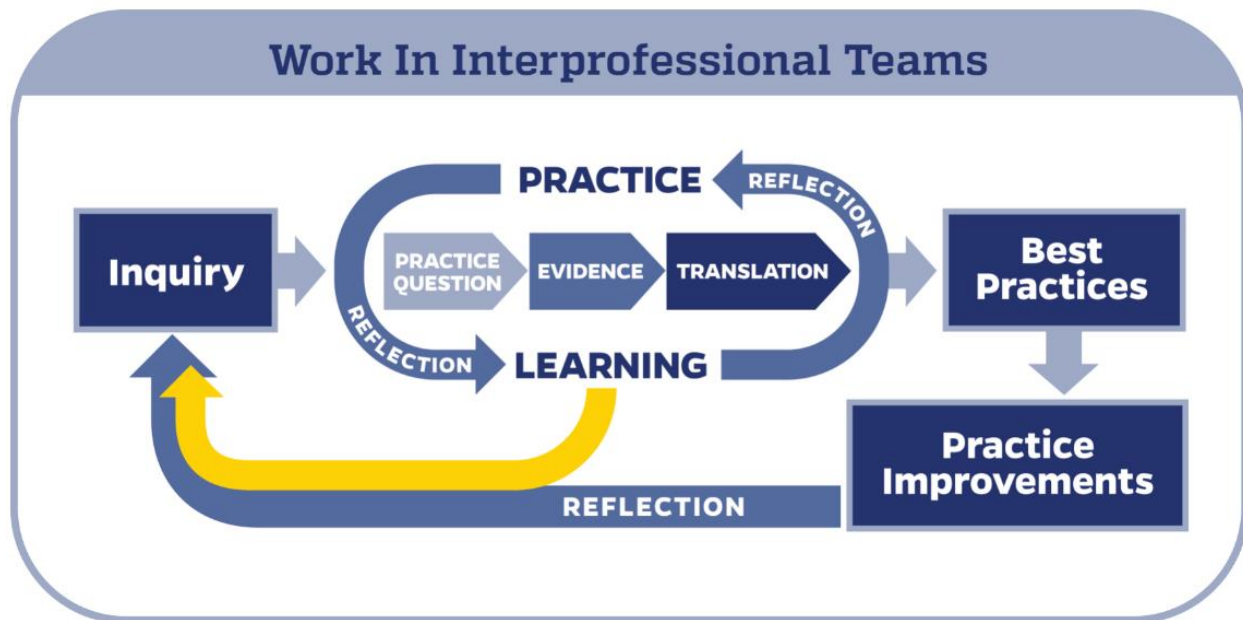
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Appendix A

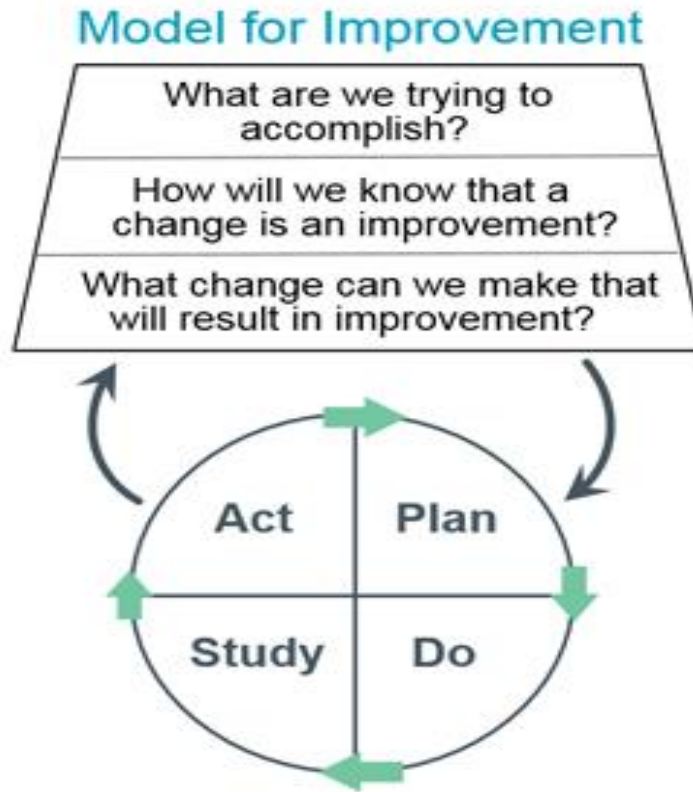
Johns Hopkins Evidence-Based Practice Model



Note: Dang, D., Dearholt, S. L., Bissett, K., Ascenzi, J., & Whalen, M. (2022). Johns Hopkins Evidence-Based Practice for Nurses and Healthcare Professionals, Fourth Edition: Vol. Fourth edition. Sigma.

