

# Relationship between Religiosity-Spirituality and Medication Adherence among Patients with Cardiovascular Diseases: A Systematic Review

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## Background

- Cardiovascular diseases (CVDs) are non-communicable chronic disorders that are highly prevalent globally. They are leading cause of morbidity and mortality worldwide
- The number of annual deaths due to CVDs is estimated to be approximately 17.9 million<sup>1,2</sup>
- In addition, CVDs are chronic diseases that are associated with polypharmacy and medication non-adherence
- According to the World Health Organization (WHO), adherence can be defined as "the degree to which the person's behavior corresponds with the agreed recommendations from a health care provider"<sup>3</sup>

## Objectives

- The aim of this systematic review is to assess and evaluate the quality of the included studies related to the relationship between religiosity/spirituality and medication adherence among patients with CVDs

## Methods

### Study Design

- Systematic Review following PRISMA checklist

### Inclusion Criteria

- Studies were included only if they measured both patients' R/S and medication adherence
- The study population consisted of patients with a range of CVDs, including heart failure, acute coronary syndrome, and hypertension

### Exclusion Criteria

- Studies that did not collect original data (e.g., editorials, reviews, and letters) and non-English language were excluded from the review

### Literature Search

- Seven electronic database: PubMed, MEDLINE, EMBASE, Scopus, Cochrane Central Library, ProQuest Thesis and dissertation, and Google dissertation, and Google Scholar
- Manual search through eligible articles references

### Article Review Process

- Two independent reviewers identified eligibility
- Third reviewer provided final judgment for any discrepancies

### Data Extraction

- Data extraction form was developed and validated by the investigators

### Quality Assessment

- Crowe Critical Appraisal Tool (CCAT)
- Percentiles were used to classify the included studies into low quality (less than 76.5%), moderate quality (76.5 to 88%), and high quality (above 88%)

## Result

- The nine studies included were published between 2006 and 2018
- Most of the studies (n=7) were conducted in the USA while the others were performed in Ghana<sup>4</sup> and Brazil<sup>5</sup>. Most studies used a cross-sectional design (n=6)
- Six studies discussed the relationship between R/S and medication adherence in patients with hypertension and highlighted the importance of addressing spiritual issues when managing hypertension to improve patients' compliance with antihypertensives
- Three studies investigated the association between R/S and medication adherence in patients with heart failure (HF), two using a cross-sectional design and one using a cohort design

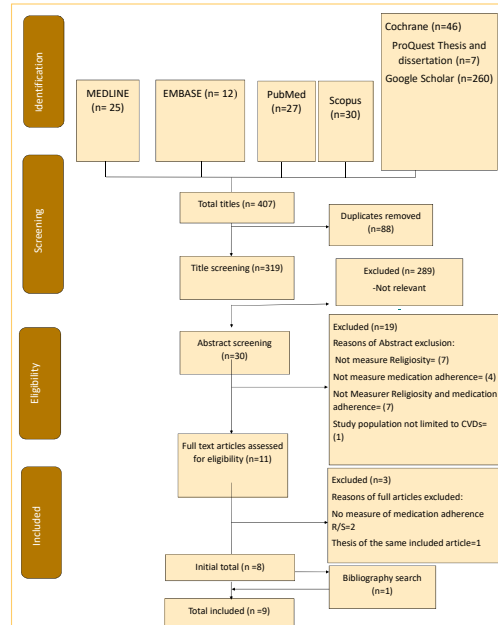


Figure 1: PRISMA Flowchart

## Quality Assessment Results

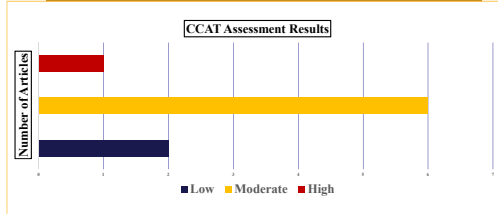


Figure 2: CCAT Quality Results

Table 1: Measurement of Religiosity/Spirituality and Medication Adherence

Author(s)	Medication Adherence Measure	Religiosity/Spirituality Measures
Abel WM & Greer DB (2017), USA	14-item Hill-Bone Compliance to High Blood Pressure Therapy scale	Nine spiritual/religious questions developed by the investigator
Alvarez JS et al. (2016), Brazil	Repetitive Education and Monitoring for Adherence for Heart Failure (REMADHE)	Duke University Religion Index (DUREI)
Kretchy I et al. (2013), Ghana	Morisky Medication Adherence Scale (MMAS)	1. Duke University Religion Index (DUREI) 2. Spiritual Perspective Scale (SPS)
Greer DB & Abel WM (2017), USA	Hill-Bone Compliance to High Blood Pressure Therapy scale	The Brief Religious/Spiritual Coping Scale
Park CL et al. (2008), USA	Compliance measure developed by Sherbourne, Hays, Orday, DiMatteo, & Kravitz (1992)	Four subscales from the NIA/Fetzer Brief Measure of Religion and Spirituality (BMMRS)
Yon AS (2013), USA	Morisky Compliance Assessment Scale (MMAS 4-8 Item)	1. Duke University Religion Index (DUREI) 2. Spiritual Health Locus of Control Scale (SHLCS)/Self-ranking of spirituality
Harvin LA (2018), USA	The medication adherence section is composed of three questions regarding medication usage	Spiritual Perspective Scale (SPS)
Loustalot F (2006), USA	31 of the JHS Medication Survey Forms	4 measures utilized to assess religion and spirituality
Black G et al. (2006), USA	HF Compliance Questionnaire (HFCQ)	Spirituality Assessment Scale (SAS)

## Discussion

- Better understanding of the relationship between R/S and medication-taking behavior will help in the development of culturally sensitive, spiritually based and patient-centered interventions to improve medication adherence and cardiovascular outcomes among patients with CVDs
- In the current systematic review, the findings suggest that there is a significant association (that may be positive or negative, depending on setting) between R/S and medication adherence in patients with CVDs. This applies primarily to patients suffering from either high blood pressure or heart failure, since these were the only CVDs where the association was examined

## Strength

- This systematic review is the first to examine the relationship between R/S and medication adherence among patients with CVDs

## Limitations

- First, we excluded non-English articles, which could lead to publication bias.
- Second, most of the included studies had small sample sizes and were conducted among patients with hypertension, which can affect the generalizability of our findings.
- Third, most of the studies were conducted in the USA, which may not sufficiently represent all types of religions or religious affiliations.
- Fourth, perceived subjectivity of the quality assessment tools

## Conclusion

- This systematic review identified only a few studies that have examined the relationship between religiosity/spirituality and medication adherence in patients with CVDs (specifically, hypertension and congestive heart failure)
- Future research in this area is greatly needed, particularly prospective studies and randomized clinical trials in patients with a more diverse range of CVDs, larger samples, and from different geographical locations, cultures, and religious backgrounds

## References

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