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## Effect of deep breathing technique on anxiety, pain and vital signs in patients undergoing bone marrow aspiration - A randomized clinical trial

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**Introduction:** Bone Marrow Aspiration (BMA) is one of the methods for diagnosis and treatment of various diseases, that now day it is widely use in regenerative medicine. Although this procedure in adults is usually performed by using local anesthesia, it is associated with anxiety and pain. The purpose of this study is to research into the effect of Deep Breathing Technique (DBT) on patients who have undergone BMA for appeasement of pain and reduction of anxiety.

**Method:** This study was a parallel randomized clinical trial. 60 patients who underwent BMA were randomly divided into two groups. Intervention group received DBT training and control group did not go through any training program. To measure the scope of anxiety and severity of pain, Spielberger State Anxiety Inventory (SAI) and Visual Analogue Scale (VAS) were used respectively. The anxiety before and pain after BMA, were evaluated in two groups.

**Result:** Comparison of anxiety and pain variables in study groups revealed that the mean score of anxiety and VAS average in the intervention group have been lower than that of the control group and this difference was significant ( $P = 0.018$  and  $P < 0.001$  respectively). Comparison of vital signs before and after DBT showed reduced the vital signs after intervention. However, no significant change was observed in control group.

**Conclusion:** DBT is an effective technique to reduce anxiety and relieve pain in BMA candidate. Nurses need to be aware anxiety and pain procedures during BMA.

### Biography

Seyedeh Esmat Hosseini is an MSc student of critical care nursing from Shahid Sadoughi University of Medical Sciences. She is a researcher in Royan Institute and reviewer of *Client Care Journal*. She has published more than 7 papers in reputed journals. She has been working as supervisor nursery in stem cell therapy and regenerative medicine in Royan Institute for several years and chosen as the model nurse in Royan Institute. She has made speeches in some international congresses in foreign country such as Malaysia and Istanbul.

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