

Spiritual Well-Being, Emotional Distress, and Perception of Health After a Myocardial Infarction

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Abstract

Background: Myocardial infarction (MI) is a critical life event, but subsequent interactions between spiritual well-being, distress, and perception of health have not been researched.

Objectives: This study examines relationships between spiritual well-being (SWB), emotional distress, and perception of health after MI.

Methods: A sample of 124 patients recovering from MI completed the SWB Scale, Profile of Mood States, and Health Perceptions Questionnaire. Scores were analyzed for variability and central tendency. Simple associations between subscales were measured using correlation coefficients. Pearson partial correlations were used to examine associations between variables of interest after adjustment for sample demographics.

Results: SWB was negatively correlated with emotional distress and positively correlated with perception of health. Among the subscales of emotional distress, only Tension-Anxiety was negatively correlated with perception of health.

Conclusions: Further research is needed to determine whether improved SWB and perception of health, and decreased emotional distress, are associated with improved clinical outcomes.

INTRODUCTION

Coronary artery disease is a major problem in the United States. Every year, approximately 565,000 Americans have a new myocardial infarction (MI) and 300,000 have a recurrent MI; approximately 20% of persons aged 40 and older die with their first MI (1). An MI is a critical life event that compels people to confront lifestyle changes and the possibility of death. The role of spirituality has not been studied among patients after their first MI, when they confront possible death and major lifestyle changes, and the relationships between spirituality and perceptions of health during this life event have not been identified.

Spiritual well-being (SWB) has been shown to assist in coping with stressful life events (2). However, few studies have examined the role of SWB in the cardiac population. One study found that coronary artery disease patients with high levels of SWB had lower rates of restenosis than those with lower levels of SWB over a 4-year period. However,

this study had severe limitations owing to a time lag in the data procurement (3). In patients with heart failure, SWB has been shown to be predictive of substantial variance in quality of life (4). Some investigations have explored the link between religious valuation or observance and mortality or clinical outcomes, but these studies lack reliable and valid measures or have a small sample size (5,6,7). To intervene effectively when patients have a stressful life event, one must understand the relationship between the elements that affect self-perception of health and recovery from illness. The present study examined the relationship between SWB, emotional distress, and perception of health after an MI. The study is part of a larger investigation focusing on survival 1 year after an MI.

Spirituality, inherently ambiguous, is difficult to study. Frequently, the definitions of spiritual variables lack clarity (8); therefore, operational definitions vary widely, and comparisons of research findings are difficult, if not impossible. SWB has been defined as "the affirmation of life

in a relationship with God, self, community and environment that nurtures and celebrates wholeness” (9). Paloutzian and Ellison (10) developed the Spiritual Well-Being Scale (SWB Scale) based on this definition. Landis (11) redefined SWB as “an internal coping resource . . . satisfaction with one's life in relationship to God or a higher power and a perception of life as having meaning.” The conceptual definition that was a foundation for this study is “satisfaction with one's religious well-being reflected in one's relationship with a Supreme Being, one's existential well-being, and one's sense of meaning and purpose in life” (12). This conceptual definition of SWB seems to be a more accurate because the SWB Scale measures religious well-being or one's relationship to a Supreme Being and existential well-being or one's life satisfaction as well as meaning and purpose in life.

Spirituality is closely related to religiosity. Although the two terms are not exclusive concepts and their meanings overlap, they are separate entities (13). In a January 2002 poll, 50% of Americans labeled themselves as religious, while another 33% denied they were religious but classified themselves as spiritual (14). Religiosity relates “to a person's adherence to the beliefs, values and practices proposed by an organized institution which is devoted to the search for the divine” (13). There are observable differences in morbidity and mortality between major categories of religious affiliation, with lower rates among people adhering to strict practices. Active religious participation is associated with better health (15). Most older studies have focused more on religiosity than spirituality, but researchers have used both terms interchangeably, which makes comparison of various investigations difficult (16).

