

## Relationship of Spirituality with Morbidity and Mortality in Patients with Coronary Artery Disease undergoing CABG Surgery at Shariati Hospital

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### Abstract

**Background and Objective:** Coronary artery disease is the leading cause of death in most countries. Although the relationship between spirituality and health has been confirmed in various studies, the relation in this specific case has not been investigated. Therefore, the present study was conducted to investigate the relationship of spirituality with morbidity and mortality in patients with coronary artery disease who underwent CABG surgery.

**Method:** This cross-sectional study was performed on patients with coronary artery disease who had undergone CABG at Dr. Shariati Hospital in Tehran over the time period from December 2012 to December 2013. The data collection tools were a data gathering checklist based on patients' records and respective physician's confirmation and the Spirituality questionnaire (Hall and Edwards, 1996). Data were analyzed using Mann-Whitney, Kruskal-Wallis, and Spearman correlation coefficient. All ethical issues were observed in this study and the authors of the article have not reported any conflicts of interest.

**Results:** The findings of the relationship between the six subscales of spirituality with morbidity and mortality showed that with an increase in the median score of disappointment subscale, the incidence of infection, tamponade, PVC and AF increased and by increasing the median score of awareness subscale, the incidence rate decreased ( $P < 0.05$ ). There was a significant positive correlation between the hospital stay and disappointment subscale ( $P = 0.003$ ,  $r = 0.291$ ). Mortality also decreased in patients who were more knowledgeable ( $p < 0.05$ ).

**Conclusion:** The results of the research indicate that spirituality correlates with the incidence of morbidity and mortality after CABG surgery. Therefore, effective solutions such as considering the spiritual issues in the patients' treatment process and training appropriate psychological techniques should be used to expedite their recovery.

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### Summary

**Background and Objective:** Coronary artery disease is the leading cause of death in most countries. Coronary Artery Bypass Graft (CABG) is now one of the most commonly selected surgical procedures that

can restore normal blood flow to an obstructed coronary artery. It is performed for patients with coronary artery disease (CAD) to improve quality of life and reduce cardiac-related mortality. Although the relationship between spirituality and health has been corroborated in a host of studies, its relation to this specific disease has not been investigated. Therefore,

the present study was conducted to examine the relationship between spirituality and morbidity as well as mortality among patients with coronary artery disease who underwent CABG surgery.

**Method:** This cross-sectional study was performed on patients with coronary artery disease who had undergone CABG at Dr. Shariati Hospital in Tehran over the time span between December 2012 and December 2013. The data collection tools can be divided into two categories: the first category was a data gathering checklist based on the patients medical records during their hospital stay and after discharge from hospital, the desired complications and initial mortality were recorded according to the patients and their relatives' report, physician confirmation as well as the review of relevant tests within one month period. The second category included the Hall and Edwards spirituality questionnaire. The Spiritual Assessment Inventory (SAI) is a self-report tool consisting of 47 items seven of which have two parts and are designed to assess two dimensions of spiritual development: God awareness and quality of relationship with God. The questionnaire includes six subscales (Awareness, Realistic Acceptance, Disappointment, Grandiosity, Instability and Impression Management) whose components have high internal consistency. Every participant declares his/her agreement or disagreement with each statement in a five-point Likert scale. Hall and Edwards reported Cronbach's alpha coefficients for the subscales of spirituality questionnaire as follows: Awareness=0.95, Realistic Acceptance=0.90, Disappointment=0.83, Grandiosity=0.73, Instability=0.84 and Impression Management=0.77 (1). The Cronbach's alpha coefficient of the questionnaire in the whole subscales has been reported to be 0.88 in Iranian population (2). In this study, the Cronbach's alpha coefficient was 0.91. The collected data were analyzed using Mann-Whitney, Kruskal-Wallis, Spearman correlation coefficient.

**Results:** The findings of the relationship between the six subscales of spirituality with morbidity and mortality showed that with an increase in the median score of disappointment subscale, the incidence of infection, tamponade, PVC and AF increased and by increasing the median score of awareness subscale, the incidence rate decreased ( $P<0.05$ ). There was a significant positive correlation between the hospital stay and disappointment subscale ( $P=0.003$ ,  $r=0.291$ ). Mortality also decreased in patients who were more knowledgeable ( $P<0.05$ ). Meanwhile, according to the results, the subscales of awareness, instability and impression management were different in both sexes and the median score of these subscales were higher in women than men. It is worth noting that the scores of awareness, disappointment and impression management subscales differed among married and single individuals. The median score of awareness subscale in married people (86 (82,91) vs. 79 (71,87)) and the median score of disappointment subscale in single people (17 (12,20) vs. 11 (8,14)) was higher.

**Conclusion:** According to the results, the incidence of complications and mortality after coronary artery bypass graft was lower in patients who had more spiritual strength. Therefore, raising spiritual thinking, knowing God's existence, believing in God and improving the qualitative relationship with God is accompanied by an increase in sense of well-being, reducing morbidity and mortality of patients after coronary artery bypass graft surgery. Last but certainly not least, it seems that the level of spiritual beliefs is an important factor in the progression or improvement of coronary artery disease. Therefore, effective solutions such as considering the spiritual issues in the treatment process of patients and training appropriate psychological techniques should be used in order to reach a much more comfortable and speedy recovery.

#### Ethical Considerations

##### Compliance with ethical guidelines

The Ethics Committee of Tehran University of Medical Sciences has confirmed this research.

##### Funding

Tehran University of Medical Sciences has sponsored this research.

##### Conflict of interest

The authors declared no conflict of interest.

## References

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