This research emerged as follow-up to a clinical pastoral education (CPE) residency spiritual pathway project. It is designed to explore how patients experience a particular disease and to propose spiritual interventions that chaplains may make to respond to patients’ spiritual concerns. Anecdotal evidence showed high levels of patient dissatisfaction with catheterization lab staff when patients were found to have no clinical etiologies indicating myocardial infarction. Rather than being pleased to learn they had no cardiac disease, many of these patients not only expressed dissatisfaction, they also returned to the hospital multiple times for additional testing in an effort to define the nature of their symptoms.

This research project identifies potential spiritual, social and psychological stressors that may have contributed to the patients’ experienced symptoms. It is the hypothesis of this project that such patients may be suffering from spiritual, psychosocial and/or nonmedical stressors or may be the bearers of stress within stressed family systems.

**Literature search**

Stress cardiomyopathy (broken heart syndrome) results when sudden emotional stress causes severe but reversible heart muscle weakness often mimicking classic heart attack.

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symptoms. In 2005, Johns Hopkins’ researchers found that when postmenopausal women experience sudden, overwhelming shock or emotional distress, they respond by releasing large amounts of adrenalin (epinephrine) and noradrenalin (norepinephrine) into the bloodstream. The heart muscle is stunned, producing symptoms that mimic classic heart attack symptoms.

The Minneapolis Heart Clinic conducted research over a thirty-two-month period on twenty-two women aged thirty-two to eighty-nine, 96 percent of whom were fifty or older. The report, published in 2005, concluded that reversible cardiomyopathy triggered by psychologically stressful events occurs in older women and may mimic evolving acute myocardial infarction or coronary syndrome. This condition is characterized by a distinctive form of systolic dysfunction that predominantly affects the distal left ventricular chamber and has a favorable outcome with appropriate medical therapy.

Tako-tsubo cardiomyopathy, apical ballooning named for the distinctive appearance of the end-systolic left ventricle in ventriculography, is a widely reported syndrome in Japan. Symptoms include acute onset of reversible apical wall motion abnormalities or ballooning, with chest pain; changes in electrocardiogram, such as ST elevation; and minimal release of myocardial enzymes with no significant stenosis visible on coronary angiography. These symptoms usually are preceded by severe emotional or physical stress. Various explanations under investigation include catecholamine-mediated cardiotoxicity, coronary artery vasospasm, microvascular injury, impaired fatty acid metabolism or transient obstruction of the left ventricular outflow.

The study design
It was hypothesized that some patients who experience spiritual/psychosocial distress and/or stressful family system dynamics exhibit symptoms of ischemia but present no diagnostic results. Patients exhibited anginal symptoms and abnormal stress test results prior to catheterization.

The chaplain interviewed twenty-five patients who received normal cardiac evaluations for chest pain of uncertain etiology, assessing six categories of spiritual need. Only those experiencing chest pains and who presented negative clinical indicators for the disease following catheterization were included. Interviews took place immediately following the diagnostic cardiac catheterization and ranged in length from twenty minutes to one hour.

Eight open-ended questions, developed by the Hershey Medical Center Research Team, explored the level of spiritual and/or psychosocial distress existing in the lives of patients or within their immediate family systems. (See page 15 for a copy of the questionnaire.) Patients described their feelings concerning the following six spiritual need categories, which were originally identified by Claude V. Deal and Michael E. Gross at Duke University in the 1999 Deal/Gross Scale of Basic Pastoral Care:

1. Loneliness vs. Community
2. Anxiety/Fear vs. Peace
3. Guilt vs. Forgiveness
4. Anger/Hostility vs. Resolution
5. Meaninglessness vs. Hope
6. Grief vs. Reinvestment/Reintegration

A final question assessed patients’ feelings of satisfaction about the interview experience itself.

The study group
The patient cohort included eight females and seventeen males ranging in age from thirty-five to seventy-two. (See Table 1, page 12 for detail.) All had ejection fractions in the range of 58 to 75 percent with a mean of 69 percent. All participants experienced strong feelings about one or more spiritual concerns. Many were the major stress-bearer within a larger family system that was in spiritual or psychosocial distress.

Eight of the twenty-five stated they had no religious belief or connection to a faith community. The remainder professed faith as follows: Baptist (2), Free Bible Church (2), Lutheran (5), Presbyterian (1), Roman Catholic (4), Spiritual (1), Wesleyan Methodist (1), Wicca (1).

They used a variety of rituals to cope with difficult or traumatic experiences in their lives. Twelve used prayer to God when dealing with traumatic circumstances. One person went to church. One person talked with family members who had passed into the spirit world. Six used secular rituals such as sports, hobbies, nature, and being alone when troubled. One expressed anger at God, and four stated they employed no rituals or spiritual practices. All but one of the twenty-five participants expressed satisfaction after the interview. Fourteen
asked that the results of the study be mailed to them.