Emotional distress is a composite of several mood states, including anxiety, hostility, and depression, that have been identified in the acute MI population and that affect outcome. In patients with acute MI, anxiety is prevalent, but the prevalence of depression and hostility varies (17,18). Because anxiety, depression, and hostility are present in patients with MI, these factors may be useful in examining the relationship between SWB and self-perception of health after an MI. Distress has been associated with cardiac ischemia and increased risk of recurrent coronary events (19, 20). In one study, the relative risk was 2.39 for early cardiovascular rehospitalization among patients with coronary artery disease who were emotionally distressed, as compared with nondistressed patients, and multiple cardiovascular rehospitalizations were significantly more

frequent (21). Emotional distress may negatively affect recovery from an MI.

The association between emotional distress and SWB or related concepts has been studied in various populations. Among patients with life-threatening medical conditions, including cardiac conditions, death distress was predicted by SWB ($\beta=0.30$) and depression ($\beta=0.23$). For geriatric patients, depression was a larger factor ($\beta=0.77$) in death distress (22). Religion has been shown to have buffering effects on emotional distress, with most studies focusing on depression (15,23). In patients with human immunodeficiency virus, SWB has been found to be negatively associated with psychological distress (24). Patients have reported that spirituality positively affected their recovery after MI, producing enhanced coping, positive feelings, and a sense of wellness (25).

Another factor that affects recovery is perception of health. The perception that the consequences of an MI are not especially grave and that the period for recovery is short is predictive of returning to work within 6 weeks (26). A change in perception of health after an MI is expected. Patients who have a diagnosis of mitral valve prolapse express a change in their perception of their health state (27).

Although emotional distress and perception of health have been studied in patients after an MI, no published studies have examined the relationship between SWB, emotional distress, and self-perception of health for any illness, including an MI. Therefore, a need exists to explore this relationship to expand the knowledge base and determine the needs of the MI population. The purpose of our descriptive correlational study of patients recovering from a primary acute MI was to investigate the relationships 1) between SWB and emotional distress, 2) between SWB and self-perception of health, and 3) between emotional distress and self-perception of health.

METHOD

SAMPLE

Subjects in this sample were identified from three (3) telemetry wards of a large midwestern hospital. The subjects were between the ages of 35 and 100 years. During hospitalization, these subjects had received the diagnosis of MI for the first time. Exclusion criteria included 1) being unable to read and write in English, 2) having congenital heart disease, and 3) having a history of intravenous drug use. Patients were asked to participate in the study after they

were admitted to or were transferred to the telemetry ward. After consent was obtained, the participants were asked to complete a survey and either return it to a data collector in the following days or mail it to their nurse in an addressed intra-institutional mailing envelope. Demographic data were obtained from the patients' medical charts.

Of the 196 patients asked to participate in the study, 50 refused to participate (refusal rate =25.5%). Of the 146 who consented to participate, 2 withdrew formally after consent was obtained and 20 did not return their questionnaires (additional withdrawal =11.2%). Of those who refused to participate, 37.8% cited reasons such as being “overloaded” or “overwhelmed” and that there was “too much going on.” Thus, the final sample size was 124 (participation rate =63.3%). The study was approved by the Mayo Clinic Institutional Review Board.

INSTRUMENTS

Three instruments were used in data collection. SWB was measured using the SWB Scale. Emotional distress was measured using 3 subscales of the Profile of Mood States (POMS): Tension-Anxiety, Depression-Dejection, and Anger-Hostility. Self-perception of health was measured using the Health Perceptions Questionnaire.

SPIRITUAL WELL-BEING SCALE

The SWB Scale, developed by Paloutzian and Ellison (10), measures religious well-being (RWB), which is the individual's beliefs and relationship with God, and existential well-being (EWB), which is the individual's sense of meaning and purpose in life. Each of these 2 subscales contains 10 items, individually measured on a 6-point Likert scale, ranging from “strongly agree” to “strongly disagree” without a midpoint (28). Eleven of the items are worded to control for response-set bias. The items are scored from 1 to 6, with 6 indicating a greater well-being (28). Possible subscale scores range from 10 to 60; possible SWB scores range from 20 to 120 (28). The scale takes approximately 10 to 15 minutes to complete (28).