Appendix B

Plan-Do-Study-Act Model

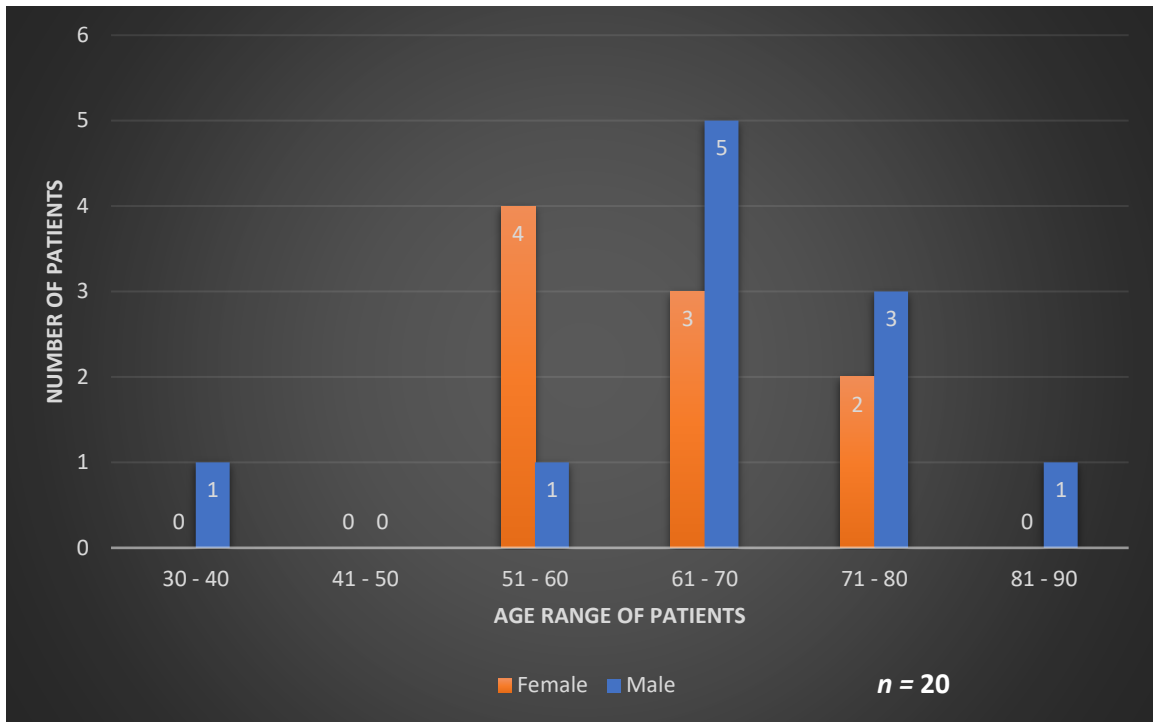


Notes: Institute for Healthcare Improvement. (2021). *Changes for improvement*. <https://www.ihl.org/resources/Pages/Changes/default.aspx>

Appendix C

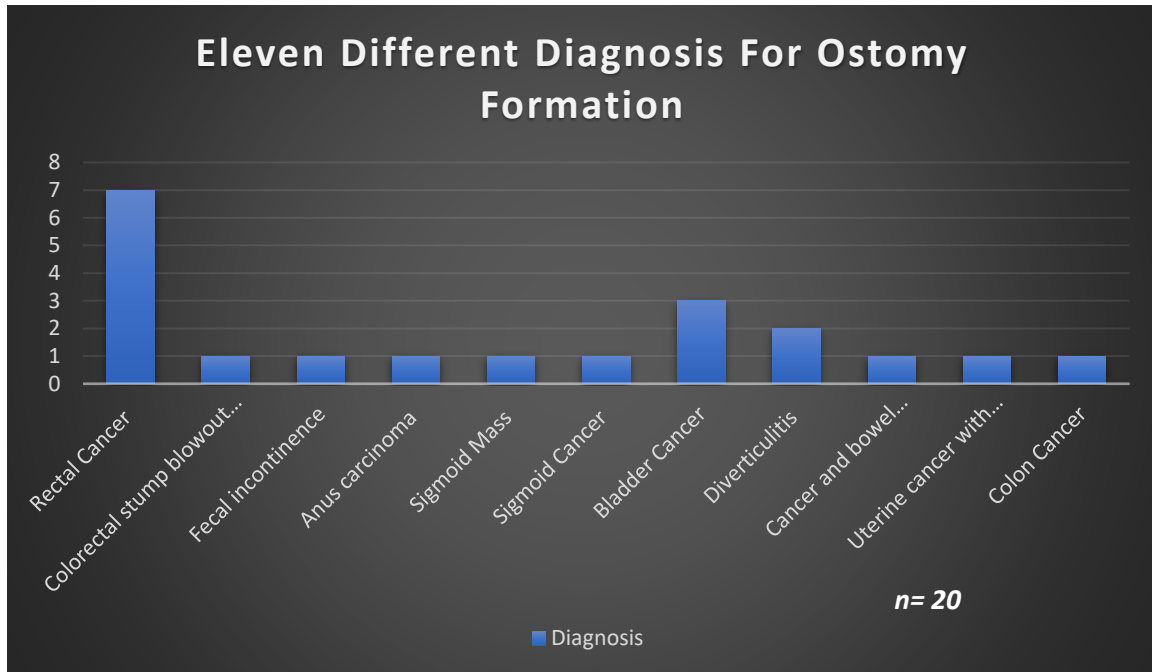
COPE PROGRAM PROCESS
<p>The patients who need ostomy surgery will be referred by their surgeon to attend a Prehab session before surgery to the WOCN team.</p>
<p>1. PREHABILITATION SESSION</p> <p>When the patient comes for Prehabilitation Session, the session will include: stoma site marking, pouching system management, education/practice will be provided, patient will be asked to wear the pouching system for up to 24 – 48 hours.</p> <p>Before they leave the session, a knowledge evaluation will be done based on the education provided. A session evaluation will be performed by the patients to determine if the session is valuable and if they have any recommendations. Also, they will fill out Stoma Self-Efficacy tool (SSESS) and Stoma Quality of Life Scale (SQOLS) tool to measure self-efficacy and QOL</p>
<p>2. FIRST TELEHEALTH VISIT</p> <p>- After 24-48 hours of the Prehabilitation session, the first telehealth visit will be done to assess the stoma site compatibility and ensure it does not interfere with patient's daily life activities, clothing, and job.</p> <p>-Pouching system will be assessed for any adherence or leakage issues. Also, how competent the patient is in using the technology during telehealth visits will be assessed.</p>
<p>3. DURING SURGERY</p> <p>Patient will come to the hospital for the surgery.</p> <p>During this time: Complete, evidence-based education related to ostomy management will be provided to the patient which includes pouching system changes, dietary & fluid considerations, review of the community hospital patient education booklet, recognition of early signs/symptoms of complications. Patient will fill out SSES before discharge</p>
<p>4. POST SURGICAL FOLLOW UP</p> <p>After 30-60 days of discharge from the hospital, a post-operative follow-up telehealth visit will be performed to assess: the pouching system issues/leakage, patient competency in pouch change, the skin around the stoma for signs of complications, early identification, and resolution of any issues to prevent further complications.</p> <p>During this time, SSES and SQOLS tools will be filled to measure Self-Efficacy and QOL.</p>

