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Unraveling the mysteries of timing: women's perceptions about time to treatment for cardiac symptoms

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Abstract

Women in the USA are at disproportionate risk of dying from a myocardial infarction (MI), of suffering disabilities following an MI, and of reinfarcting and dying within a year of their initial MI. Various explanations, including women's older age at clinical manifestation of coronary heart disease (CHD) and higher likelihood of co-morbidities, have been offered for women's heightened risk of poor outcomes. Less frequently, research has focused on examining women's prolonged time elapse between symptom onset and biomedical treatment, a phenomenon that renders women less likely to undergo lifesaving reperfusion strategies. [1] To explore factors and circumstances that may shape CHD time to treatment, 40 middle age and older women living in Kentucky, USA, half with diagnosed CHD and half with chronic conditions considered to be risk factors for CHD, participated in a series of in-depth interviews. While much of the existing CHD literature implicates individual responsibility as the determining feature in time to treatment, these women's narratives suggested that treatment decisions inextricably are linked to broader social and structural constraints. Such supra-individual forces that shape the CHD experiences of women include the social construction of "standard" cardiac symptoms based on male norms that ultimately confuse symptom detection, women's negative encounters with health care providers who discount their knowledge, the competing social demands women face when threatened by a serious illness, and structural barriers delimiting women's health care choices.

Keywords: Coronary heart disease; Women; Gender; Ethnicity; Symptomatology; Lay perceptions of illness; USA

Introduction

Coronary heart disease (CHD)—a general classification that includes myocardial infarction (MI or heart attack), sudden death, angina and congestive heart failure—is the leading cause of morbidity and mortality in most Western countries. While CHD morbidity and mortality take a great toll on health and functioning, certain portions of the population, among them women, are at heightened risk of poor outcomes from CHD. Women are at disproportionate risk of dying from a myocardial infarction, of suffering disabilities following an MI, and of reinfarcting and dying within a year of their initial MI (Halm & Penque, 1999; Wenger, Speroff, & Packard, 1993).

Several explanations have been offered for women' s heightened risk of poor CHD outcomes. Biomedical research has proposed the predominant explanation—that the older age at which women manifest clinical evidence of CHD and experience cardiac events predisposes them to enter CHD with age-related co-morbidities such as diabetes and hypertension. Such multiple health problems are said to decrease the likelihood of surviving a cardiac event without disabilities (Adams, Jamieson, Rawles, Trent, & Jennings, 1995). Presented as inevitable biological fact, this explanation for CHD burden is problematic for several reasons. First, with increased life expectancy, many women in Western nations can expect to live postmenopausally (therefore, at heightened risk of CHD), for 40% of their lives

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(Brochier & Arwidson, 1998). This expanded life expectancy recalibrates the expectations about the inevitability and acceptability of women succumbing to CHD in their 50 and 60 s.

In addition, the perception that poor CHD survival rates in women stem from their susceptibility to the disease at older ages suggests an exclusively biologically determined explanation for vulnerability to the disease. Instead, it is helpful to consider McKinlay's discussion (1996) that epidemiological rates and prevalence must be understood within the context of an existing social structure. Focusing solely on immutable characteristics of the individual, such as age or menopausal status, rather than understanding the complex constellation of social, organisational, and professional influences on CHD outcomes, tends to stymie creative and effective approaches to stemming morbidity and mortality rates. At its worst, such a reductionist focus serves to reprimand the very person who is most affected by the disease. As Blaxter (1990) has noted, placing emphasis solely on "individual responsibility" for health directs attention away from the broader social forces delimiting an individual's power to change and ultimately "choose" to maintain good health behaviours.

In addition to the biological explanation, researchers who have explored women's heightened vulnerability to CHD have speculated that the improved medical intervention and lifestyle modifications responsible for the declining rates of CHD among men may not be shared by women due to clinical practices or the timing of treatment decision-making among lay individuals (Moss, Wyner, & Goldstein, 1996). Within the clinical environment, some researchers have concluded that women's poor health outcomes result from the continuing medical fallacies that women are immune, or at least minimally susceptible, to heart disease (Dracup & Moser, 1991). Such a perception may lead to the interpretation by health professionals of women's symptoms as psychosomatic (Demsey, Dracup, & Moser, 1995). Reflecting and contributing to this bias, only recently have women with cardiovascular disease received research attention (Harris & Douglas, 2000). Ultimately, women's perceived lack of susceptibility to CHD has resulted in diagnostic tests standardised to fit male norms, undermining proper CHD management for women (Schulman et al., 1999).

Still other researchers have suggested that, due to the strong correlation between early treatment time and survival (GISSI, 1995), documented prolonged time to treatment for cardiac symptoms may explain women's compromised health outcomes (Moss et al., 1996). Researchers examining delay in formal medical presentation for cardiac symptoms have begun to identify factors, including symptom and treatment appraisal, perceived invulnerability, and competing demands, that may begin to account for treatment timing (Dracup & Moser, 1997; Dracup et al., 1995; Goff et al., 1999). Because women may experience symptoms incongruent with "standard" cardiac symptom presentation, women and their health care providers may not associate their symptoms with CHD (Douglas, 1986). In a related vein, literature documents that women tend to believe that they are invulnerable to a heart attack, believing instead that they are more likely to die from breast cancer (Legato, Padus, & Slaughter, 1997). Davison, Davey Smith, and Frankel (1991) and later Emslie, Hunt, and Watt (2001) refer to this lay speculation on susceptibility to CHD as "the coronary candidate". As Emslie and colleagues reveal in their recent work, both women and men tend to describe "candidates" for heart disease solely in terms of men, despite some respondents' acknowledgement of female family members who have succumbed to heart trouble. Other researchers have suggested that women's competing time demands undermine their seeking direct medical attention for CHD symptoms (Boogaard, 1984; Demsey et al., 1995).