Test-retest reliability over 4 to 10 weeks ranges from 0.88 to 0.99 for RWB, 0.73 to 0.98 for EWB, and 0.82 to 0.99 for SWB (28). The internal consistency reliability coefficients range from 0.82 to 0.94 for RWB, 0.78 to 0.86 for EWB, and 0.89 to 0.94 for SWB (28).

The measurement tool has good face validity (28). Construct and concurrent validity have been demonstrated (13). The RWB items cluster closely on 1 factor, and the EWB items

cluster on the 2 factors of life direction and satisfaction (29). SWB scores are positively correlated with sense of purpose in life, self-confidence, and intrinsic orientation; they are negatively correlated with loneliness (28). The authors reported that the scale is much more sensitive for low scores than for high scores (28).

PROFILE OF MOOD STATES

The POMS is a 65-item scale containing 6 subscales (30). Only 3 were used in the present analysis: Tension-Anxiety, Depression-Dejection, and Anger-Hostility. Items were ranked on a 5-point ordinal scale ranging from “Not at all” (0) to “Extremely” (4) (30).

Predictive, concurrent, and construct validity and internal consistency of the POMS have been demonstrated (31). Validation samples have been outpatient psychiatric patients, healthy adults, and cardiac surgery patients (30). The Tension-Anxiety subscale is reported to have a test-retest coefficient of 0.70 and an internal consistency coefficient of 0.90 to 0.92 (30). Internal consistency is 0.93 for the total scale (30). Concurrent validity has been demonstrated with a correlation of 0.80 between the POMS and the Hopkins Symptom Distress Scale (30).

HEALTH PERCEPTIONS QUESTIONNAIRE

During the National Insurance Study, the RAND Corporation developed the Health Perceptions Questionnaire as a measure of health status. The questionnaire contains 32 items, which are statements of opinion of personal health. The responses consist of “definitely true,” “mostly true,” “don't know,” “mostly false,” and “definitely false” (32). The 6 subscales within the battery focus on past health, present health, future health, health-related concerns and worries, resistance or susceptibility to illness, and the tendency to view illness as a part of life (32). The subscale scores are used to produce the General Health Ratings Index (GHRI) (32). The subscale for health-related concerns and worries was not used in our study, because it requires the administration of an extra item. Administration takes about 7 minutes (32).

In test-retest the RAND Corporation found the whole scale to be more reliable than the single items (32). Internal consistency usually exceeded 0.50 (32). The scoring has not been fully tested for validity and has been found to correlate weakly with the Sickness Impact Profile. However, the correlation was not strong enough to achieve validity acceptance on the basis of group studies. This finding is to be expected because the concepts addressed are not

completely the same (32). The General Health Questionnaire has however been reported to correlate strongly with the Health Perceptions Questionnaire (33). The stability coefficient for the measure up to 3 years has been shown to be greater than 0.55 and appears to be sensitive to differences in disease severity and changes in mental and physical functioning over time (32).

The demographic form constructed by one of the authors contained 10 items. These data were used to determine whether sample criteria were met and to construct a demographic profile.

DATA ANALYSIS

The SWB Scale, the POMS, and the Health Perceptions Questionnaire scales and subscales were scored, and measures of central tendency and variability were determined. The associations between the SWB and POMS scales and between the SWB and Health Perceptions

Questionnaire scales were summarized and tested for significance using the Pearson correlation coefficient. The same analyses were carried out between the POMS and Health Perceptions Questionnaire scales. Because patient characteristics may confound the associations of interest, correlations between the various questionnaire scales were reanalyzed after adjusting for several variables by using Pearson partial correlation coefficients which were obtained after adjusting for age, sex, ejection fraction, presence of diabetes mellitus, smoking status, and whether the patient was receiving β -blocker therapy at hospital dismissal.

RESULTS

DEMOGRAPHICS

The mean age of the subjects was 64.0 years. Among the 98 participants for whom ejection fraction data were available, the mean was 53.2%. Other demographic and clinical characteristics are outlined in Table 1.

