

Physiological;psychological and autonomic responses to pre-operative instructions for patients undergoing cardiac surgery.

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Abstract

Several studies have reported that the experience may induce emotional reactions before and after surgery. Various Studies have demonstrated that effective pre-operative information reduces stress and anxiety levels. However, little is known about the effect of pre-operative instruction on autonomic responses as measured by heart rate variability (HRV) before cardiac surgery. Ninety-one patients were randomly assigned to video-tape viewing and teaching booklet group. Electrocardiogram was monitored before and after pre-operative instruction. HRV was analyzed with spectral analysis of frequency domains of heart rate and categorized into low and high frequency (LF and HF). After pre-operative instruction, subjects completed a score of perceived stress and helpfulness. In this study, we found that pre-operative instruction with video-tape was similarly effective as teaching booklets on patients' perceived stress, perceived helpfulness and recovery outcomes. The decrease in HF% and increase in LF/HF ratio of HRV indicate a change in sympathovagal balance toward a lower parasympathetic activity after pre-operative instruction in subjects of both groups. However, the perceived helpfulness of pre-operative instruction may often be associated with a relatively less sympathetic activity. Further studies are needed to determine the optimal timing to enhance the positive effects on the sympathovagal balance after pre-operative instruction.