Women on a low income, Coronary Heart Disease risk **and lifestyle change: A grounded theory study**

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Abstract

Title. Women on a low income, Coronary Heart Disease risk and lifestyle change: A grounded theory study

Aim. This study has enabled the reflections of women on their lifestyles and attempts at lifestyle change to be analysed.

Background. Coronary Heart Disease is now recognised as the biggest killer of women across

the world in both developed and developing countries. In the United Kingdom the inverse social class gradient in Coronary Heart Disease is not reducing for women. Women of child bearing age and Coronary Heart Disease risk is an understudied area, as are the realities of living on a low income in relation to that risk.
Method. Using a grounded theory method, the study has enabled the reflections of women on their lifestyles and attempts at lifestyle change to be analysed. This is an area which warrants study particularly in relation to inequalities in health, an issue of great importance to public health practice.
Findings. This study suggests that the women interviewed were unaware of Coronary Heart Disease as a potential risk to their health and that three key areas negatively influenced the lifestyles of the women interviewed, particularly relating to behaviours which increase risk (smoking, diet and exercise). These three key areas were high workload demands in the home, lack of control over their own circumstances and lack of social support.
Conclusion. These three areas have previously been identified as occupational psychosocial CHD risk factors and have been widely tested across different occupational groups and genders. As such they provide a potential structure for practice interventions aimed at increasing levels of physical activity undertaken by women in this group.

Keywords: coronary heart disease, health behaviour, income, poverty, prevention, women

Word count (253)

Summary Statement

What is already known about this topic?

- Women who live on a low income are more likely to smoke and be overweight.
- Women who live on a low income are more likely to suffer with Coronary Heart Disease.

What this paper adds

- This qualitative research study explores in depth how living on a low income impacts on health behaviour.
- The insights offered through this grounded theory exploration offer a potential structure for interventions which seek to influence the health behaviour of women within this group.
- Interventions informed by this study need to be designed, tested and evaluated to ascertain whether this approach works in practice.

Women on a low income, Coronary Heart Disease risk and lifestyle change: A grounded theory study

Introduction

Background

Internationally mortality rates for CHD in women, as in men seem to be directly related to income inequality and social deprivation (ONS 1997, WHO 2003).

For many modern diseases such as cancer and CHD there is not a single predisposing cause as may be evident with infectious diseases (Stansfeld & Marmot 2002). For cancer and CHD there appears to be a hierarchy of associated factors, the basis of which may be seen as social and behavioural, though they may also be related to political and economic factors. The status of a woman as carer may mean that her health and lifestyle directly affect those she cares for (Harker & Hemingway 2003). It would appear however, that the increased risk of suffering from CHD inherent within social status cannot be rectified by the consideration of behavioural confounding factors such as smoking rates, diet and exercise alone. Increases in risk persist in relation to social status, and income, the exact origin of which may lie within theories relating to "chronic social stress and the end physical and psychological results of that stress" (Wilkinson 1998, p54, Stansfeld & Marmot 2002).

In addition CHD is viewed as a ‘male disease‘, an image reinforced by the media, health educators and the medical press (Sharpe 1994, NHF 2003) which has important implications

for the health of women. Firstly women may not see themselves as likely to get CHD and may therefore ignore health messages about CHD risk, and, secondly if health professionals do not perceive women as likely to develop CHD then delays in diagnosis and treatment may result (Albarran 2003).

The study

Aims

The aims of this study were to ask women to consider their lifestyle, and experience of lifestyle change in relation to CHD risk factors, particularly in relation to;

- their knowledge of CHD risk factors and related health promotion/education,
- their perceived ability to comply with such advice, and
- their perceived barriers and enabling factors regarding a change of lifestyle.