Figure 1

Table 1: Demographic and Clinical Characteristics of 124 Patients Recovering From Myocardial Infarction

| Characteristic | Patients | |
|--|----------|------|
| | No. | % |
| Sex | | |
| Male | 77 | 62.1 |
| Female | 47 | 37.9 |
| MI location | | |
| Anterior | 22 | 17.7 |
| Inferior | 45 | 36.3 |
| Other | 24 | 19.4 |
| NA | 33 | 26.6 |
| ST-segment | | |
| Present | 70 | 56.5 |
| Absent | 53 | 42.7 |
| NA | 1 | 0.8 |
| Management of MI | | |
| Thrombolytics only | 34 | 27.4 |
| PTCA only | 1 | 0.8 |
| Stent only | 2 | 1.6 |
| Thrombolytics + PTCA or stent | 74 | 59.7 |
| CABG | 9 | 7.3 |
| None of the above | 4 | 3.2 |
| Diabetes mellitus | | |
| Yes | 28 | 22.6 |
| No | 96 | 77.4 |
| Smoker | | |
| Yes | 26 | 21.0 |
| No | 96 | 77.4 |
| NA | 2 | 1.6 |
| Dismissed receiving β-blockade | | |
| Yes | 118 | 95.2 |
| No | 6 | 4.8 |

Abbreviations: CABG, coronary artery bypass graft; MI, myocardial infarction; NA, information not available; PTCA, percutaneous transluminal coronary angioplasty.

SWB SCALE SCORES

Nine of the 124 patients did not answer questions in the SWB Scale. Among the other 115 patients, the mean score was 98.4 (SD=15.2). Scores ranged from 59 to 120 (range of possible scores =20 to 120). Among the 117 patients who completed the EWB scale, the mean score was 48.4 (SD=8.0). Scores ranged from 31 to 60 (range of possible scores =10 to 60). Among the 118 patients who completed the RWB scale, the mean score was 49.8 (SD=8.6). Scores ranged from 28 to 60 (range of possible scores =10 to 60). The statistical results are summarized in Table 2.

Figure 2

Table 2: Descriptive Statistics for SWB Scale, POMS, and HPQ Scores

| Subscale | No. of patients | Mean | SD | Median | Range |
|-----------------------|-----------------|------|------|--------|-----------|
| SWB | | | | | |
| EWB | 117 | 48.4 | 8.0 | 49.0 | 31-60 |
| RWB | 118 | 49.8 | 8.6 | 51.5 | 28-60 |
| SWB | 115 | 98.4 | 15.2 | 99.0 | 59-120 |
| POMS | | | | | |
| Tension-Anxiety | 120 | 41.8 | 7.6 | 41.0 | 30-62 |
| Depression-Dejection | 120 | 40.9 | 6.4 | 40.0 | 32-66 |
| Anger-Hostility | 118 | 42.4 | 5.8 | 41.0 | 37-61 |
| HPQ | | | | | |
| Current Health | 122 | 39.8 | 19.5 | 38.9 | 0-88.9 |
| Prior Health | 122 | 46.1 | 27.9 | 50.0 | 0-100 |
| Health Outlook | 121 | 58.6 | 18.1 | 56.3 | 0-100 |
| Resistance to Illness | 122 | 64.9 | 16.5 | 68.8 | 18.8-100 |
| Sickness Orientation | 122 | 69.2 | 18.4 | 75.0 | 12.5-100 |
| GHRI | 121 | 48.6 | 14.2 | 48.7 | 10.2-81.8 |

Abbreviations: EWB, Existential Well-Being; GHRI, General Health Ratings Index; HPQ, Health Perceptions Questionnaire; POMS, Profile of Mood States; RWB, Religious Well-Being; SWB, Spiritual Well-Being.

EMOTIONAL DISTRESS SCORES

Emotional distress was examined through three subscales of the POMS, and a psychometrist scored the completed POMS. The scores were transformed to a scale ranging from 30 to 80. Only the Tension-Anxiety, Depression-Dejection, and Anger-Hostility subscales were used in the study. If any of the items in the scale were not answered or marked twice,

the scale could not be scored. As a consequence, 4 to 6 subjects were not included in the analysis, depending on the scale. The mean subscale scores were as follows: Tension-Anxiety, 41.8 (SD=7.6); Depression-Dejection, 40.9 (SD=6.4); and Anger-Hostility, 42.4 (SD=5.8). A summary of the statistical results is shown in Table 2.

