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Benefits of Early Ambulation: A Literature Review

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Abstract

The purpose of this literature review is to examine the benefits of early ambulation and the barriers that prevent early ambulation. Additionally, the literature was reviewed to determine the nursing implications related to early ambulation. Early ambulation is a technique that is used postoperatively to engage a patient in mild to moderate physical activity (Early Ambulation, n.d.). All articles were gathered using the Cumulative Index to Nursing and Allied Health Literature (CINAHL) Complete database. Seven articles were selected based on the following criteria: written in English, peer reviewed articles, and published within the last five years. The review of literature showed that early ambulation leads to shorter hospital stays, lower hospital costs, and fewer postoperative complications. In addition, strategies to overcome the barriers associated with early ambulation were highlighted. Successful implementation of ambulation programs starts with the nursing staff. Nurses are required to educate patients on ambulation, collaborate with other health care professionals, and implement ambulation protocols.
The Benefits of Early Ambulation: A Literature Review

Early ambulation is a technique that is used postoperatively to engage a patient in mild to moderate physical activity (Early Ambulation, n.d.). Ambulation programs are meant to be progressive, starting with sitting in a chair and advancing to walking throughout the halls. There are several benefits associated with early ambulation. These benefits will be discussed in detail further in the paper. Nurses play a key role when implementing early ambulation programs. It is their responsibility to educate patients on the expected benefits, collaborate with various members of the patient’s health care team, and implement ambulation programs and protocols.

Literature Review

A total of seven articles were selected using the CINAHL Complete database. The key words used to find these articles were early ambulation, post-operative, mobility, benefits, nursing implications, and barriers. The articles were reviewed in full and selected based on the following criteria: written in English, peer reviewed articles, and published within the last five years. The selected articles focused on the benefits of early ambulation and the barriers preventing early ambulation from taking place.

Dewitt, Coto, Carr, Ondrey, & Petkunas (2019) conducted a quality improvement project utilizing an ambulation program. The researchers developed a mobility program that would be utilized on a medical-surgical unit. Prior to implementing the program, members of the research team educated patients on the benefits of early ambulation and the risk associated with immobility. Patients in the study were constantly reassessed by researchers to determine any changes in their functional level or additional need for ambulation aids. The results of this quality improvement project showed that when nurses followed the mobility program, the
average length of hospital stay decreased (Dewitt et al., 2019). The mean length of stay for a patient in the ambulation program was 3.352 days, compared to 3.9 days for the control group (Dewitt et al., 2019). Researchers also found that patients who participated in the ambulation program were discharged to a lower level of care or the same level of care (Dewitt et al., 2019). None of the patients involved in the program needed additional care upon discharge (Dewitt et al., 2019). This quality improvement study also suggested that designing and implementing ambulation protocols is an effective way to increase patient and staff compliance (Dewitt et al., 2019).

A study conducted by Stethen et al. (2017) developed a team responsible for ambulating patients three times a day. The ambulation team was made up of unlicensed personnel who received training in ambulation, safety, and fall prevention. The team’s primary task was ambulating postoperative patients and recording their results. Specifically, the team recorded the patient’s compliance with the program and the length of ambulation. The researchers found that participating in ambulation significantly decreased a patient’s time in hospital. Patients who ambulated with the team three times a day decreased their hospital stay by a total of 72 hours (Stethen et al., 2017). When a postoperative patient missed a full day of ambulation, their time in the hospital increased from 78.5 hours to 134.4 hours (Stethen et al., 2017). This increase in hours translates to over two additional days in the hospital. These researchers found success in the implementation of an ambulation team.

In order to increase ambulation and decrease falls, Lipsett & White (2019) conducted a quality improvement project on an orthopedic floor. Ambulation cards were created in order to reflect the patient’s current mobility level. The nurses, physical therapists, and occupational therapists were responsible for updating the cards with the appropriate mobility level for each
patient. Lipsett & White (2019) created a pre-implementation survey to assess the nurse’s current comfort level and compliance with ambulating patients on the unit. 19.35% of nurses on the unit responded that they were very comfortable ambulating other nurses’ patients (Lipsett & White, 2019). After implementing the ambulation cards, 30.00% of nurses responded that they felt very comfortable ambulating other nurses’ patients (Lipsett & White, 2019). When asked if the ambulation cards have helped increase comfort, 65.52% of nurses responded with ‘yes’ (Lipsett & White, 2019). The results of this quality improvement project highlight the impact that nurses can have on a patient’s safety and mobility.