**Results**

Ten major themes emerged concerning participants’ spiritual concerns:

1. Grief concerning the loss of loved one(s), job, health, family relationships.
2. Why me?
3. God is mad/is punishing me.
4. I’m all alone; nobody cares.
5. Everyone depends on me.
6. I’m responsible for the happiness of others.
7. I’m aging.
8. I’m afraid of dying.
10. I am the stress bearer in a chaotic family system.

Questions, which generated the most interest, related to the following (in order of preference):

1. Feelings of anxiety, fears and relationships.
2. Meaninglessness and hope.

**Discussion**

The interviews offered noninvasive therapeutic care for patients presenting with no cardiac-related chest pain. Anecdotal results indicate a benefit to patient morale as they were encouraged to verbally explore their feelings around their major spiritual and/or psychosocial needs. It appears that such pastoral care intervention may benefit patients experiencing high levels of spiritual, psychosocial or chaotic family system stressors.

As a result of the benefits observed in this pilot study the catheterization lab staff now schedules individual pastoral services consults with patients who experience clean catheterization results with the express purpose of exploring spiritual and psychosocial concerns. Chaplains visit these patients to engage them in open-ended conversation around the six spiritual need categories previously referenced. As in the pilot, such visits range between twenty minutes and an hour, dependent upon the patient’s engagement with the questions.

**Limitations**

This project was structured as a qualitative phenomenological study to verify observed phenomena through case study analysis. While the results underscore and verify previous anecdotal data, the study did not have the benefit of a control group. The next step is to provide the benefit of blind controls to test for the Hawthorne effect. In addition to the group receiving pastoral care interventions, a second group would be visited by a nurse blinded to the research questions. A third group would receive no visits. Follow-up telephone calls would query patient satisfaction. Each individual’s hospital utilization would be monitored for a year following catheterization.

**Conclusions**

The results of this project suggest that there are benefits in initiating pastoral care conversations with patients who believe they have experienced heart attacks but for whom catheterization shows no clinical findings of disease. This research indicates that both men and women experiencing high levels of stress have spiritual and psychosocial needs. Talking about feelings with a pastoral care provider offers a noninvasive method of support for such patients. It is anticipated

### Table 1

| Age and marital status of cardiac study participants (N = 25) |
|--------------------------|-------------------|-------------------|
| **Age Group**            | **Males (N = 17)** | **Females (N = 8)** |
| Under 40 years           | 1                 | 0                 |
| 40 – 49                  | 8                 | 3                 |
| 50 – 59                  | 1                 | 1                 |
| 60 – 69                  | 6                 | 4                 |
| 70 or older              | 1                 | 0                 |

<table>
<thead>
<tr>
<th><strong>Marital Status</strong></th>
<th><strong>Males (N = 17)</strong></th>
<th><strong>Females (N = 8)</strong></th>
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</tr>
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</table>
that this case study based research will serve as the basis for further exploration of pastoral care interventions that may serve to relieve patients experiencing high levels of spiritual, psychosocial or chaotic family system stressors.

Authors' note
Coinvestigators for this study included the following staff at Penn State-Milton S. Hershey Medical Center: Helen E. Zimmerman, MSN, CRNP, Paul Derrickson, MDiv, BCC, and Ann M. Osborne, MDiv.

References


5 Claude V. Deal and Michael E. Gross, Deal/Gross Scale of Basic Pastoral Care Durham, NC: Duke University, 1999.
Participant interview form – May 2007
Penn State Milton Hershey Medical Center

Participant #: Date of Interview:

Age: Gender: Marital Status:

Length of Time Symptoms Experienced Prior to Procedure:

Religious Affiliation:

Religious/Nonreligious Support Systems:
(Circle all that apply) Family Friends Faith Community

Other (Specify):

1. What people or organizations do you use to support you when you are in crisis?
   Are you a member of a religious community, e.g., church, synagogue, mosque, parish?
   Do you possess a strong family support system?
   Who provides the most support to you during times of personal crisis?

2. What feelings do you experience concerning your relationship to yourself?
   In relationship to other people?
   In relationship to God?
   Do you experience sadness at your lack of intimacy with self/others/God?

3. Have you recently experienced any particular issues, problems or stresses that have created worry
   or fear for you?

4. Are there concerns you have that cause you to feel guilt or other negative feelings, e.g., shame, blame,
   need for forgiveness?

5. Have you recently experienced any major losses, threats or events that have created deeply expressed
   feelings, e.g., denial, anger, hostility, acceptance or transition to a new place of resolution for you?

6. What creates meaning and hope for you? Have you experienced a sense of meaninglessness or despair
   over past, present or future life situations?

7. How do you deal with or express difficult or traumatic life events?

8. Do you practice any spiritual/religious rituals that assist you to cope with difficult aspects of your life?