ORIGINAL ARTICLE

‘Maintaining balance and harmony’: Javanese perceptions of health and cardiovascular disease

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Community intervention programmes to reduce cardiovascular disease (CVD) risk factors within urban communities in developing countries are rare. One possible explanation is the difficulty of designing an intervention that corresponds to the local context and culture.

***Objectives*:** To understand people’s perceptions of health and CVD, and how people prevent CVD in an urban setting in Yogyakarta, Indonesia.

***Methods*:** A qualitative study was performed through focus group discussions and individual research interviews. Participants were selected purposively in terms of socio-economic status (SES), lay people, community leaders and government officers. Data were analysed by using content analysis.

***Results*:** Seven categories were identified: (1) heart disease is dangerous, (2) the cause of heart disease, (3) men have no time for health, (4) women are caretakers for health, (5) different information-seeking patterns, (6) the role of community leaders and (7) patterns of lay people’s action. Each category consists of sub-categories according to the SES of participants. The main theme that emerged was one of balance and harmony, indicating the necessity of assuring a balance between ‘good’ and ‘bad’ habits.

***Conclusions*:** The basic concepts of balance and harmony, which differ between low and high SES groups, must be understood when tailoring community interventions to reduce CVD risk factors.

Keywords: *health perception*; *Javanese philosophy*; *qualitative content analysis*; *cardiovascular disease*; *community intervention*

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According to the World Health Organisation (WHO), chronic disease accounts for 60% of all deaths globally, with half caused by cardiovascular disease (CVD) and the remainder caused mainly by cancer, chronic respiratory disease and diabetes (1). In Indonesia, CVD increased from 18 to 28% as the cause of all deaths between 1995 and 2002 (2, 3), which calls for some form of CVD control programme.

Many studies have found that smoking, a sedentary lifestyle and poor dietary habits (low-fibre intake, high cholesterol, sodium and fat intake) are major risk factors for obesity, diabetes and hypertension, and as such have close links to CVD (4–14). Thus, CVD prevention should seek to modify these behavioural risk factors.

Many intervention studies have been conducted to control CVD. Sotoohdenia et al. suggest that an intervention should rely more on primary than secondary prevention, and should have a particular focus on the reduction of risk factors (15–17). This is in line with WHO recommendations that chronic disease prevention should be done both through the promotion of healthy behaviour to avoid major risk factors (smoking, physical inactivity and unhealthy diet) and surveillance of risk-factor patterns in the population (18).

A CVD intervention programme should be sensitive to the local context and understand how people think about CVD. Ng et al. reported differences in CVD risk factors according to socio-economic status (SES) (19), and that the adoption of healthy behaviour is slower among participants in lower SES groups (20, 21), thus strategies to modify behavioural risk factors should also consider SES. Owing to the extended lag between practising unhealthy behaviour and the onset of CVD, a consistent behaviour change over a long period of time is needed to prevent disease. However, consistent behaviour changes may only be successful if the social environment supports

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the changes, since personal behaviour is influenced by this environment (22).

Developing a health programme based on a qualitative study

This study is part of the Proriva CVD prevention programme (Proriva – Program to reduce CVD risk factors in Yogyakarta city). In the Proriva survey, reported elsewhere (unpublished observation), CVD risk factors in the community are analysed, as well as people's knowledge about the disease. The main aim of the Proriva programme is to promote non-smoking, more physical activity and higher fibre intake, whilst the aim of the present study is to increase understanding of experiences and perceptions of health and CVD risk factors among people supposed to be targeted in a community intervention in the urban areas of Yogyakarta, Java, Indonesia. This study attempts to answer the question: what do people think about health and CVD sickness, and how do people prevent CVD? Based on the present qualitative study and the Proriva survey, a pilot health promotion programme will be developed to reduce CVD risk factors in the population (23).

Method

Research design, setting and participants

A qualitative research design was adopted, with focus group discussions (FGDs) and individual research interviews used to gather information.

The study was conducted in Yogyakarta City, which is located in the south of Central Java Province. The city of Yogyakarta is divided into two areas according to how strongly people are bound to Javanese traditional culture. The central (where Yogyakarta Palace is situated) and southern parts are the original areas of Yogyakarta City where people are more traditionally bound to Javanese culture compared with the northern part, which is an extension of the city (24). For the purpose of this study, two sub-districts were selected from the northern part (Jetis and Tegalrejo) and three from the southern part (Umbulharjo, Mergangsan and Kotagede).

To select the informants, a neighbourhood of low or high SES was first identified by a key person, namely, an officer at the Office of Settlement and Regional Infrastructure of Yogyakarta, and then informants' names were obtained from the community heads of the urban area. The invited informants had to fulfil the criteria of living in the selected neighbourhood, and not owning a motorcycle (low SES) or owning at least one motorcycle (high SES) as a proxy indicator of wealth (25). To keep the FGDs homogenous, the selection of informants for each FGD was based on their role as a community leader, lay person from both high and low SES group, or government health officer. The number of informants in the FGDs varied from 5 to 12 with a total of 78 informants, 43 men and 35 women.

Data-collection procedure

FGDs enable exploration of norms and values in specific groups, and are valuable when striving to investigate cultural perceptions of certain phenomena (26). In this study we used FGDs to enhance group discussions about shared experiences, perceptions of health and CVD in general, and of how to prevent CVD. As described above, perspectives were sought from different groups, namely, lay people, community leaders and government health officers. The research design was emergent (27), which in this case meant that after interviewing and analysing the FGDs we decided to conduct two individual interviews in order to further explore certain topics that emerged in the group discussions, i.e. socio-economic conditions and the role of women in health (Fig. 1). In total, 76 informants participated in eight FGDs.