Mayor, Khandhar, Chandy, & Fernando (2018) implemented an ambulation protocol called the Thoracic-Early Recovery with Ambulation After Surgery (T-ERAAS). This protocol focused on implementing an ambulation program that started before surgery in the outpatient setting and continued postoperatively. The researchers found that when the program was started in the outpatient setting, patients had more success. In the outpatient setting, patients were required to ambulate three times a day for at least 20 minutes at a time. The program then continued when the patient arrived to the post anesthesia care unit (PACU). At this time, it was expected that patients ambulate at least 250 feet within the first hour on the unit. After the PACU, patients were transferred to the stepdown unit. Here, they were expected to complete a total of ten laps around the unit. Each following day, patients were expected to ambulate a total of 20 laps, which is estimated to be 5,000 feet. Mayor, et al. (2018) found several benefits when implementing the T-ERAAS protocol. They found that ambulation helped thin oral secretions, which decreases the risk for developing postoperative pneumonia. Patients who followed the T-ERAAS protocol decreased their chance of acquiring pneumonia postoperatively by 5.3% (Mayor et al., 2018). It was also found that ambulation decreases the incidence of deep vein
thrombosis and pulmonary emboli, improves pain, and minimizes the risk for cardiac arrhythmias (Mayor et al., 2018). Overall, these benefits facilitate a faster recovery after surgery.

Researchers Anderson, Sparbel, Barr, Doerschug, & Corbridge (2018) recognized several negative consequences that impact a patient in the intensive care unit (ICU). In order to improve patient outcomes, they implemented an early mobility program for the ICU. Anderson et al. (2018) created a two-part quality improvement project; part one evaluated the staff members and part two evaluated the patients. For part one, staff members in the ICU were educated about the early ambulation program and were given a pre-invention survey to complete. The second half of the quality improvement program focused on the data collected for each patient. First, data was collected on the time it took patients to achieve their mobility goal. This data was determined by using the time of ICU admission to the time when the nurse and physical therapist documented that a patient achieve their goal. Before implementing the mobility program, it took patients an average of 116.32 hours to reach their mobility goal (Anderson et al., 2018). After implementation of the program, patients were able to achieve their mobility goal in 86.70 hours on average (Anderson et al., 2018). Next, Anderson et al. (2018) collected data on the average hours each patient spent in the ICU. The researchers found that the average time spent in the ICU decreased by a total of 56.59 hours when the mobility program was implemented (Anderson et al., 2018). Researchers found that this decrease in time spent in the ICU translated to a decrease in health care costs. When patients in the ICU participated in the mobility program, total hospital costs decreased by 39.2% (Anderson et al., 2018).

Dubb et al. (2016) synthesized research about the barriers to early ambulation and strategies to overcome them. Of the barriers identified, 50% of them were patient related (Dubb
et al., 2016). From the research, hemodynamic instability was the most common patient related barrier (Dubb et al., 2016). Next, the researchers identified structural barriers. 70% of the studies identified several structural barriers to early ambulation (Dubb et al., 2016). Structural barriers included limited staff, limited equipment, inadequate training, and lack of an early ambulation program (Dubb et al., 2016). The researchers also identified ICU culture related barriers. In 60% of the studies, barriers such as low staff morale, lack of support from staff, and lack of knowledge were identified (Dubb et al., 2016). Lastly, Dubb et al. (2016) identified barriers related to the process of care. For example, these barriers included lack of coordination, lack of planning, and unclear staff and patient expectations (Dubb et al., 2016). The strategies to overcoming these barriers will be discussed in detail further in the paper.

