

Research Proposal Flow-chart

Justification



Flow-chart



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Why to do this research and why now?

What **gaps in knowledge** will be addressed?

Who will be **benefit** from the research?

Overview of research

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Original Research

EVALUATION OF THE OPTIMAL POSITIONING OF SUBCUTANEOUS BUTTERFLY WHEN ADMINISTERING INJECTABLE OPIOIDS IN CANCER PATIENTS

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Abstract

Background and aims. The increasing number of cancer patients, together with the development of new palliative care services in Romania, warrants the evaluation of nursing strategies meant to improve the level of comfort of patients who are suffering from advanced cancer.

The main objective of the study was to evaluate the optimal positioning of the subcutaneous (sc) butterfly, in accordance with its resistance in the insertion tissue, the local complications that may occur, and the evaluation of the time of resistance at the insertion site (puncture) with the daily frequency of injectable opioid administration.

Methods. A prospective experimental pilot study was designed and conducted between January and May 2011. Patients admitted to the Hospice Casa Sperantei (Brasov, Romania) with moderate or severe cancer pain, who were receiving subcutaneously opioids, over the age of 18, with normal body index ranging from 18.5 – 22.0, were assigned randomly to one of two groups, after signing the informed consent. In group one, the butterfly was positioned with the needle bevel up – this was considered to be the control group as this modality of inserting the needle is considered standard practice; in group two the butterfly was positioned with the needle bevel down – experimental group. The drugs used for pain relief were sc tramadol for moderate pain and sc morphine for severe pain.

Results. Our research supported the hypothesis that the occurrence of local complications coincides with the decrease of sc butterfly resistance in time at the place of insertion, and the sc butterfly has a higher rate of resistance in time at the insertion site if the frequency of injectable opioids administration is lower (twice per day).

Conclusion. The positioning of the butterflies with the bevel down (experimental group) is associated with a longer resistance in time at the site of insertion, and causes fewer local complications compared to the sc butterflies positioned with the bevel up (control group).

Keywords: subcutaneous butterfly, needle bevel positioning, cancer, opioids

Methods

A prospective experimental pilot study was designed. Patients admitted to the Hospice Casa Sperantei with moderate or severe cancer pain and who were receiving subcutaneously opioids, over the age of 18, with normal body index ranging from 18.5-22.0, were assigned randomly, after signing the informed consent, to one of two groups. In group one, the butterfly was positioned with the needle bevel up – this was considered to be the control group as this modality of inserting the needle is considered standard practice [10,11,12,13]; in group two the butterfly was positioned with the needle bevel down - experimental group. The drugs used for pain relief were sc tramadol for moderate pain and sc Morphine for severe pain.

Data from patients were collected between January and May 2011, in a sample of 100 adult cancer patients. The study was approved by the hospice's ethics committee. Correlations between the frequency of administration of opioids and the occurrence of local complications, and between the occurrence of local complications and the time of resistance of the subcutaneous butterfly at the insertion site, were established.

The hypothesis is that there is a significant positive relation between the frequency of injectable opioid administration and the occurrence of local complications, respectively a negative relation between the occurrence of complications and the time of resistance of the subcutaneous butterfly at the insertion place. In addition, we wanted to establish which of the two butterfly insertion positions (butterfly with the needle bevel up or down) had a longer time of resistance at the insertion site with respect to incidence of complications.

The data collected has been analyzed with SPSS 11.

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Table VI. Distribution of patients that presented local complications in relation to the type of complication.

Type of local complication	INDURATION	REDNESS	BLEEDING	TOTAL
• Whole sample	29 (56%)	17 (33%)	6 (11%)	52 (100%)
• Control group	20	15	5	40
• Study group	9	2	1	12

Who will be **benefit** from the research?

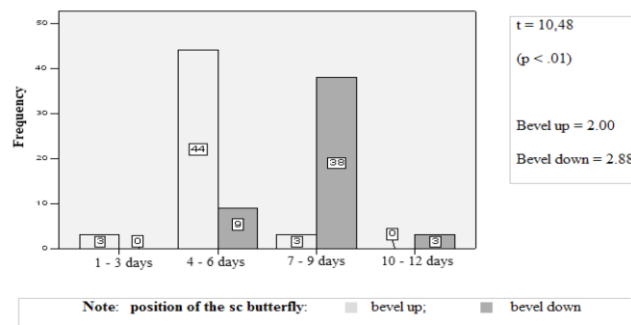


Figure 1. Differences in the sc butterfly resistance at the place of insertion according to the way of positioning the needle bevel – up or down.

Who will be **benefit** from the research?

This is a confirmation that administration of pain medication via subcutaneously butterfly by family members is safe practice.

Conclusion

Practical research studies are needed to examine and improve current nursing techniques and strategies that are employed in everyday clinical practice. The article challenges the standard nursing practice regarding the insertion of the subcutaneous butterfly with the bevel up. According to our findings the position of the needle with the bevel down ensures a better resistance of the subcutaneous butterfly and fewer side effects. The results of this pilot study need to be proved in a larger study and with better observation given to potential limitation factors such as the number of administrations, types of drugs, nutrition status of the patient, and experience of the nurses performing the procedure.

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