While these forays have begun to shed light on women's prolonged time to cardiac treatment, most of these studies have provided speculation, rather than documentation, for time elapses to formal medical care. Thus, we currently lack a comprehensive, emic (insider) or lay perspective on one of the most important precursors to engaging in particular health behaviours: symptom and treatment appraisal. Since a growing body of literature demonstrates the importance of understanding lay perceptions of illness in efforts to improve health outcomes in general (Blaxter, 1997; Hunt, Jordan, Irwin, & Browner, 1989; Lupton, 1994a; Popay & Williams, 1996) and health outcomes from CHD in particular (Cowie, 1976; Davison et al., 1991; Emslie et al., 2001; Petrie et al., 1996; Wiles, 1998) such research is warranted.

The absence of lay perspectives not only increases the tendency to "blame the victim," but the preponderance of literature that establishes sociodemographic profiles also does little to illuminate the complex factors and circumstances beyond the simple variable of "gender." As stated by McKinlay (1996, p. 5) "…even when we are fairly certain that a specific factor (e.g., gender or education) contributes independently to health status or illness behaviour, we must keep in mind that that factor simply summarises complex information about a person's life." A central goal of this article, then, is to unpack gender as a variable that is associated with prolonged time to treatment for CHD symptoms and to examine the specific context and circumstances that underlie women's decisions about time to treatment. A further concern addressed in this study is to represent the perspectives of subgroups within the female population known to be at disproportionate risk of poor CHD outcomes.

Methods

A phenomenological and grounded theory approach guided this research (Glaser & Strauss, 1967). Consistent with both of these approaches, our goal was to obtain insights by delving into the personal experiences of the women. A phenomenological approach emphasises that first-order observations (such as those obtained from an etic or outsider perspective) are distinct from the emic or second-order perspective (such as how the lay person or study participant experiences the world). Grounded theory posits that discoveries about how individuals ascribe meaning to their activities and interactions are obtainable through a meaning-making process (Miklaucich, 1998), although grounded theory specifies analytical procedures rather than data collection strategies per se (Charmaz, 2000). By avoiding the imposition of a preconceived theoretical framework, grounded theorists instead develop theory or build on existing frameworks only after the participants have offered their insights. Central to the application of grounded theory is the use of theoretical sampling, which allows for specification of informant characteristics (Strauss & Corbin, 1997, pp. 38–39); thus, since we aimed to obtain the perspectives of women to whom CHD may constitute the greatest burden, we focused our on attention on several ethnic/residence groups. Data on other personal characteristics were gathered after participants were recruited.

Recruitment, description and context of the study participants

We recruited an ethnically and residentially diverse purposive sample of 40 middle aged and older women (age 55+) living in Kentucky, USA. Table 1 specifies personal characteristics of the study sample.

This research focuses on explicating the factors and circumstances underlying the documented delay in time to treatment among women rather than comparing gender experiences. We have chosen to focus exclusively on women's perspectives because (a) there has been minimal and only recent examination of women's cardiac disease experiences and (b) the preponderance of evidence indicates prolonged treatment timing among women, but has fallen short of offering evidence of reasons behind this delay. Clearly, there is merit in undertaking a gender comparison and our focus precludes our ability to state definitively that the themes that emerged from our analyses are pertinent exclusively to women's decision-making. Indeed, as we mention in the discussion, many of our findings apply to men; however, the narratives strongly suggest that gender provide an influential category for illness behaviour.

Since we aimed to capture perceptions of CHD from individuals for whom the disease held salience, we included women diagnosed with CHD and those considered at risk of CHD due to co-morbidities such as hypertension or diabetes. To insure such diagnoses, participants were recruited with the assistance of physicians at three university-affiliated clinics. These three clinics were chosen primarily because of availability of the targeted ethnic/residential population at each facility. A general practices physician at each clinic provided a list of potential participants who met the inclusion criteria (ages 55+, at risk of or currently diagnosed with CHD and female). The investigators randomly selected 50 of the approximately 200 names and sent these women a letter indicating that they would receive a telephone call to invite their participation in the study. Since it is estimated that 86.3% of older US women have had a physician contact in the past year (Muller, 1990) and 95% of households in the state of Kentucky have a working telephone (Rowles, Gallaher, Watkins, Ilvento, & Danner, 1996), we expect minimal bias in our recruitment strategy. Of the 50 women invited to participate, 3 had died, 2 had moved and left no forwarding address, 2 did not meet the study criteria, and the remaining 3 either indicated a lack of interest or ability to meet. Consistent with our Institutional Review Board protocol, most background information was obtained during the interview; thus, we cannot compare responders to non-responders.

