

## Socioeconomic variations in responses to chest pain: qualitative study

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### Abstract

**Objective** To explore and explain socioeconomic variations in perceptions of and behavioural responses to chest pain.

**Design** Qualitative interviews.

**Setting** Community based study in Glasgow, Scotland.

**Participants** 30 respondents (15 men and 15 women) from a socioeconomically deprived area of Glasgow and 30 respondents (15 men and 15 women) from an affluent area of Glasgow.

**Outcome measures** Participants' reports of their perceptions of and actions in response to chest pain.

**Results** Residents of the deprived area reported greater perceived vulnerability to heart disease, stemming from greater exposure to heart disease in family members and greater identification with high risk groups and stereotypes of cardiac patients. This greater perceived vulnerability was not associated with more frequent reporting of presenting to a general practitioner. People from the deprived area reported greater exposure to ill health, which allowed them to normalise their chest pain, led to confusion with other conditions, and gave rise to a belief that they were overusing medical services. These factors were associated with a reported tendency not to present with chest pain. Anxiety about presenting among respondents in the deprived area was heightened by self blame and fear that they would be chastised by their general practitioner for their risk behaviours.

**Conclusions** Important socioeconomic variations in responses to chest pain may contribute to the known inequities in uptake of secondary cardiology services. Primary care professionals and health promoters should be aware of the ways in which perceptions of symptoms and illness behaviour are shaped by social and cultural factors.

### Introduction

Mortality from coronary heart disease in Scotland is higher than the United Kingdom average,<sup>1</sup> and within Scotland mortality is highest in the west.<sup>2</sup> The monitoring trends and determinants in cardiovascular disease (MONICA) study, which monitored trends in coronary heart disease in study populations drawn from 21 countries, reported that of all its centres Glasgow had the highest mortality from coronary heart disease.<sup>3</sup>

Studies in the United Kingdom and Scotland have shown socioeconomic variations in uptake of cardiology investigations and revascularisation procedures.<sup>4-6</sup> These studies involved analysis of hospital data, so the questions of where in the care pathway and why the variations arise remain unanswered. Qualitative studies have identified several factors that lead to a reluctance to present with angina—for example, fear of hospitals, fear of what the doctor would say, denial of heart disease, diagnostic confusion relating to comorbidity, and low expectations of treatment.<sup>7-8</sup> These studies were based on small homogeneous samples and were not able to explore socioeconomic variations.

Socioeconomic status has long been recognised as an important determinant of illness behaviour and the quality of the doctor-patient relationship.<sup>9-10</sup> This study aimed to ascertain whether responses to chest pain varied with socioeconomic status or sex. Socioeconomic variations are covered in this paper; variations with sex have been described elsewhere.<sup>11</sup>

### Methods

We used qualitative interviews to explore responses from the perspective of the person having chest pain, within his or her own social and cultural contexts. The sampling frame comprised men and women aged 45-64, identified in epidemiological surveys carried out in two socioeconomically contrasting areas of Glasgow as having exertional chest pain. Details of the survey method are reported elsewhere.<sup>12</sup> We ascertained chest pain by using the Rose angina questionnaire,<sup>13</sup> which has been shown to predict mortality in men and women.<sup>14</sup>

We used purposive sampling to ensure equal representation of men and women from the two socioeconomically contrasting areas. We stratified respondents by sex and area of residence and randomly selected 15 men (mean age 58.6 years) and 15 women (mean age 57.7 years) from each area. In order to obtain the 60 interviewees, we had to contact 114 people. In 12 cases, the person had died or the letter was returned to us unopened. Of the remaining 102 people, 24 (23.5%) did not reply and could not be contacted by phone and 18 (17.7%) declined to participate. The overall response rate was lower in the deprived group (30/61, 49.0%) than in the affluent group (30/41, 73.0%).

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HMR carried out the interviews, making it clear to respondents that she was a general practitioner.<sup>15</sup> She used a semistructured interview schedule, which included questions about chest pain and previous experience of ill health. We carried out the analysis as a five stage iterative process: development of a coding schedule; coding of the data; description of the main themes; linking of the themes; and development of explanations for the relations between themes. We checked data for negative instances and rival hypotheses, and MER oversaw the analyses. We used NUD\*IST software to manage the data. We give code numbers and respondents' sex, age, and area of residence in parentheses (D=deprived; A=affluent).