HEALTH PERCEPTIONS QUESTIONNAIRE SCORES

Some patients did not answer items in the Health Perceptions Questionnaire. When a response for only 1 item in a subscale was missing, the mean of the other items in the subscale was calculated and substituted for the missing item, as was done in the original RAND study (34). Two patients completed only 2 items of the questionnaire; therefore, their data were not included in the health perceptions analysis. In the Health Outlook subscale, 1 patient did not answer several items that were part of the GHRI. Therefore, the sample size was 121 for the GHRI and the Health Outlook subscale but 122 for the other subscales. The statistical results for the GHRI and the Health Perceptions Questionnaire subscales are summarized in Table 2.

CORRELATIONS

Significant negative correlations were found between SWB and all factors of emotional distress. All correlations were slightly higher for the EWB subscale than for the RWB subscale. In fact, no relationship was demonstrated between RWB and the Tension-Anxiety or Anger-Hostility subscales. SWB correlated positively with Current Health, Health Outlook, and the GHRI. No significant correlations between SWB and any other health perceptions subscales were found. All the significant correlations are shown in Table 3.

Figure 3

Table 3: Correlations Between Emotional Distress, Perception of Health, and SWB

| Subscale | EWB | RWB | SWB |
|----------------------|--------------------|--------------------|--------------------|
| Tension-Anxiety | -0.34 ^a | NS | -0.27 ^b |
| Depression-Dejection | -0.42 ^c | -0.20 ^d | -0.33 ^a |
| Anger-Hostility | -0.32 ^a | NS | -0.26 ^b |
| Current Health | 0.33 ^a | 0.26 ^b | 0.31 ^a |
| Health Outlook | 0.38 ^a | 0.33 ^a | 0.38 ^c |
| GHRI | 0.30 ^a | 0.21 ^d | 0.29 ^b |

Abbreviations: EWB, Existential Well-Being; GHRI, General Health Ratings Index; NS, not significant; RWB, Religious Well-Being; SWB, Spiritual Well-Being.

aP<.001. bP<.01. cP<.0001. dP<.05.

By use of the Pearson correlation coefficient, the correlations between SWB, emotional distress, and self-perception of health were reanalyzed to account for age, gender, ejection fraction, diabetes mellitus, smoking status, and whether the patient was receiving β -blocker therapy at hospital dismissal. The relationships between Current Health, Health Outlook, and the GHRI and EWB, RWB, and SWB were all slightly strengthened or remained the same. When the correlations were likewise adjusted for emotional distress, the correlations between RWB and Tension-Anxiety, Depression-Dejection, and Anger-Hostility were no longer significant. Other relationships between emotional distress and EWB and SWB were slightly weaker.

Significant, weak, negative correlations between Tension-Anxiety, Depression-Dejection, and three of the Health Perceptions Questionnaire scales were found. These findings are shown in Table 4. However, only the correlations with Tension-Anxiety were still significant after the associations were adjusted for age, gender, ejection fraction, presence of diabetes mellitus, smoking status, and whether the patient was receiving β -blocker therapy at hospital dismissal.

Figure 4

Table 4: Correlations Between Emotional Distress Subscales and Perception of Health Questionnaire Subscales

| Subscale | Tension-Anxiety | Depression-Dejection |
|-----------------------|--------------------|----------------------|
| Current Health | -0.23 ^a | NS |
| Resistance to Illness | -0.21 ^a | -0.20 ^a |
| GHRI | -0.19 ^a | NS |

Abbreviations: GHRI, General Health Ratings Index; NS, not significant.

^aP<.05.

DISCUSSION

The refusal rate was 25.5% among the people approached to participate in this study. An additional 11.2% withdrew either by stating their decision to the data collector or by not handing in their questionnaires. Therefore, only 63.3% of those who were approached participated in the study. Of those who refused to participate, 37.8% cited reasons such as being “overloaded” or “overwhelmed” and that there was “too much going on.”