Table 1
Demographic characteristics of study sample ($N = 40$)

Mean age (years)	69 (range 55–96)
Mean education (years)	9 (range 3–16)
Ethnicity	
African–American	42% ($n = 17$)
White	58% ($n = 23$)
Residence	
Rural	25% ($n = 10$)
Urban	75% ($n = 30$)
Per cent diagnosed with CHD	35% ($n = 14$)
Mean number of years since CHD diagnosis (if applicable)	4.5 (range 1–12 years)
Per cent at or below poverty level	63% (25)

Because of the disproportionate likelihood of poor CHD-related health outcomes, this investigation included a high proportion of African–American and rural women (CDC&P, 1992; Wallace & Wallace, 1998). While these two groups vary in ethnicity (all of the rural women were White), proximity to health care facilities (the rural women generally lived at least 20 min away from a health care facility while most of the African–American women were a 5 minute drive from major medical centres), and marital status (most of the rural women were married while most of the African–American women were unmarried), these groups share some health-compromising circumstances. Specifically, both African–American and rural women are more likely than their White or urban counterparts to possess personal factors that elevate their risk of poor CHD outcomes, including greater poverty levels and fewer educational opportunities (Institute of Medicine, 1991; Wallace & Wallace, 1998). Furthermore, both rural and African–American women are more likely than their urban and White counterparts to operate in contexts with fewer medical and social services (Schoenberg & Coward, 1998). Finally, previous work has indicated the exposure of both groups to differential and possibly discriminatory medical treatment (Institute of Medicine, 1991).

Recruitment procedures

Two interviewers contacted the women, explained the study, and set up appointments to conduct the interviews if the women were available to participate. Most of the interviews took place in the participants' homes unless the participant preferred to meet elsewhere. The interviewers met with most participants twice, and each session lasted between 90 and 120 min. All interviews were tape recorded and conducted in accordance with the institutional review board protocol for the protection of human subjects.

Following the collection of sociodemographic background data and a life history narrative, each participant was asked a series of semi-structured questions that addressed the following domains: coronary heart disease-related health beliefs, lay consultation, social support, and access/barriers to medical resources. Sample questions include: what causes heart disease/heart trouble? How long does it last? How likely do you think you are to have heart disease? Have you heard of symptoms of heart disease? At the end of the interview schedule, participants were asked two open-ended but focused questions designed to elicit perspectives on the timing of cardiac treatment among women.

Upon completion of each interview, the tape-recorded sessions were transcribed verbatim, coded, and analysed by two anthropologists (N.E.S. and J.C.P). We undertook a thematic analysis, or encoding, compiling, and recognising of patterns (Miles & Huberman, 1994) through data reduction and categorical grouping and employed the constant comparison method to determine thematic patterns in the sociodemographic characteristics of the participants (Strauss & Corbin, 1997). We independently identified thematic patterns, compiled and refined a codebook, and met to determine whether our line-by-line coding of the transcripts was consistent. We reached consensus by comparing our coding results and by discussing each code that failed to match. From these discussions, we were able to more precisely define and operationalise the codes and systematically apply them, building and refining the codebook. After reviewing over 40% of the identical transcripts, we established an intercoder reliability of approximately 90%. This reliability score (or percentage agreement among coders) was established by dividing the number of agreeing codes affixed to the text by the number of codes generated (Boyatzis, 1998, pp. 154–155).

Finally, after the analysis of the in-depth interviews, three focus groups, one with each of the targeted populations (White, rural, and African–American women, with 8, 7, and 10 participants, respectively), were conducted with different participants to verify research findings. Verification of findings has become increasingly common in qualitative research to insure rigorous and reliable interpretation of results (Kraus, 1990). The format of the focus groups followed that of the in-depth interviews, with the same questionnaire used to confirm individual responses elicited during the interviews. Upon completion of the line-by-line coding and codebook creation for both the interviews and focus groups, we determined the degree of agreement between these activities by evaluating the degree of overlap in the codebooks. Results indicated extensive agreement in the key substantive areas of interest. For example, etiological perceptions of CHD were nearly identical between the 10 African–Americans in the focus groups and the 17 African–Americans who participated in the in-depth interviews. Among the numerous perspectives on onset of CHD, there was a 94% agreement (see preceding paragraph for a description of the process) between the informants and the focus group informants (Boyatzis, 1998).

Results

The data analysis revealed four main themes that illuminate the documented delay in women's seeking formal medical care when experiencing symptoms of coronary heart disease. These lay or emically derived explanations are: (1) symptom uncertainty; (2) problematic or inadequate patient–physician interaction; (3) competing social demands; and (4) structural barriers to formal medical care. Each of these explanations is discussed and illustrated below through a case study or narrative provided by the participant.

Although one aim of the study was to identify differences in explanations for women's delays in formal medical treatment seeking for CHD symptoms among African–American and White rural and urban women, the participants' ethnicity or residence appeared to have little influence on these explanations. Indeed, background differences emerged only in one theme—structural barriers to treatment seeking. African–American and rural women described logistical challenges of presenting oneself for formal medical care while White urban women generally did not mention this theme. Part of this lack of perceptible differences according to ethnicity or residence may be due to the modest sample size and part may result from a shared or at least similar set of normative expectations consistent with cohort or regional cultural norms. For example, most women expressed reservations about presenting diffuse symptoms to their health care professional, perhaps reflecting a social norm dictating respect for the physician's time and silencing all but discernible, strenuous, and diagnostic complaints (Mischler, 1985). Clearly, future research exploring the interface between and dynamics of ethnicity class relations, and CHD is both appropriate and necessary.

Symptom uncertainty

Participants who had experienced MIs or other types of CHD noted how a lack of familiarity with the sensations that typically are associated with CHD might lead them to delay in formal medical care treatment seeking. While most informants stated their familiarity with "standard" symptoms of CHD, such as the sensation of pressure, stabbing in the chest or pain in the left arm, many of the women who had experienced an MI discussed how their symptoms included pain under the breast bone, nausea, stomach and neck pain, and angina. Informants often expressed confusion over these symptoms, indicating that they (in the words of one MI survivor) "throw me off course on what I should do."