Appendix D Age Range of Patients



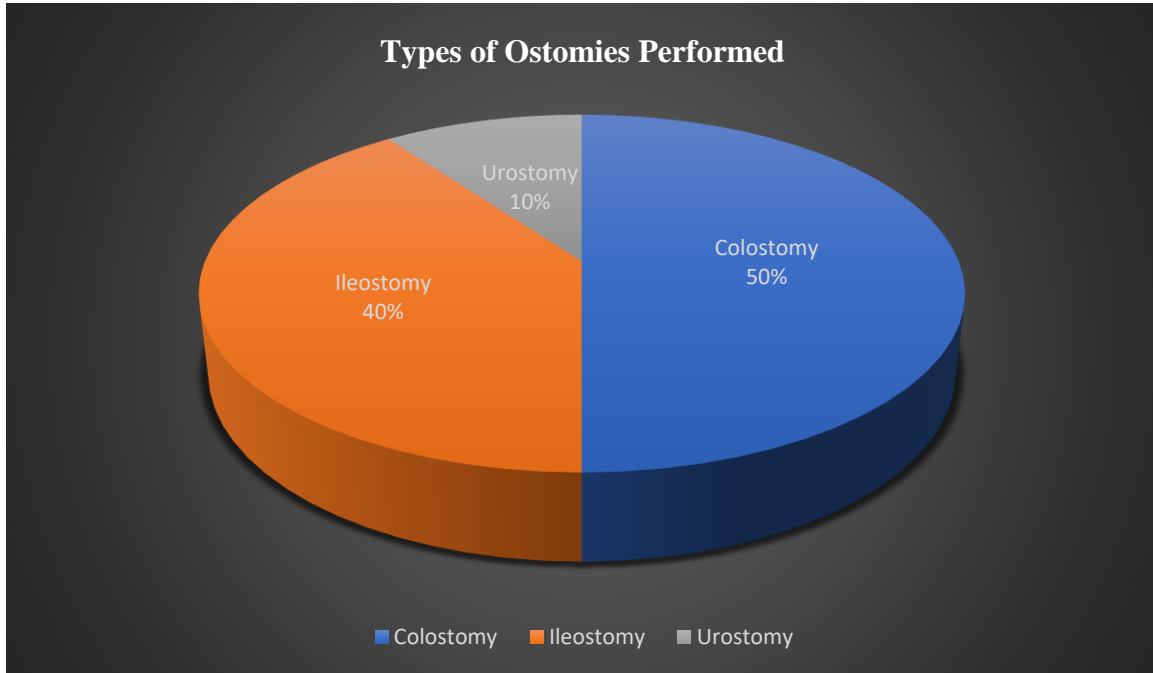
Appendix E

Diagnosis Categories for Ostomy Patients



Appendix F

Types of Ostomies Performed



Appendix G

Reasons for Attending or Not Attending a Prehabilitation Session