Research Design

This study was undertaken within an urban area, and has considered the reflections of 18 pre-menopausal women (aged 18-48) on lifestyle, and lifestyle change which relates to CHD risk factors (specifically smoking, exercise and diet). The women interviewed were all living on a low income, being defined as below half average income after housing costs (EU definition cited in Acheson 1998, p.17) and in receipt of state benefits. The existing literature on this area was considered by the researcher prior to embarking on the study in order to enable the development of theoretical sensitivity in this area. The area in which the study was undertaken is an area of high density multiple occupation housing with a rapid turn over (in excess of 25%) of population per annum. All the women interviewed had lived in the area for more than one year.

Participants

The women within the study were sampled purposively using chain or snowball sampling techniques (Wengraf 2001). This group of women living in houses of multiple occupation proved somewhat problematic to access which is why the snowball sampling techniques were used. Not all of the women in this area are registered with health services locally, therefore a formal approach, via General Practitioner surgeries for instance, would not have enabled the researcher to access the women on whom the study was intending to focus. The researcher had been working as a volunteer within the local family drop in centre for a year prior to undertaking the study, and initial sampling was undertaken from the group of women who attended. However as the study progressed women were also sampled from contacts made through interviews. It appeared to be essential for the researcher to be‘ known‘ to the woman or a friend when asking for an interview. This ‘knowing‘ appeared to be in relation to placing the researcher socially, not in relation to work but in relation to whether she was a mother, single or not, and where she lived. An element of trust was needed in order for the process of approaching a woman for interview and then the interview itself to be successful. In addition to the 18 women interviewed a further 17 women refused to be interviewed, or were ultimately

not available for arranged interviews.
The following factors were considered to guide sampling.
Age – all of the women interviewed were aged between 18 and 48 with an even spread being achieved across ten year age bands.
In receipt of benefits – all of the women interviewed were in receipt of benefits at the time of interview.
Living with children – all of the women interviewed had children under the age of 16 living with them at the time of interview.
Living in a house of multiple occupation – all of the women and their children were living in this type of accommodation at the time of interview.
Other factors which were also relevant to the lifestyles of the women were;
Car access, only four of the 18 women had access to a car to use, none of the women owned a car.
Internet access/computer access, none of the women had internet access for themselves and their children, two of the women had computer access for themselves and their children.
Living with a partner - six of the women were living with a partner at the time of the interview, no partners were present during interviews.
On interview each woman was assigned their own social class using registrar general's descriptors (all fell within manual social classes). In addition the women were classified using alternative social classifications:
housing tenure (no women were home owners),
car access (4 women had access) and,
educational attainment (5 women had three or more GCSEs but less than five, 10 women had less than three, and three had no formal qualifications).
Twelve of the women were smokers at the time of interview.

Data collection

A qualitative approach has been utilised using a grounded theory method to analyse and guide in depth interviews with the women. All of the women had children living at home with them (under 16 years of age). The women were interviewed in depth (average interview length was one and one half hours) to provide a picture of their lives and lifestyles in order to enable an analysis of the present case. The interview guide was developed to include and develop emerging themes as the data collection and analysis progressed. The initial interview guide focused on behavioural risk factors (smoking, high fat diet and exercise) and enabling and inhibiting factors in lifestyle change. As the interviews and analysis progressed the interview guide focused on high demand, and lack of support and then finally on perceived control over lifestyle change in addition. All interviews conducted within the study were taped and analysed with the aid of computer software (Nudist).

Rigour

As a qualitative study the recommendations from this investigation will have limited generalisability (analytic, as opposed to statistical). However the quality of the information gained will, for this locality, and those who consider their locality comparable, be of direct relevance. The researcher while undertaking this study used a variety of strategies to assure appropriate, systematic, logical investigation and representation of results. The first was to use

a clear logical sampling process for the interviews with the sample of women across the ‘pre menopausal‘ age range. The second strategy used was to check back with interviewees to consider accuracy of transcription and the emergence of themes from the analysis for relevance and appropriateness. The third was to undertake a rigorous analysis of the interview transcripts structured through the use of constant comparative analysis with all individual interviews being transcribed and analysed prior to the next interview being undertaken.