These unfamiliar symptoms lead many participants to erroneous self-diagnosis and to engage in lay strategies of symptom containment, which have been implicated in prolonged time to treatment. While lay strategies comprise the majority of how symptoms initially are treated, little is known about the nature of the strategies pursued during the time from symptom onset to formal medical care during a cardiac event (Meischke et al., 1999; Wiles, 1998). While not a focal discussion of this paper, it is nonetheless important to demonstrate that the lay strategies women pursue prior to formal medical care not only delay medical treatment, but also reflect supra-individual forces that shape the CHD experience.

Broadly categorised, lay strategies include contacting family or friends (but seldom health professionals); resting, praying, or "waiting and seeing"; modifying regular activities; and taking over the counter remedies or special foods or drinks. Whether and how to employ these various strategies depended on the duration of and the degree of disruption caused by the symptoms, perceptions of the origin and seriousness of the symptom, and a number of issues germane to the individual. These issues include the woman's health history and previous experience with symptoms, social interaction patterns, religious views, and pain tolerance. Strategies of self-care are interspersed throughout the narratives below.

Case 1: Marlene Wilson

Mrs. Wilson[1], a 67 year old White woman who lives in a middle class subdivision of newly constructed homes, is a retired clerical worker who lives with her husband of 42 years. Mrs. Wilson has two daughters who live in the same city and a son who lives in a nearby city. She notes that she has very positive relationships with all of her children and her grandchildren, specifically pointing out what help they have been when she suffered her heart attack last year.

Mrs. Wilson is an energetic woman who describes herself as her "family doctor." "Whenever there's someone sick, they come to me and ask what they should take or what the problem is. I try to follow those medical reports that you hear on the news." As her heart attack narrative suggests, however, her interest and involvement in health issues did not provide the necessary information when she experienced her own cardiac disease symptoms. Mrs. Wilson refers to her lack of awareness that the sensations she experienced were related to an impending heart attack. She describes the symptoms she experienced as follows:

> The fullness in the chest, between, right in my breastbone. Uh, it was like that somebody had roped me up and was just throwing me up and up and up, one more blow and I would have just exploded. It was the tightness, just like somebody had wrapped something tight around you or something.
>
> When asked about the duration of these sensations, Mrs. Wilson speculated,
>
> Oh, I would say I had them a week before I even did anything about it. I knew it wasn't right, but maybe I didn't want to know or maybe I didn't even know what this feeling was. …Like I said, I didn't have the symptoms that most people think heart attack victims have– the arms, the chest. I didn't have any of that; it's just right in here (*points to her breastbone*).
>
> She continues her narrative by saying that she waited for several weeks before receiving formal medical care for her heart ailment.
>
> I just fought it. …my mind was wondering what's wrong, but I never called the doctor to tell him I was having these problems because I guess I associated it with the high blood pressure or whatever, even though it did feel different from the high blood pressure. And I didn't think anything more about it.

Her confusion between hypertension and cardiac symptoms, compounded by her preconceptions of the

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[1] A pseudonym, as are all informants names.

dominant and "standard" sensations of left arm and chest pain, appears to have resulted in a protracted uncertainty and delay in formal medical treatment seeking. As she continues, we learn how this symptom uncertainty does not diminish until she consults a family member, who urges her to seek medical care.

> Finally it got to where I couldn't really handle it by myself anymore so I called up my daughter and told her that I couldn't look after Chris (*her grandson*) on account of the pain. She (*her daughter*) told me that I should go to the doctor's right away, that she didn't care about getting a babysitter for Chris, but that it seems like these pains had gone on for too long and, as she said, 'You don't want to be messing around with this pain, Mama.' I hemmed and hawed a bit, then she said, 'I'm taking you to see Dr. H.'

Mrs. Wilson reluctantly agreed, even though she still attributed her discomfort to her hypertension or, as she describes it, "some other malfunction, but not heart troubles. I just couldn't imagine it."

Problematic patient–physician interaction

Despite existing literature documenting that women make more physician visits than their male counterparts, Case 1 illustrates that many women in this study are reluctant to make a physician visit, even when confronted with extreme discomfort. This reluctance may be explained, in part, by participants' commonly expressed fear that health care providers (HCPs) will perceive them negatively if presenting complaints. Indeed, nearly half of the women in the sample indicated that they fear being viewed by their physician as a worrier, a hypochondriac, or just ignorant. This fear may be especially great when the symptoms experienced do not conform to the textbook and lay standards for CHD presentation. As the case below exemplifies, Sadie Green's reluctance to make an office visit was understandable, particularly given the physician's biased and demeaning medical care.

Case 2: Sadie Green

Mrs. Green is a 56-year-old African–American woman who lives in a densely populated and low-income section of a small Kentucky city. Mrs. Green has lived all of her life in Kentucky, having attended the city's schools until she was 15 years old and then leaving for a larger city in search of employment. During her years in this larger city, she married and had her first child. When her mother became ill, Mrs. Green, her husband, and their baby girl returned home so that she could look after her mother. Soon after her return, her mother died from what Mrs. Green describes as "heart troubles," although she is unclear about the precise cause of death.

The death of her mother at age 58 increased Mrs. Green's awareness of her own vulnerability. She made certain that she always took a job with good health insurance coverage and saw a physician regularly. Her housekeeping job with the state government provided health coverage, allowing her to have a continuity of care at a local health clinic. She notes that while she "wasn't always the best patient in the world" (i.e., she often disregarded her physician's recommendations about weight loss and dietary change), she had much faith in her physician's care. At age 49, Mrs. Green experienced symptoms that she knew to be serious and, as she relates in her heart attack narrative below, her faith in her physician's abilities rapidly eroded when he provided problematic advice. After several attempts to contain her symptoms by resting, praying, and drinking a special tea, she contacted her physician within a few hours of the onset of her symptoms noting,

> I first spoke to the nurse who told me that Dr. M would have to get back with me. I got a little mad, and told her that I needed to talk with him really soon because I was feeling really bad. So, he calls me back right away, maybe 15 minutes later. I'm at home, on account of me working nights. So, I tell him that I'm feeling this burning feeling and this pressure in my chest, and he says, 'Well, it seems you're too young to have a heart attack, you're not having a heart attack.'