SWB Scale scores in the population of the present study were comparable with populations in other studies (35). Although the RWB and SWB scores were lower than in specifically religious populations, scores are consistent with medical patient samples, and the EWB scores are consistent with all samples (35). The ceiling effect makes it difficult to distinguish between patients with high levels of SWB, but the SWB Scale is sensitive to low levels of SWB (35). Although none of the ranges of SWB Scale scores from our study included the lowest possible scores, all included the highest.

In this study, the scores for Current Health, Prior Health, Health Outlook, Resistance to Illness, and the GHRI were all lower than the scores in the original RAND study, but Sickness Orientation scores were higher. Means and standard deviations from both studies are shown in Table 5. Two factors may account for the difference in the results: 1) Ages of the patients in the RAND study ranged from 14 to 61 years (34), whereas in this study ages ranged from 35 to 93 years, with a mean of 65 years. 2). The sample in the RAND study was drawn from the general population rather than from hospitalized patients.

Figure 5

Table 5: Health Perceptions Questionnaire Results From the Present Study and the RAND Study

| Subscale | Present study | | RAND study (34) | |
|-----------------------|---------------|------|-----------------|------|
| | Mean | SD | Mean | SD |
| Current Health | 39.8 | 19.5 | 71.7 | 19.5 |
| Prior Health | 46.1 | 27.9 | 70.6 | 28.0 |
| Health Outlook | 58.6 | 18.1 | 68.7 | 17.2 |
| Resistance to Illness | 65.0 | 16.5 | 70.7 | 17.8 |
| Sickness Orientation | 69.2 | 18.4 | 59.0 | 25.6 |
| GHRI | 48.6 | 14.2 | 70.0 | 15.1 |

Abbreviation: GHRI, General Health Ratings Index.

As expected, SWB was moderately negatively correlated with emotional distress, as was shown in a previous study of college students (36). In the present study there was also a moderate positive correlation between SWB and 3 elements of self-perception of health: Current Health, Health Outlook, and GHRI. Most of the correlation between GHRI and SWB was from the correlation between SWB and the 2 subscales Current Health and Health Outlook.

EWB had stronger correlations with the variables of emotional distress than did RWB. Therefore, in this population, life satisfaction and meaning and purpose in life may have a stronger relationship with emotional distress. A possibility is that a component of EWB and the emotional distress subscales measure the same concept.

An unexpected finding was that most emotional distress was not correlated with perception of health. Only Tension-Anxiety was weakly negatively correlated with Current Health, Resistance to Illness, and GHRI after demographic factors were taken into account. These findings may reflect when the questionnaire was given. Riegel et al (37) suggested that a worse perception of health during MI recovery leads to increased emotional distress. If the POMS were readministered at 3 or 6 months, a relationship between perception of health during recovery and emotional distress may be apparent.

IMPLICATIONS FOR NURSING PRACTICE

The potential for enhanced SWB was added to the list of

nursing diagnoses approved by the North American Nursing Diagnosis Association (NANDA) in 1994 (38). NANDA defines SWB as “the process of an individual's developing/unfolding of mystery through harmonious interconnectedness that springs from inner strengths.” Although this definition is abstract, NANDA does define “unfolding mystery” in part as “one's experience about life's purpose and meaning.” “Harmonious interconnectedness” includes “harmony with . . . higher power/God.”

Evaluating the effectiveness of interventions that are meant to enhance SWB is difficult if there is not a method to assess SWB. The two subscales of the SWB Scale measure aspects of the diagnosis of the potential for enhanced SWB and therefore may be useful as an assessment tool: the EWB subscale refers to meaning and purpose in life and the RWB subscale refers to one's relationship with God. The SWB Scale is well-established as being valid and reliable (35). However, further research is needed to determine what constitutes a critical SWB Scale value and denotes a need for intervention. After further investigation of effective assessment of SWB occurs, interventional research is necessary to establish whether a change in SWB due to intervention is possible.