Miwa et al. (2017) conducted a study on the implementation of “ambulation orderlies” (AOs). AOs are staff members solely responsible for ambulating patients. They created these AOs after noticing that 73% of patients who were able to walk did not ambulate within the first three hours after surgery (Miwa et al., 2017). The results of the study showed that implementing AOs had a large impact on the postoperative length of stay. On average, each patient ambulated a total of 5.9 times during their postoperative hospital stay (Miwa et al., 2017). The mean length of stay before implementing AOs was 10 days (Miwa et al., 2017). Comparatively, when AOs were implemented, the mean length of stay was 8.7 days (Miwa et al., 2017).

Discussion

Barriers

This literature review revealed several studies that focused on the barriers that can prevent early ambulation. Dubb et al. (2016) described multiple barriers when implementing early ambulation programs. These included patient related barriers, structural barriers, ICU
culture related barriers, and process related barriers. In order to overcome these barriers, Dubb et al. (2016) came up with strategies to be utilized by healthcare professionals. For example, a patient related barrier that can prevent early ambulation is pain. To overcome this barrier, Dubb et al. (2016) suggested that nurses frequently assess and screen for pain and that pain medication be provided before ambulation. Another common patient related barrier is lack of motivation or patient refusal. The key to overcoming this barrier is to educate patients about the risks of immobilization, encourage the patient to participate in early ambulation, and involve the patient in their care (Dubb et al., 2016). Structural barriers are caused by the staff members responsible for ambulating patients. A common structural barrier nurses face is lack of time. Dubb et al. (2016) recommended that organizations hire additional physical therapists, occupational therapists, and technicians. As seen in many quality improvement projects, an additional option would be to employ an independent ambulation team of AOs. ICU culture related barriers focus on the lack of support or education of staff and family members. In order to overcome this barrier, hospitals need to educate staff and patients about the benefits of early ambulation (Dubb et al., 2016). Lastly, Dubb et al. (2016) identified process related barriers that stem from a lack of coordination or unclear expectations. To decrease the incidence these barriers, Dubb et al. (2016) stated that collaboration and communication among health care providers is key. In order for future research to be conducted, the barriers to early ambulation must first be understood.

**Recommendations**

A large number of the articles discussed the nursing implications related to early ambulation. Three common implications emerged from the studies: education for staff and patients, collaboration between health care professionals, and implementation of quality improvement projects. First, it is important to educate staff members on the benefits of early
ambulation and the risks of immobility. It is vital that nurses understand the importance of early ambulation and the potential impact it can have on patients. Once nurses have acquired this knowledge, they are able to pass it on to their patients. Key stakeholders of early ambulation programs are the patients involved. In order for the patients to adhere to ambulation programs, they must receive the proper education. It is the nurse’s job to explain the benefits of early ambulation to each patient. Next, nurses must educate patients on how to safety ambulate and how to use ambulation aids, if necessary. Finally, nurses must educate the patient’s family on early ambulation. Family members can provide the support and encouragement needed in order to facilitate recovery.

During the education process, it is also important that the nurses receive information about collaborating with health care professionals. After a surgical procedure, patients will have a wide variety of health care professionals on their care team. It is essential that nurses communicate effectively with other members of the health care team. During recovery, the mobility status of a patient may vary day to day. Collaboration between the nurses, physical therapists, and occupational therapists will ensure that the patient remains safe when ambulating. In addition, it is the nurse’s responsibility to collaborate with the patient and their family. As a nurse, it is important to treat patients autonomously. This means that their thoughts and opinions are incorporated in the plan of care. Patients are more likely to adhere to an ambulation program if they are engaged in their care.

Lastly, nurses have the potential to impact early ambulation programs by developing quality improvement projects. Several of the articles reviewed discussed nurse-driven quality improvement projects. When nurses notice that an early ambulation protocol is lacking, it is their responsibility to implement a change. Nurses must be prepared to work with other members of
the health care team in order to create a quality improvement project. Once a mobility program is created, then nurses must implement the program. During implementation, nurses must constantly reassess their program to determine its’ effectiveness. All of the implications mentioned require skilled, dedicated nursing staff.
References