She confided in him her concern about her heart, owing to her mother's premature death, and then she went on to describe the chest pain and extreme nausea. "I told him that the closest thing that I had ever had to this pain was when I was going to have a baby. It was so intense." She continues,

> And he tells me that it's probably indigestion, and that if I lay off of all that fried food, that fried chicken, I'd be up and around real soon. I was so mad I never called him again. What's more, I was humiliated. It was a big blow to me. So I tried to deal with the pain until, well, I guess my body couldn't take it no more and the next thing I know is that I'm at the hospital. And, believe me, I wasn't checking in for no indigestion.

Mrs. Green estimated that about 2 h passed between her telephone conversation with the physician and her admission to the emergency room of the local hospital. To this day, she remains uncertain about how she even got to the hospital, speculating that one of her neighbours may have checked in on her and noticed her on the floor. Mrs. Green concludes her discussion with these words, "I think that anger was the last straw.

I had a lot of faith in Dr. M. He always treated me right, even though he did not spend much time with me. I'll never go back there."

Competing social demands

Participants often indicated that important activities and responsibilities may prevent or forestall formal medical presentation, specifically discussing how they often overlooked or tried to ignore the bodily sensation because of competing work, family, or social responsibilities, since formally treating such symptoms failed to "fit" into their lives. Only when the symptoms became disabling or too painful to allow for the regular pursuit of activities or responsibilities would the study participant seek medical care. In the words of a participant from a geographically isolated location, "Most women are in high stress situations. Most women have children, they take care of the home, they hold down a full time job. Things do not function if the mother's not there, mother's never supposed to be sick. She's always supposed to be there and be able to take care of everybody." Another participant noted, "We're so busy taking care of others that we neglect ourselves."

Because most of these household responsibilities are considered essential, many women ignored CHD sensations. Another related reaction to such sensations is the denial that such a life-altering physical event may be occurring, one that has the potential to require the reassignment of tasks that the participants describe as essential to their identity and to the survival of the household. In the words of another rural woman,

> You could have the nausea, you can have the swimmy head, maybe you're not breathing properly. For many women, they have so many of these things that can be connected to something else other than the heart. It's easier to blame it on something else than the heart. I mean, I don't want it to be my heart. And if I can put it on something else, I will for the simple fact that I'm afraid. You know, afraid that the family won't be able to get along without me being here.

As the above quotation and case no. 3 below illustrate, the importance of maintaining the household, social relations, and other responsibilities often stymies the direct and immediate receipt of medical care for symptoms.

Case 3: Rebecca Thomas

Rebecca Thomas is a 62-year-old African–American woman who, as she phrases it, "has seen my fair share of life's good and bad." A nurse's aide for many years and a storyteller and poet throughout her life, Ms. Thomas has witnessed her brother's death from handgun violence and her sister's struggles with breast cancer, and experienced financial deprivation as a single parent in an underpaid career. Most challenging, from her perspective, has been the constant concern over and uncertainty of raising her son whom she describes as "always getting into some trouble, on account of drugs and such." Her pleasure and relief revolve around her active participation in church. As she describes below, the confluence of social demands and the uncertainty of symptom experience, all in the context of her church environment shape her heart attack narrative.

> I was going to church that day. I thought maybe I shouldn't go because I was having so much trouble breathing when I walked. At one point during the walk to church I thought maybe I shouldn't be going today. I thought I'd just sit down and rest. When I sat down I was so sweaty. Sweat was just pouring off of me and I was so tired. I was about half way to church by then so I thought I should just keep going because if I turned around to come home I would have to walk the same distance. So I thought I would just keep going till I got to church so that someone could drive me home if I needed them to.
>
> So I kept walking and walking and just kept getting more and more short of breath. I stopped a couple of times along the way. When I finally got to church I had to walk up those steps and I just thought I was going to die. I was walking up the steps and I just couldn't breathe. I got to the top of the steps and a friend said that I looked terrible and asked me what was wrong. I told her I was OK but she just looked at me and said I looked bad. I went inside and sat down and I was just soaking wet. During the service I had to leave a couple of times because inside the church was so hot and the smell of all those peoples' colognes was making me sick. The smells were so strong and I was already having trouble breathing. That just made it worse.
>
> I felt bad, and thought I should go to the doctor, but it was Sunday and I didn't want to go to the ER. I just wanted to go home. I had things I needed to do—looking after Mrs. M. (*neighbour*) who was going to join us for Sunday dinner. I felt like I had folks waiting for me.

Later, Ms. Thomas revealed that the neighbour who was to join them for dinner was instrumental in helping her son avoid arrest. While she declined to explain the details of her neighbour's assistance, she noted that she had been planning to have this dinner, in part, to thank the neighbour, and that she did not wish to show she was ungrateful by cancelling.

Structural barriers to treatment seeking

Another theme that emerged from the interviews was that persistent logistical or structural barriers prevent women from accessing medical services. Among these are inadequate transportation, lack of health insurance coverage, and limited infrastructure, including geographical distance and health care professional shortages at medical centres. Those participants citing these structural barriers generally nested them within other themes that shape treatment decision-making. As demonstrated in the following narrative, while a lack of transportation complicated this woman's decision to try to obtain care at the emergency room, it was her uncertainty about her symptoms that reduced her perception of the urgency of obtaining medical care.