Ethical considerations

Ethical approval for this study was gained through the local research ethics committee and all transcriptions were not labelled with the participants name but were identified using a numerical code. All tapes and transcripts are being stored under lock and key for five years after completion of the study.

Within any situation of trust however there is potential for exploitation. The researcher considered carefully whether to reveal that she was a nurse, who had children and was a working mother, wishing initially to attempt a textbook ‘unbiased‘ form of interviewing (Wengraf 2001). However it became apparent while working in the local community that although one‘s identify as a women and a nurse provided the entry to the interview situation, as the researcher, one had to be prepared to expose oneself to being ‘placed‘ socially as a women/mother and to establish that one is willing to be treated accordingly in order to be trusted and for the interviews to take place successfully.

Data analysis

Constant comparative analysis of interview data was undertaken (Denzin & Lincoln, 2001), with each individual interview being transcribed and analysed prior to the following being undertaken. The constant comparative method of data analysis meant that themes which emerged from interviews were further explored in future interviews as well as considered within further analysis of existing data. As themes emerged from the data the interviewer returned to the women already interviewed to further explore whether they seemed appropriate and truthful in relation to the experiences of the women as the study progressed.

Findings

None of the women had an awareness of CHD as a potential health risk for them whether they were smokers or non-smokers. They saw the most common health risks for women throughout their lives as cancer and focused particularly on breast cancer as a possible health problem for them.

The themes arising from the analysis of the interviews with the women in this study relate to three areas, which interestingly have already been considered within the study of psychosocial

occupational factors which increase CHD risk. These factors are, control, demand and social support. The demand-control-support model (Karasek and Theorell, 1990) has been developed in relation to occupational psychosocial factors which increase the risk of CHD. There appears to be a striking association between measures of poor psychosocial work environment and risk of CHD (Theorell & Karasek, 1996). The Whitehall study showed that those who described low decision latitude had a greater relative risk of developing CHD and the relationship was significant after adjustment for negative affectivity, social class and biomedical risk factors (Bosma et al., 1997). A further analysis of the Whitehall II data focused on the effect of control at home on CHD events and considered gender within the analysis (Chandola et al., 2004). The study suggested that being from a lower household social position is a significant predictor of low control at home among women; the authors went on to suggest that it is therefore possible that control at home may be one of the psychosocial mechanisms underlying social inequality in CHD among women.

The role a woman has as a carer within a family can be viewed as particularly relevant in terms of its impact on the health and lifestyle of the family members overall (Spencer 1996). Almost one third (2.7 million) children in the UK live with lone parents (90% mothers) and 60% of these live on a low income (Child Poverty Action Group 1998). Home is a place of work for mothers and it seems reasonable to apply the demand-control-support model to the home. The characteristics of the model which emerged from the data analysis are:-

- High workload demand from self, partner (if present) and children
- Lack of control or low decision latitude in relation to conditions inside and outside the home
- Absence of social support, both emotional and instrumental

The interviews with the women within this study were an in-depth discussion relating to their lifestyles, including their reflections on what affected their decision making on their smoking, diet, and exercise behaviour. The three areas of high demand, low control and lack of social support emerged clearly from the interview data as exerting a negative effect on their lifestyles. A quarter of the women interviewed were in part time paid work; however none of the women were earning enough to escape benefits. Therefore the emergence of the three areas outlined here for the women interviewed related to the paid and unpaid ‘work‘ the women did both inside and outside the home. However, as all the women had children living at home with them and the discussion related to the whole of their lives, work needs to be considered as paid and ‘unpaid‘ which related directly to their caring responsibilities.

Discussion

Let us consider the three areas outlined in the demand, control and support theory in turn, beginning with high work demands.

High workload demands

It is interesting that within previous studies smokers who are experiencing high psychological

demands find it more difficult to give up smoking and are less likely to quit (Green & Johnson 1990, Karasek & Theorell 1990). Indeed the Child Poverty Action Group found that single-parents are more likely to smoke (1998).