Because improved perception of health correlates with improved clinical outcomes, such as earlier return to work and improved functioning, improving perception of health may be beneficial to the patient and to the health care system (26). Alternatively, patients with better perceptions of health may have better clinical outcomes only because they are able to accurately assess their health status. If improved SWB is correlated with improved perception of health, enhancing SWB may also enhance self-perception of health and thus improve clinical outcomes. However, causality has not been shown for any of these relationships. In fact, there is no evidence that it is possible to increase SWB or improve the patient's perception of health.

Authors have questioned the appropriateness of interventions in the area of SWB, suggesting that trying to enhance SWB is akin to recommending marriage since it is associated with improved health. These authors also warn against mistakenly identifying with a person of the same denomination since the similarity does not guarantee that the individual does not have different spiritual practices (4). However, a correlation between patients' satisfaction with hospital stays and the ability of medical staff to meet spiritual and emotional needs has been found (39). Interventions such as taking a religious

history, supporting religious beliefs and positive religious coping, ensuring access to spiritual resources, and including clergy as part of the health care team are outlined in *Handbook of Religion and Health* (40), an excellent resource for the health care provider. Others recommend using empathy, honesty, respect, and presence to affect SWB (41).

EWB has a moderate correlation with perception of health and emotional distress. Helping patients discover meaning and purpose in life for themselves may improve their perception of their health. However, perception of health and clinical outcomes may be related to the underlying health of the patient and may not be changed by improved SWB. More research is needed to explain the relationships among variables and to test interventions.

LIMITATIONS

The scope of this study has several limitations. The results should not be generalized beyond the midwestern American Judeo-Christian population. Also, the population may be biased because patients with high levels of emotional distress may not have participated. The average length of stay for a patient with MI is 4 days, and during hospitalization, patients usually undergo multiple tests and educational sessions. Some of the patients had been asked to participate in several other studies; consequently, they may have viewed the questionnaire as an added, unnecessary burden.

Elements of spirituality and emotional distress are very personal. Patients who did not participate because of the personal nature of the questionnaire may have responded differently from the enrolled subjects. Some patients may have considered their responses too intimate to share, especially in the midst of coping with recovery from an MI. Potential subjects were not asked to be in the study until they had been transferred to one of the cardiac monitoring wards. Therefore, those patients who were more critically ill, and who may have been transferred to cardiac surgery directly from the emergency department or the intensive care unit, were not included in the sample. As a result, the findings may not be generalizable to patients with the most severe MIs.

The POMS was administered on one sheet of paper, whereas the SWB Scale and the Health Perceptions Questionnaire were in a booklet. Thus, the SWB Scale was probably always completed before the Health Perceptions Questionnaire, which may have contributed to shared method variance. Also, the Health Perceptions Questionnaire

is not well established with psychometric data, which may have contributed to the limited correlation with emotional distress.

Some critics may argue that the nature of the SWB Scale (which contains the word “God” instead of “Higher Being”) may have eliminated some people, those who are spiritual but not religious, from achieving high SWB Scale scores. However, the EWB and RWB scores correlated highly in this study ($r=0.72$, $P<.0001$). The validity of the use of the term “Higher Being” instead of “God” in the SWB Scale has not been established and thus is a possible area for future research. Also, until the SWB Scale is tested in religious groups outside the Judeo-Christian tradition, its effectiveness in measuring SWB in other groups is unknown.

CONCLUSION

Perception of health, SWB, and emotional distress are interrelated during recovery from an MI. After taking demographics and clinical characteristics into account, significant correlations between aspects of perception of health, SWB, and emotional distress were found. SWB is negatively correlated with emotional distress and perception of health. Anxiety is negatively correlated with perception of health. If perception of health and emotional distress are related to SWB, as this study seems to indicate, patient care must take those relationships into account.

Caring for patients focuses not only on the physical body but also on the emotional and spiritual aspects of the whole person. Nursing diagnoses and interventions have been identified in the areas of emotional and spiritual aspects of care; however, the relationships between these areas and patient demographics require further exploration to understand the effects of specific interventions on associated spiritual, emotional, and physical outcomes.

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