> I didn't know what to do when I had all those stomach pains. I kept thinking I should call 911, but would they think I was crazy, calling them up to have someone take me to the emergency room because of a bad stomach? But I didn't have no one else around to take me, so I just cried with the pain a good while and then I guess it struck me that I could call me a taxi. I told the cab driver, I says, oooh, I have a stomach ache. I don't remember much about that ride. I woke up in the hospital. I don't even know how the cab driver got paid…

In this final narrative, a 55-year old woman from a rural community shares the events surrounding her heart attack. This narrative reveals the confluence of several themes elicited in the interviews: symptom uncertainty, competing social demands, and logistical problems, specifically the lack of available transportation and insurance coverage, compounded by the challenges of a geographically isolated residence.

Case 4: Anna Johnson

Mrs. Johnson, a 52-year-old White woman, has lived all of her life in a coal mining community in Eastern Kentucky. Her husband is a former coal miner who is on disability payments and works on a part time basis. Mrs. Johnson is a homemaker. She spends much of her day engaged in cooking, cleaning, preparing for church-related activities, and caring for her mother-in-law who lives in a separate house down the road.

The Johnsons live in a hollow in the mountains with many extended family members nearby. Due to poorly maintained roads, many of which are not paved and never cleared of snow during the winter, Mrs. Johnson notes that she "does not get out real often." Her 16-year-old son catches the school bus about a half a mile from their home. When her husband has work, he leaves with the family's car which does not bother Mrs. Johnson because she "has plenty to do" in the house. Mrs. Johnson has no health insurance and reported that, at the time directly before her heart attack, she had not been to see a physician in many years and had only seen a doctor a few times in her life. In her narrative below, she describes the setting and experience of her heart attack that occurred 4 years ago.

> I started having these pains right here (*points to ribs and breastbone*) not long after Tommy (*husband*) left for work and Tommy Junior (*son*) left for school, but I kept going most of the day, checking on Mother, fixing the meal for that evening, cleaning, and all the usual stuff. The pains got really bad in the late afternoon, after Junior got home from school. He said to me that I didn't look like myself, and did I want to call Ma-maw (*mother-in-law*) or something. He really didn't know what to do; he was only 12 then. But I just couldn't imagine calling for help. What was I going to do with my son? And what if these pains was all on account of something bad I ate and here I am calling someone for help and turns out to be for naught and costs us our Christmas money? I lived through worse, I told myself.
>
> Soon after Junior asked me about calling Ma-maw I must have collapsed, seemed like I lost my breath. He asked me what he should do, and I told him to dial the emergency number. But all that time he did I was wishing that this was all a bad dream because I didn't want to leave Junior alone and I didn't want to ruin Christmas on account of spending all of the money on the ambulance. It might have helped if I had called someone down at the hospital to ask them about these pains, but I doubt I could have done much about it anyway.

Mrs. Johnson spent about 2 h explaining all of her options when experiencing these symptoms. She notes that someone in her family would have taken her down the winding gravel road, about 10 miles to the local hospital, but she was uncertain about her symptoms, she worried about being gone when her son arrived home, and she predicted that paying for the medical services would take away all of the money they had planned to spend on Christmas gifts and celebrations. Finally, she was concerned about imposing. "Even with my kin, I know I'd be only too glad to help and they would too, but it would have meant them quitting what they were doing and taking the rest of their day. That's a lot to ask."

Discussion

While researchers increasingly acknowledge the importance of the social context of health behaviours, studies pertaining to coronary heart disease continue to lay emphasis on aspects of individual "lifestyle choices," such as engaging in recommended diet and exercise regimens. Studies that construe an individual's lifestyle behaviour as if such patterns were made in the absence of political, economic, and social constraints risk simplifying very complicated processes, on one hand, and blaming the victims of a disease, on the other. In fact, several researchers (Jimenez, 1997; Lupton, 1995) have demonstrated how the expansion of the public health movement institutionalised a form of moral regulation as health discourses increasingly focused on the ethical and moral practices of the self. As public health officials equated a healthy body with a disciplined or "moral" individual, lifestyle "choices" became the focus of public health research and subsequently, individual behaviours were targeted for control vis-à-vis discourses on individual, rather than social, responsibility.

While this orientation toward emphasising individual responsibility persists in studies of coronary heart disease, we explored women's narratives and found that time to formal treatment inextricably is linked to broader social and structural constraints. Such social and structural forces that shape the CHD experiences of women include the social construction of "standard" cardiac symptoms based on male norms, women's negative encounters with health care providers (HCPs) who diminished or discounted their knowledge, the competing social demands women face when threatened by a serious illness, and structural barriers delimiting women's health care choices.

Rethinking gender and CHD

While feminist anthropologists increasingly draw attention to the historically and socioculturally contingent construction of "gender" as a category for social organisation, many biomedical studies continue to construe gender as merely a dichotomous biological variable and consequently dismiss a broader reading of the way gender gets implicated in the production of authoritative discourses. Symbolically and structurally, CHD has long been conceptualised as a gendered disease, a designation that permeates not only the corridors of medicine, but the also the halls of the homes of lay individuals who, as the women in this study convey, have internalised such messages and act on their symptoms accordingly.