The majority of the women interviewed were lone parents of between one and four children, and the majority of the women were smokers at the time of interview. The women interviewed felt that it was ‘stress‘ that made them ill; when asked what caused them stress they reported that the demands made upon them were continuous and unmanageable at times. The stress of caring for children possibly on their own and in difficult circumstances was overwhelming, and the frustration experienced from managing on a low income was apparent in many aspects of their lifestyles. As already mentioned here previous work on stress in families and CHD risk has outlined particular scenarios where stress may affect risk; however it is also pertinent to introduce the concept of coping mechanisms which may increase risk. The parents coping mechanisms for life stresses such as smoking (Graham 1988) or drinking or over eating and weight problems may well affect the child, either directly through impacting on daily life or because the child may learn negative coping mechanisms early in life which may be maintained into adulthood.

The burden of caring for a child or children alone on a low income will expose an individual to high or continuous work demands often for the women interviewed in difficult circumstances. "I just kind of think that most women take too much on…they feel responsible for everything, like running a home, working, just things like working out the bills, you know it’s all too much and they end up, well they can‘t cope." This woman lived alone with two children aged one and three.

The demands recounted by the women are seen as relentless and all consuming "yes I can (make changes in our lifestyles) but it’s all too much…I mean my whole way of life centres around them really, I don‘t have money or the strength to change that much" (lone mother with two daughters aged one and five).

In pregnancy the expectant mother who is most likely to be unable to stop smoking is the one who requires smoking to cope and may be negatively controlled by a smoking partner and/or friends. Living on a low income restricts choice and it may engender individual and group behaviours such as smoking which can be regarded as an all important ‘something I do for myself‘ by those with few pleasures (Graham 1988, Blackburn 1991).

Lack of control or low decision latitude in relation to conditions inside and outside the home

Receiving benefits or working at a low pay, low status job may expose one to a low level of decision latitude or sense of control (Blackburn 1991, Harker & Hemingway 2003) the second area outlined within the demand, control, support theory (Karasek & Theorell 1990). Having no influence over when or how one receives one’s benefits or being unable to influence how or when one works, or where one lives also makes one lacking in control.

Some of the women interviewed had downsized their work ambitions if they were alone caring for children, even though they had educational qualifications which would allow access to a variety of occupations. The women stated that they needed to have little or no responsibility at work, so if there were problems with illness or childcare they were not ‘letting anyone down‘. Casual work seemed to be appealing as one could leave or not attend if one’s caring responsibilities needed to take precedence. "Something where I can just clock in and clock out I don‘t really care how mundane. If the children are sick I can phone up and say they are and I am not letting anyone down" (lone parent and trained operating department assistant with two children aged one and five). Interestingly Karasek & Theorell (1990) have stated that low pay low status jobs are often demanding and lacking in decision latitude. Most notable is the large number of these occupations populated primarily by women. The women in the study who worked primarily undertook jobs such as waitressing, sewing, child care, home work/piece work or shop work. Interestingly, of the women who worked none had only one job. Multiple casual jobs, with low levels of pay took preference with, as the women saw it, ‘low levels of responsibility‘, and which would fit in with their caring responsibilities.

When asked to consider their dietary intake the decisions the women made were clearly influenced and controlled by their children and those they lived with. The majority of the women interviewed (n=15) considered themselves to be overweight at the time of interview, and all these women had tried different methods to lose weight, many of which had incurred a cost and had proven to be ineffective. The women were aware of what generally constituted a healthy diet, namely eating fruit and vegetables each day and having less fatty food as has been found in other studies (NHF 2003). However the women were not aware of the detail of recommendations relating to reducing CHD risk, for instance the ‘5 portions of fruit and vegetables a day‘ guide. The reality of their own dietary intake was dictated by practical issues of income and ‘what the children would eat‘. "Then I will cook something she likes which is probably very unhealthy like sausages, eggs…you know something childy", (lone parent of two children aged three and three months). The women expressed views on what was ‘childy food‘, this being chips, burgers, sausages etc and stated that their children were not keen on, or satisfied with fruit, vegetables or salads. It was stated that the problem with their own dietary intake was that for practical reasons they ate with the children and the kind of things the children liked to eat were not healthy. "I couldn‘t buy different for me…and him and for them…I couldn‘t afford it…I did try…I kept finding salad like going off in the fridge", (mother of two aged two and four with partner). The diet which the women thought their partners and children preferred and which they therefore provided was high in fats and markedly lacking in fruit and vegetables.

