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## Effect of nursing education on anxiety and pain in patients undergoing stem cell therapy - a randomized clinical trial.

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Bone marrow aspiration (BMA) is one of the methods for diagnosis and treatment of various diseases, that now a days, it is widely used 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 was to research into the effect of Deep Breathing Technique (DBT) on patients who have undergone BMA for appeasement of pain and reduction of anxiety. This study was a parallel randomized clinical trial. Sixty (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 BMA and pain after BMA were evaluated in the two groups. 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. 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.