Symbolic and cultural representations of the heart as a mechanistic, technical organ closely aligned with plumbing or electrical systems have permeated current medical and popular images and have resulted in the heart being construed as a masculine entity (Martin, 1992). Until very recently, various institutions, including the medical community and pharmaceutical industries, created and maintained a monolithic image of the cardiac victim as a middle-aged, executive-looking White man, essentially contributing to the invisibility of women as coronary candidates (Emslie et al., 2001). The historical emphasis placed by the medical community on the 'Type A man' and his susceptibility to CHD (Riska, 2000) downplayed the possibility of CHD as a potential threat to women's health. While men are slightly more likely to have an MI, this emphasis on MIs being a 'male' health concern contributes to authoritative discourses and deleterious assumptions about women's invulnerability to CHD.

One of the most insidious consequences of the gendering of CHD as a male disease occurs when women delay time to treatment due to symptom uncertainty. Just as Mrs. Wilson hesitated to seek medical treatment because her symptoms did not conform to the male standard of arm and chest pains, nearly all of the women in this study underscored how a perplexity about the meaning of bodily sensations contributed to delayed formal medical care seeking. While a growing body of literature, including accounts from the women in this study, documents that women's cardiac-related symptom experience differs from that of men (Milner et al., 1999; Richards, McConnachie, Morrison, Murray, & Watt, 2001), men's symptoms continue to be considered standard and widely publicised (Halm & Penque, 1999).

Despite publicising these "standard" symptoms, several studies reveal that uncertainty over cardiac symptoms leads to delay among both women and men (Tod, Read, Lacey, & Abbott, 2001). As Ruston and colleagues have demonstrated, those cardiac patients who delayed treatment were more likely to indicate that their symptoms did not conform to "media portrayals of the event" (Ruston, Clayton, & Calnan, 1998, p. 1060). While the authors conclude that non-recognition of symptoms is the primary factor underlying delay for medical help seeking, it should be mentioned that a disproportionate percentage of the "delayers" in their sample were female (66% of females delayed versus 43% of men). Thus, while symptom uncertainty prevents both genders from more timely pursuit of formal medical care, the emphasis on the male cardiac disease experience, both in the realms of symptoms and susceptibility, has rendered women's symptom appraisal an excessively inexact and problematic process.

The consequences of gendering CHD as a male disease are compounded further when women's health issues are relegated to categories of "feminine" problems, such as reproductive health, rather than addressing a broader array of bodily concerns (Doyal, 1995; Manderson, 1999). The emphasis on breast cancer as the predominant disease threat to women serves as a compelling example of the essentialising of women's health concerns to the sum total of their female organs.

It is widely acknowledged that a woman's lifetime risk from heart disease always exceeds the likelihood of succumbing to breast cancer. Indeed, 2.8% of post-menopausal women will experience breast cancer, as opposed to 31% who have heart disease (Wenger et al., 1993).

Notwithstanding these irrefutable facts, the phantom of breast cancer continues to haunt women as the leading disease threat. For example, a study commissioned by the National Council on Ageing and reported in an editorial in The Lancet (1997) revealed that 61% of a sample of middle-aged women feared cancer (predominantly breast cancer) more than any other disease. Furthermore, only 8% of a sample of women in the US recognised that stroke and heart disease were both the leading causes of death of women and killed more women each year than the combined next 16 causes of death, including all forms of cancer (Lancet, 1997). Griffiths (1995) reported similar results in an English survey.

Some of the misguided emphasis on breast cancer as the pre-eminent threat to the health of women may be attributable to unbalanced medical and media attention. Payer (1994) attributes the "overselling" of mammography to US hospitals overbuying mammography equipment and, thus, having "excess capacity". Indeed, it is fairly routine for women to undergo annual mammograms and fewer standards to have CHD diagnostic examinations involving extensive blood work. In the realm of media emphasis on breast cancer, content analyses of Australian, Canadian, and American newspapers demonstrate extensive attention to women's vulnerability to breast cancer, largely to the exclusion of heart disease (Clarke, 1999; Lantz & Booth, 1998; Lupton, 1994b). Given the media and medical industry's emphasis on the dangers of breast cancer in conjunction with the lack of focus on women's vulnerability to heart disease, it is not surprising that women have internalised such beliefs.

Women's negative experiences with the health care environment

As more evidence comes to light about women's vulnerability to coronary heart disease and the importance of time to formal treatment, it becomes ever more imperative for researchers to acknowledge, investigate and take action against the social inequalities structured by differences in gender, class, and ethnicity that confront women in general, and disenfranchised populations of women in particular. Despite recent attempts to equalise power differences between patients and physicians such as those demonstrated by the "patient-centred" health movement, our study indicates that women with coronary heart disease continue to experience relationships of inequality between themselves and their physicians in ways that jeopardise time to treatment and, consequently, health outcomes.

While symptom uncertainty lies at the centre of all of the women's narratives, many women described how their symptom uncertainty occurred in conjunction with problematic health care provider interaction. Akin to symptom appraisal, inadequate patient–physician relations may contribute to delay to treatment in both men and women (Yarzebski, Goldberg, Gore, & Alpert, 1994; Goldberg, Yarzebski, Lessard, & Gore, 2000). For example, in Tod and colleagues' discussion of the factors that shape the use of medical care services in the South Yorkshire Coalfields Health Action Zone, disagreeable encounters with HCPs by participants or their family members contributed to low expectations of and disinclination to use medical services. While previously negative encounters with HCPs may discourage a general population from obtaining medical services, the frequent attribution of women's symptoms to stress, psychosomatic causes, or simply age has been demonstrated to cause women to doubt their own knowledge and bodily sensations and deem their symptoms unworthy of a clinic visit or call to the physician. The primacy of the physician's time over the discomfort, possible incapacitation and significant health risks of the woman herself signifies a meaningful difference in the status and importance afforded to individuals on the basis of their profession, and, likely, gender (Minkler, Wallace, & McDonald, 1995). Consequently, women's anticipation of not being taken seriously by their physicians further intensifies the silencing of women's medical complaints, despite strong evidence disproving assumptions about women being overly sensitive to 'trivial' symptoms (Macintyre, Ford, & Hunt, 1999).