From local investigations into dietary patterns of families and extended families on low income in the public health action area in which the study is based, the following points emerged (Lucket 2000):-

- Mothers are mainly concerned that their children eat what they are given; and less concerned that what they are given is a balanced diet
- As the chaotic lifestyle of some families lead children to assert their independence earlier, they are given control over helping themselves to snacks and drinks throughout the day as and when they choose, without parental guidance
- Where there was the traditional ‘generation gap‘ between parents and grandparents, and these grandparents took an active role in the extended family scenario, visiting grandchildren experienced more traditional balanced meal

patterns

- Grandparents appeared to have a greater appreciation of the valuable contribution fruit and vegetables make to children‘s diets. Some children said it was more common to eat fruit when visiting grandparents than at home

The practical problems relating to preparing food while caring for young children in potentially unsafe, poorly equipped surroundings was apparent. The women interviewed lived in private rented accommodation in an inner urban area and expressed concerns over the standard of cooking equipment and food storage available. The women stated that often grills/cookers did not work or were not present, with some having only a micro-wave to prepare food for them and their children, thereby preventing or limiting food preparation capacity. Fridges and freezers may be faulty or absent and their contents may be vulnerable to theft. "When I was living in a B & B (we were homeless) and I had to give my children cheap take-away. The guilt to me because I was not feeding them properly was awful. I had nowhere to do anything and things got nicked" (lone mother of two aged 7 and 11). While if all food had to be stored, prepared and consumed in the same room then worries over accidents during preparation and disposable of waste were concerns.

As already mentioned the lifestyle of a family may lead to children and parent/carer snacking inappropriately. The comments and observed behaviour within this study showed that food may be used in difficult circumstances as a distraction or a pacifier, or indeed a reward. If one is caring for children on a low income the only achievable treats may be in terms of snacks and drinks, as trips out, toys, games or clothes may be well beyond the family budget.

All of the women had developmental plans either study and/or work related. These were most commonly inhibited by caring responsibilities and financial constraints, with no realistically priced and reliable child care being the main factor. As in the U.K. educational attainment and social status appears to affect one’s risk of developing CHD, this frustration and blocking of ambition may be relevant in the long term, but also causes frustration and reduced perceptions of control within the short term. Karasek & Theorell (1990) discuss "feeling like your feet are stuck to the floor" in high demand low control situations and how this can cause psychological strain which may result in physical illness. In addition the educational attainment of parents and their interest in and whether they value education will affect the achievement of their children. European research (Hupkens et al. 2000) indicated a direct relationship between the educational achievement of mothers and the degree of consideration given to healthy food. Mothers with higher educational attainment considered health more frequently than cost. They applied more food restrictions and were generally less permissive (with indulging a childs‘ preferences) than mothers with low educational attainment. Diet in infancy is mainly influenced by a mother‘s culture; her employment and coping skills will influence choice of breast or bottle feeding and the early introduction of solids.

In relation to exercise the choices of the women were severely limited by finance, mobility, safety of local areas to exercise in, especially in the winter months, and child care responsibilities. If the women had to pay for childcare as well as paying to attend a class then any regular

commitment was outside their budget. Once again these factors include the high level of demand caring for children placed on the women, as well as in some cases caring for sick partners or ageing relatives. Their low budget and lack of car access (in most cases) inhibited their control over whether they attend exercise groups or classes, while if they had no social support to enable them to relinquish caring responsibilities then again their decisions and choices were inhibited.