## Results

### Perceived vulnerability to heart disease

Respondents from the deprived area reported feeling more vulnerable to heart disease than those from the affluent area. This greater perceived vulnerability related to their strong family histories and greater sense of identification with high risk groups and stereotypes of cardiac patients; they were more likely to have vivid memories of witnessing angina and deaths from heart disease in young relatives. For example, R38 (male, 65, D) explained that two of his brothers and two nephews had angina; he communicated a sense of resignation to having heart disease by saying: "The whole lot of us have had angina." R44 (male, 57, D) reported that his father had died of heart disease at the age of 48 and that six paternal uncles had died of heart disease before the age of 60. He felt sure that his strong family history meant that he would die of heart disease. When asked why he thought he was having a heart attack, he said: "Well, wi' this runnin' in the family, it's always on the mind, you know, that if I'm gonnae die—it's gonnae be a heart attack, know? I don't think of myself dyin' wi' anythin' else."

The sense of vulnerability felt by the deprived respondents was often accentuated by their identification with the dominant "red and bloated" cardiac stereotype and with social groups and geographical areas associated with high risk: "I just know the research. The east end ae Glasgow is where the heart attacks are more prominent than any other part of the west of Scotland; the west side ae Scotland is most prominent in the heart attacks than any place else in the British Isles. If you are looking for a candidate for a heart attack, you've come tae the right area" (R34, male, 61, D).

In contrast, respondents from the affluent area were more likely to deny a family history of heart disease. Others presented their family histories as discrete and isolated events or reported a belief that their positive family history could be "cancelled out" by leading a healthy lifestyle. They also distanced themselves from cardiac stereotypes by speaking about them in the third person: "They'd probably be overweight. Smokes and drinks too much probably. Eats the wrong things or too well. Somebody who doesn't do an awful lot of exercise" (R30, female, 47, A).

Even though respondents from the deprived area expressed a greater sense of vulnerability than the affluent respondents, they were no more likely to report presenting with chest pain. Their illness behav-

our was modified by their experience of illness and their expectations of health care.

### Experience of illness

Forty four respondents made a clear general statement about their health. Of these, 21 stated that their health was good, 7 judged their health to be moderate, and 16 said that their health was poor. Of the 16 people with poor perceived health, 12 were from the deprived area; of the 21 people with good perceived health, 15 were from the affluent area. As well as often reporting poor health: "It [health] is knackered (laughs), really, in a nutshell" (R32, male, 60, D), people from the deprived area often reported that their health was in decline:

HMR: "How do you feel about your health at the moment?"

R44 (male, 57, D): "At the moment (laughs) I feel I'm going down hill rapidly, you know."

Respondents from the deprived area were also more likely to report other significant medical conditions and to have low expectations about longevity and ageing. R28 (female, 65, D) reported having diabetes, stroke, hypertension, and high cholesterol, and said laughingly: "You name it, I've got it, you know what I mean?" Another respondent (R23, female, 65, D) said: "Well, I've got thyroid trouble, a couple of collapsed vertebrae in the spine, I've had incontinence for a long time—I've had a lot of operations for that—and I've had osteoporosis."

Yet another respondent (R43, male, 58, D), when asked about his health, said: "I'm gettin' a lot of pain in my chest for some unknown reason."

HMR: "Are you?"

R43 (laughs): "Aye, but I think it's auld age."

HMR: "How old are you?"

R43: "I'm fifty nine on the seventh. I dunno. I've seen a few of my mates goin' away [dying], aye they never reached this one. So, the boys are all congratulating me, thinkin' 'At least he made it to auld age pension' you know, 'cause a lot of them didnae get there."