When the discriminatory consequences of gender and race/ethnicity are combined, as in the case of Mrs. Green, the effects are magnified (Collins, 2000). While Mrs. Green was uncertain about the meaning of her physical pain, her confidence in the seriousness of her symptoms was diminished by her physician's lack of adequate information about women's cardiac symptoms, as well as his blatant disregard for her legitimate concerns about the possibility of heart trouble. Furthermore, the physician's racist assumption that as an African American woman, Mrs. Green's diet consisted of regular feedings of fried chicken confirms Harrison's (1994, p. 91) declaration that "racism makes people sick!" As Mrs. Green's case illustrates, social relations based on gender, class, and ethnicity, rather than biology, constrained her ability (and power) to seek out immediate medical care (Krieger, Herman, Avery, & Phillips, 1993). Nevertheless, it is important to avoid conflating ethnicity with socioeconomic status, as racial dynamics in society operate differently from class forces (Dressler, 1993; Wallace, 1990).

Structural inequalities and competing social demands

When describing the numerous barriers to the timely receipt of medical care, the power and authority of social, political, and economic structures to influence access to medical resources becomes apparent (Di Leonardo, 1993; Minkler et al., 1995; Morsy, 1990). In a free-market medical system characterised by the presence of a substantial stratum of the population that is under- or uninsured, many individuals face considerable impediments to treatment (Baer, 1982; Morsy, 1979), while those without adequate access to medical resources themselves have been blamed for not taking medically indicated action. Therefore, rather than citing cultural resistance or lack of will to obtain medical care, the appropriate focus needs to be directly "upstream" on structural barriers (see Chavez, Estevan, Flores, & Lopez-Garza, 1992 for an example).

Several studies conducted with both men and women implicate structural barriers and competing social demands in prolonged time to treatment for cardiac symptoms (Goldberg et al., 2000; McKinlay, Moser, & Dracup, 2000). For example, Goff and colleagues (1999) documented that, net of other factors, recipients of health insurance developed primarily for low income populations have a longer prehospital delay period compared with recipients of other types of insurance. Tod and associates (2001) specified how logistical factors, most notably lack of convenient transportation, may undermine rapid time to treatment. Thus, while women are not unique in their vulnerability to structural barriers, their greater likelihood to lack resources places them in a precarious position.

Similarly, several studies undertaken among a general population have identified competing social demands as problematic for rapid time to treatment. As early as 1972, Simon, Finleib and Thompson noted that MI patients delay seeking treatment, in part due to "failure to disregard existing social obligations" (481) while Alonzo (1986) found that 31% of coronary patients reported that they did not tell others of their acute symptoms because they had social obligations to fulfill. Again, while this theme may apply to men, our study indicates the central role that social obligations play in the lives of women. As Ms. Thomas revealed, obligations at church and with neighbours took precedence over concern about her cardiac symptoms. Attending to illness is merely one of many needs that confront an individual and influence symptom appraisal and treatment seeking behaviour. Despite many women's involvement in wage labour, they generally are responsible for domestic work that cannot be relinquished to others (Doyal, 1979, 1995; Hochschild, 1989). While abandoning one's employment responsibilities may run the risk of loss of income, forsaking your dependent 90-year-old mother or your 12-year-old child may harbour even more serious, life-threatening consequences. Since the responsibilities of men generally are connected to employment while women usually are held responsible for managing household activities and general caregiving (often in addition to wage labour), such 'emotional housework' (Doyal, 1995) serves as an unrelenting source of stress and limits formal care seeking options. Thus, the primacy women often place on the care of others often results in diminished attention to their own concerns. As Manderson explains (Manderson, 1999, p. 76), "ideologies of gender, motherhood and family all determine the care provided to women for their own health, to their children and to other household members."

Conclusion

Since delays in seeking formal medical care for heart disease are negatively associated with prognosis and survival (Arntz, Stern, & Willich, 1996), early CHD symptom detection, optimal self-care behaviours, and the timely seeking of medical assistance may be tantamount to survival. Little is known, however, about the factors and circumstances that contribute to delay in seeking formal medical treatment for CHD symptoms (Dracup & Moser, 1991). This gap in the literature, while troubling for the entire population, is particularly problematic for those segments of the population most vulnerable to poor CHD outcomes, namely women and certain ethnic and residential groups.

While public health campaigns have begun specifically to target women for prevention and management, the shift in perceiving CHD as a "man's disease" is far from complete. Recreating the relationship between CHD and gender will no doubt entail a rethinking of the concepts of "women's health" and "gender" in biomedical research, as well as a recognition of the inseparability of women's illness experiences from the social and structural contexts of their daily lives. Simply raising awareness of women's vulnerability to CHD is an inadequate remedy to disproportionately poor health outcomes experienced by women. Indeed, while Meischke and colleagues (1999) found an association between awareness of a wide variety of cardiac symptoms and reduced time to treatment, other studies demonstrate a more limited impact of knowledge on care seeking behaviour (Luepker et al., 2000; Moses et al., 1991). Reshaping the implicit and explicit messages conveyed through existing structural institutions (including the provision of medical care and the type A male executive focus of the media) along with increasing attention to the distribution of medical and economic resources may go further than raising the public's consciousness to stem women's vulnerability to CHD.

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