In relation to their children many of the women expressed anxieties over the level of traffic and the resulting dangers inherent in allowing their children out to play in the local area. In addition anxieties were expressed over the safety of the limited play areas provided locally, as they had found syringes and needles both in the gardens or doorways of their own homes and the council play areas. Anxieties were also expressed regarding paedophiles who may put their children at risk while playing, and in some cases the women felt that ex-partners may put their children at risk, either due to the risk of violence or of abduction. Thus the children were kept in to play at home, often in a home which in itself contained dangers such as un-screened fires and stairs and unsafe cooking facilities. These caring strategies are pragmatic within the realities of the families circumstances, however, the end result may be more sedentary children and adults and an increased risk of accidents in the home. In addition one's ability to distract or amuse children within these circumstances is limited, so the cheapest way to pacify or distract children may be to offer snacks or drinks.

Lack of social support

The women interviewed gained little social support (the third area outlined within the demand, control support model) as few of the women originated from the area, and if they did they had often lost contact with family members. The majority of support the women received was from other women in the area in similar circumstances to themselves, while the local health professionals and church groups were seen as supportive in times of crisis. A lack of social support for the women and her children may be an issue if changes in accommodation and/or employment take place on the birth of a child or further children. Changes occurred to the women in the study and their children commonly on the breakdown of a relationship, which often results in a reduction in income and a change in accommodation (Child Poverty Action Group 1998).

None of the women interviewed had internet access in their own home for themselves or their children. In poor quality rented accommodation the likelihood of having an internal phone point, as well as the expense of purchasing a computer was considered by the women to be an unattainable goal. In the U.S.A this issue has been termed the digital divide as it has been recognised that educationally children may be disadvantaged by having no internet access throughout their education. Indeed as lack of educational attainment is linked with a greater risk of CHD in later life (ONS 1997) the links between lack of computer and internet skills may have a direct correlation with potential increases in CHD risk for individuals in this group throughout their life span.

Conclusion

The findings of this study would suggest that interventions and future research which focuses on the reduction of behavioural risk factors for CHD in this group would benefit from consideration of the areas outlined here, including the women‘s lack of awareness of CHD as a potential risk to their health.

Therefore suggested policy and practice developments for nurses and other health and social care practitioners may include:

- Health improvement initiatives for women in this age group should include residents both within planning and undertaking. Through health promotion initiatives development opportunities could be offered to members of the local community, and the consideration of caring responsibilities for this group should be paramount within planning initiatives.
- Homes should be made less stressful to live in by working with landlords and developing greater local council powers over neglectful landlords.
- Support should be provided for shopping and cooking of food through measures which ensure low cost healthy food supplies, local cookery groups or lunch clubs and work with landlords to provide improved, safer food preparation areas.
- Community approaches to smoking cessation need to be developed which include mentoring and buddy support.
- Community based exercise opportunities need to be developed, with free or cheap good quality child care provision, or opportunities which actively involve children.
- Particular attention should be paid to provision of internet access and computer skills development in deprived areas, with loan facilities available to provide computers in the home. Actively encourage or offer incentives to private landlords/ internet service providers to make available internet access within rented accommodation.

Developments such as Health Action Zones, Healthy Living Centres, Sure Start and New Start programmes offer positive opportunities to address some of these issues currently, although not all the issues which emerged through this study are addressed through these initiatives. Issues such as computer/internet access, making homes less stressful and the deliberate supported involvement of residents in health improvement initiatives may still not routinely be seen as key aims to improve health.

The findings of this research project are of interest both to inform future research to prevent CHD and enable lifestyle change for this group but also to inform partnership working, including residents, nurses, health visitors, health and social care purchasers and providers, and work with non-governmental organisations. It would appear that in order to address inequalities in CHD it is necessary to consider not only an individual’s awareness of risk and their motivation to change their health behaviour but also their circumstances, which impact greatly on their ability to change.

The results from the first phase of this study have been used to inform a paper commissioned by the UK National Heart Forum for their Young@Heart campaign (Harker & Hemingway 2003).

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