Respondents reported three reasons for not presenting with chest pain that were related to perceived poor health. Firstly, they normalised their chest pain: "I just thought 'Och, you've had to work long hours; you know, so I thought it was just tiredness, that's all'" (R54, female, 56, D). Secondly, they were unable to distinguish chest pain from symptoms of other physical conditions, such as chest infections and heartburn: "It's hard tae say if you've got angina attack or the chest pains, 'cause I get a lot of chest pains through infections, you know, an' it's hard to determine one fae the other" (R31, male, 60, D); or they attributed it to "stress": "I put it [chest pain] down to because of the rushin' about, you know, workin' and shoppin' and you know all the different things, 'cause it's quite strenuous looking after two teenage boys" (R48, female, 51, D). Thirdly, respondents with multiple health problems expressed concerns about overusing medical services:

R57 (female, 53, D): "I actually thought then 'Is this the start of a heart attack? No, Jesus God, no,' but I don't know, I just left it."

HMR: "You didn't call your doctor then?"

R57: "No, because at that particular point I thought I was goin' tae the doctor far too much an' I don't know

why, I think sometimes the doctor thinks you're playin' on it. And then I say, no I'll leave it just to see, 'cause I'm not one for actually bothering the doctor."

### Past experience and future expectations of health care

In both geographical areas, perceived quality of interactions with the general practitioner and future expectations of health care shaped illness behaviour. Respondents from the deprived area were more likely to report negative experiences of health care and to have lower expectations of health care. The quality of interactions was determined by the degree of social alignment between the doctor and the respondent, the degree to which knowledge about health was shared in the consultation, and the extent to which respondents felt at fault for their health problems.

None of the respondents from the socially deprived area was personally connected with the medical profession, but 10 affluent respondents stated that they or their spouse worked in medical or allied professions. Affluent respondents were also more likely to report friendships with doctors and privileged access to health care. For example, R11 (male, 58, A), who was under pressure to get back to work, reported that his general practitioner arranged a cardiology appointment that afternoon by fax. He then said:

R11: "I went up [to the hospital]. They put me on the jogging machine etcetera, they did the ECG, they did an angiograph, and they told me there and then that it was all negative. Then they sent me for a head scan, negative, everything negative."

HMR: "Why did you have a head scan?"

R11: "Just as a precautionary measure."

In the deprived area, several respondents reported difficulty accessing health services. For example, R54 (female, 56, D), who has laryngeal carcinoma, had presented many times before being referred:

HMR: "How long had you had the sore throat before you went to your doctor?"

R54: "Td been goin' to him on and off for about two years and complainin' an' just gettin' cough bottles and antibiotics and, of course, everything they blame on smoking."

The extent to which knowledge was shared also varied with socioeconomic status. The more affluent respondents reported greater formal medical knowledge and more extensive sharing of knowledge with their general practitioner: "We [himself and the general practitioner] always sit and have a chat and he says 'Oh I read this interesting paper in the *Lancet* the other day and it says 'da-da-da'" (R13, male, 47, A). In contrast, people from the deprived area often felt that they were not given adequate information: "They [doctors] just say 'you have to do this, you have to do that' and that's it. I'm a question asker, and they don't like me asking questions" (R53, female, 62, D).

The issue of blame was discussed by respondents from both areas. Heart disease was linked to risk behaviours and to negative personality traits such as selfishness: "not thinkin' ae other people before yourself" (R48, female, 51, D); weakness: "people that drink or weaklings" (R28, female, 65, D); and laziness: "I think if you were a sort of lazy layabout and suddenly got up and asked the heart to do all these things you might have problems" (R49, female, 51, D). However,

deprived respondents were more likely to report being personally involved in risk behaviours and to feel at fault for their chest pain: "You only get what you deserve. The books tell you that, and the telly and the papers tell you that" (R34, male, 61, D). R56 (female, 64, D) said: "I have gave my body one leathering, you know, and it's reacted, I mean it, like everything else, they say the worm turns. My body's turning. It's just saying, you've abused me, now I'll abuse you."

Many of the deprived respondents believed that their general practitioner would blame them for their health problems. For example, when asked whether he had consulted his general practitioner about his chest pain, R41 (male, 53, D) said: "No, they just tell you tae give up smokin', that's aw."

