

# Stress In Patients Undergoing Heart Surgery In Relation To Blood Glucose Levels

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**Background:** The pre-operative stress causes the release of cortisol, which is characterized as a stress hormone. Increase of cortisol, in patients undergoing heart surgery, leads to the raise of blood glucose levels. Generally, stress and anxiety in hospitalized patients with heart diseases are associating to high blood glucose levels.

**Aim:** The aim of the current study was to investigate how stress affects the increase of blood glucose levels in patients undergoing heart surgery.

**Method :** Literature review carried out in databases PubMed and Scopus with key words: patients, stress hormone, hyperglycemia, high blood glucose levels, cardiac surgery, heart disease. The review included studies from January 2010 to June 2020 published in English. The inclusion criteria in review were: a) the study population concluded patients undergoing cardiac surgery, b) the outcome was the increase of blood glucose levels, c) the determinant was the stress in patients undergoing heart surgery, d) the studies published in English and e) the studies concerned only quantitative research.

**Results:** The current review has identified that cardiac surgery induces a significant hyper-metabolic stress in patients, resulting in hyperglycemia during the pre or post-operative period. Induced stress in patients who are undergoing surgery, results in high levels of blood glucose. Stress in patients undergoing surgery for heart diseases, either pre-operative or post-operative is evaluated through many scales such as “Stait-trait anxiety inventory (STAI)”, “Hospital Anxiety and Depression Scale (HADS)”, “Depression Anxiety Stress Scales (DASS)”, etc.

**Conclusion:** It is of great importance, nurses to evaluate pre or post-operative stress in patients undergoing heart surgery through stress scales, in order to prevent possible high blood glucose levels. Moreover, further clinical trials should investigate if specific intervention program for preventing pre or post-operative stress would be capable to avoid hyperglycemia.