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Using Text Messaging to Decrease Opioid Use After Hip and Knee Replacement

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Using Text Messages to Decrease Opioid Use After Hip and Knee Arthroplasty

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Abstract

The development of pneumonia following surgery is a preventable complication. The need for opioid medications after total joint replacement surgery is necessary for a favorable recovery and optimal functional outcomes. The purpose of this study was to evaluate if sending interval text messages to your replacement patients after discharge would help them discontinue opioid medications sooner. One hundred and thirty-five patients participated in a quasi-experimental study only study to compare the effectiveness of text messaging on opioid use in patients undergoing total knee and total hip arthroplasty. The text for the Difference of Two Proportions was used to evaluate the outcomes of the study. The findings were that patients who received the text messages in the experimental group stopped using opioid medications sooner than those patients in the control group at the 30-day and 60-day postoperative interval. The two were no significant differences found at 90 days after surgery between the two groups. Utilization of text messaging platforms can improve the tapering and cessation of opioid medications in the early postoperative period in patients undergoing total hip and total knee arthroplasty. This project can be used as support for clinicians considering engaging patients through technology to improve postoperative outcomes.

Methods

The project was completed in a 300 bed community hospital in Sedalia, Missouri.

Control Group (N=60) Experimental Group (N=60)

Mean Age [yr] 65.0 66.5

Sex Female 32 41

Male 36 29

Procedure Total Hip 25 20

Total Knee 34 49

Theory of Planned Behavior

Attitude - How does the patient feel about opiate medications?

Subjective Norm - What do other people in the patient circle feel about opioid medications?

Perceived Behavioral Control - How confident is the patient that they can manage their pain without the use of opioid medications?

Intention - Patient adoption of multimodal pain plans

Behavior - Patient tapering and discontinuing opioid medications

Procedure

Patients were asked to participate in the project when they attended the preoperative Joint Class. They were placed in two groups, experimental and control.

Patients in the experimental group were sent text messages on Day 1, 3, 5, 9, 14, 20, 30, and 60 days after discharge that consisted of empathetic instructions about postoperative care but focused on tapering and stopping opioid medications.

Follow up phone calls were made to patients in both the control and experimental groups at 30, 60 and 90 days to determine if opioids were still being used by the patient.

Examples of Text Messages

Day 1 – “Welcome Home!” While you are glad to be home in your own surroundings and out of the hospital you may notice that your discomfort is greater than it was in the hospital. This may even be the first time that you have felt any pain. Do not let this alarm you. The numbing medications or “blocks” that were placed in your joint during surgery are now wearing off. It is important that you take the medications that were prescribed to you exactly as stated in your discharge instructions and keep on a regular time schedule. Also use your ice packs! Keeping your pain under control will help you be able to do the exercises that you were taught in Joint Camp.”

Day 5 – “It’s been one week since your surgery. You may be noticing some changes in the appearance of your hip or knee. There may be swelling that was not visible immediately after surgery. This is normal. Try spacing out your opioid medications to 8 hour intervals starting today. Remember to continue taking your Tylenol 1000 mg every eight hours. Your goal is to start decreasing your opioid medication and not to request another refill. Your ice and elevation is still important. You can do this!”

Day 5 – “It’s been one week since your surgery. You may be noticing some changes in the appearance of your hip or knee. There may be swelling that was not visible immediately after surgery. This is normal. Try spacing out your opioid medications to 8 hour intervals starting today. Remember to continue taking your Tylenol 1000 mg every eight hours. Your goal is to start decreasing your opioid medication and not to request another refill. Your ice and elevation is still important. You can do this!”

Findings

The findings were that the patients in the experimental group stopped taking opioid medications earlier than patients in the control group at the 30-day interval (p<0.001) and the 60-day interval (p<0.05). As the 90-day interval was not a significant difference between the experimental and control group (p<0.0885).

Conclusion

The opioid crisis is taking 1/5 lives every day in our country. While surgery is a risk for developing perioperative opioid use disorder, it is a preventable complication. Engaging patients through a widely adopted technology may serve as a tool in combating the opioid crisis and saving lives.

References


Acknowledgement

This project was supported by Nanticoke Health System administration, healthcare providers and staff.

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Preventive Care and Safety

Opportunities to Prevent opioid use

• Avoid the use of opioids for management of mild to moderate pain
• Use multimodal pain management strategies

Implementation of the Plan

• Patient education
• Communication
• Assessment

Monitoring

• Pharmacological
• Vital Signs
• Pain Intensity
• Function

Conclusion

The opioid crisis is taking 1/5 lives every day in our country. While surgery is a risk for developing perioperative opioid use disorder, it is a preventable complication. Engaging patients through a widely adopted technology may serve as a tool in combating the opioid crisis and saving lives.

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