Respondents who believed that they led a healthy lifestyle (mainly from the affluent area) rarely considered themselves to be to blame for their chest pain. Indeed, some reported feeling cheated that, despite believing that they had led a healthy life, they had heart disease: "It niggles me I have to admit—if you look at me I'm skinny and I don't smoke and I'm fairly active, and why the hell should I get a cardiac disorder?" (R15, male, 57, A).

## Discussion

Compared with the affluent group, people from the deprived area reported greater perceived vulnerability to heart disease, which stemmed from greater exposure to heart disease in family members and a greater identification with cardiac stereotypes and high risk groups. This greater feeling of vulnerability was not associated with reporting of more frequent presenting to a general practitioner with chest pain. People from the deprived area described normalising their chest pain, confusing it with other conditions, believing that they were overusing medical services, and perceiving that they were to blame for their chest pain and would be chastised by their general practitioner. In contrast to a study in Yorkshire,<sup>7</sup> our urban based study did not find that structural factors such as lack of transport acted as barriers to presentation.

Medical sociologists have long recognised the importance of illness biography<sup>16</sup> and social class<sup>9, 17</sup> in determining illness behaviour. More recent research has shown the impact of previous encounters with medical professionals on subsequent consulting behaviour<sup>18</sup> and indicated that fear of blame may deter patients from presenting.<sup>19</sup> Some of the themes identified in our study as being relevant to socioeconomic variations in illness behaviour—for example, diagnostic confusion and past experience of health care—have been suggested by previous studies of chest pain, but because those studies were based on socioeconomically homogeneous samples they were not able to make socioeconomic comparisons. Moreover, the participants in those studies had already received a clinical diagnosis of angina, and it is likely that their recall of events was influenced by their subsequent care. This study, by using a sample identified at the beginning of the care pathway before a diagnosis had been made, and drawn from two socially contrasting areas, was able to explore in some depth the relation between

### What is already known on this topic

Socioeconomic variations in rates of angiography and revascularisation exist

Among socioeconomically deprived patients with a diagnosis of angina, barriers to accessing services include fear, denial, low expectations, and diagnostic confusion

### What this study adds

Perceived vulnerability to heart disease is associated with socioeconomic deprivation and is underpinned by positive family history and identification with high risk groups and stereotypes

Greater perceived vulnerability to heart disease does not lead to reported presentation in deprived patients

Illness behaviour is influenced by normalisation of chest pain, comorbidity, and poor experience and low expectations of health care, which are more prominent in deprived patients

socioeconomic status and responses to undiagnosed chest pain.

Our study indicates that some of the observed socioeconomic variation in uptake of cardiology services may originate from decisions made by patients, which in turn relate to family and social norms of ill health, to past and present health and expectations of future health, and to past experience of health care. Normalisation of symptoms and diagnostic confusion and are likely to apply to illness behaviour in general. The theme of self blame and fear of chastisement, which underpinned the quality of past experience of health care, is likely to be particularly relevant to chest pain because of the common association between heart disease and an unhealthy lifestyle.

The Rose angina questionnaire is an epidemiological tool,<sup>20</sup> not a diagnostic instrument, so we were not able to ensure that all respondents had chest pain of similar clinical severity. Its use meant, however, that all respondents had a comparable symptom: exertional chest pain. Qualitative research is often criticised for its lack of generalisability. In this study, the lower reply rate and rate of agreement to being interviewed in the deprived group compared with the affluent group reflected difficulties in contacting potential interviewees by phone and refusal due to reported poor health in themselves or in family members. If these non-responders had been included, it is likely that the observed socioeconomic variations in illness behaviour would have been accentuated. By providing an epidemiological context for this study,<sup>12</sup> we invite other researchers to judge the applicability of our findings to their own research or practice contexts.

This study was designed to explore the socioeconomic differences in responses to chest pain, in order

to generate hypotheses. We suggest that socioeconomic variations in the decision to present may be partly explained by respondents' perceptions of what constitutes normal health, by their illness biographies and expectations of future health, and by the perceived quality of previous encounters with health professionals. Future research is needed to test these hypotheses. Meanwhile, the possible implications for ensuring equity of access to cardiology services should be considered by professionals working in primary care and health promotion.

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