The first author and two research assistants fulfilled the roles of facilitator or note-taker in the data collection procedure. The first research assistant is a female Indonesian sociologist with a graduate degree in public health, and has been a citizen of Yogyakarta for 10 years. The second research assistant is a male medical doctor with a graduate degree in public health, and has been a citizen of Yogyakarta for eight years. The FGDs and interviews were conducted in the official language of Bahasa Indonesia. They were tape-recorded, transcribed verbatim in Bahasa Indonesia and then translated into English, so that a joint analysis could be conducted between the authors.

Data analysis

Analyses were guided by content analysis as described by Graneheim and Lundman (28) and were used as our point of departure for a comparison between high and low SES groups. We focused predominately on the manifest content of the FGDs and the interviews (28). A quick reading of each FGD transcript was immediately conducted so that emerging concepts or themes could be used in subsequent data collection. The content analysis was done in two steps: first, the transcripts were read several times to obtain an overview of the most important contents; and second, the transcripts were reread and coded by the first author from the original transcripts. The meaning units consisted of the full interview transcripts. The meaning units were condensed and codes were assigned to each unit. The codes were then grouped together and classified according to their manifest content, so that each group of codes comprised a category and then sub-categories of low and high SES groups. Three domains were applied to organise the

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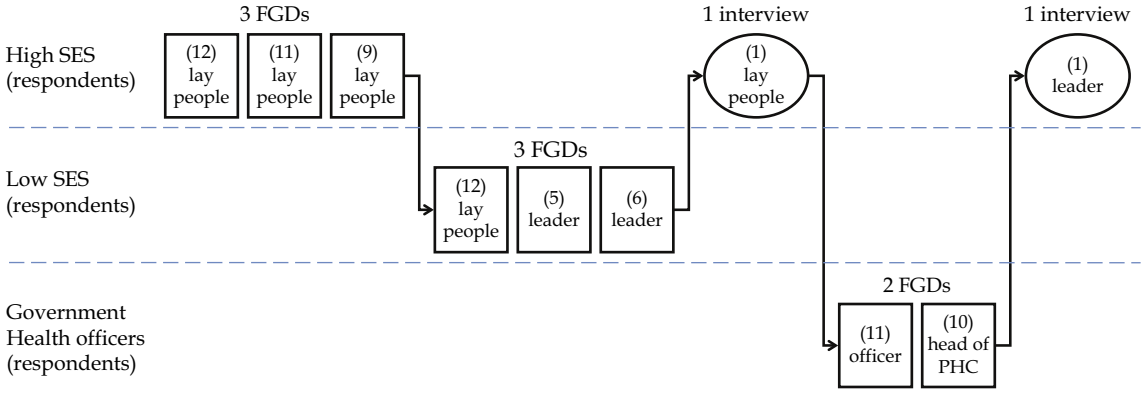

Fig. 1. The data-collection sequence, methods, number and type of participants.

structure of the content analysis, which were in line with major aspects from the interview guide, namely, perception of heart disease, prevention of heart disease and health promotion strategies.

The first author (FD) is an Indonesian researcher in public health sciences and medical doctor, with an interest in community participation for health. She was born in Yogyakarta, and speaks Bahasa Indonesia as her mother-tongue. The second author (LW) is a Swedish researcher in public health sciences and Professor in epidemiology and family medicine, specialising in designing community intervention programmes. The third author (AÖ) is a Swedish researcher in public health sciences, specialising in medical sociology and qualitative methodology. The second and third authors do not speak Bahasa Indonesia; however, by using researchers with different professional and cultural backgrounds, we aimed to achieve triangulation of researchers. A negotiated outcome was achieved through several work sessions, in which we compared codings and agreed the final result.

The research project received ethical clearance from the Faculty of Medicine, Gadjah Mada University, Yogyakarta, Indonesia. Data were collected only after official and individual permission had been granted. Verbal informed consent was sought before interviews were conducted and participants were made aware of the study's aim, procedures of tape-recording and transcription of the discussions. Although the researchers guaranteed participants' confidentiality, they could not guarantee that other FGD participants would adhere to this.

Results

Seven categories emerged from this study: (1) heart disease is dangerous, (2) the cause of heart disease, (3) men have no time for health, (4) women are caretakers for health, (5) different information-seeking patterns, (6) the role of community leaders and (7) patterns of lay people's actions. As described previously, these categories were organised according to three domain structures, which were major aspects of the interview guide. Differences between high and low SES were identified, which will be discussed in due course. One theme, 'balance and harmony', emerged as an overarching perception regarding healthy lifestyles (Table 1).

Local perception of cardiovascular disease (CVD)

Heart disease is dangerous

Heart disease is well recognised, but the term 'Cardiovascular disease' is unknown and sounded strange to participants. In this paper, we use the term 'heart disease' to reflect 'CVD' from the participants' point of view.

Perception of CVD is similar for both low and high SES groups. Informants expressed their view that heart disease kills suddenly. People previously recognised heart disease as 'sitting-wind sickness' (*angin duduk* in the local language), with 'sitting-wind' referring to a similar light sickness called 'exposed-to-wind'. 'Exposed-to-wind' is a sickness that is believed to result from too much exposure to wind, and can be cured by rubbing someone's back with oil and then scratching it with a coin. 'Sitting-wind' is often mistakenly identified as 'exposed-to-wind' sickness, and subsequently treated with coin scratching, however this frequently results in unexpected sudden death.

> My father died because of heart disease, they call it sitting-wind (sickness). My father was coin scratched on this place (pointing at back and chest), people used to say he got 'sitting-wind', we didn't know what heart disease was, we didn't know, they said we should not scratch him, I didn't know that, he was scratched and died (sorrow and expressions of regret). (Participant from low SES group)

> That's death during scratching, because he was not directly referred to a doctor. We thought that he got usual 'exposed-to-wind sickness', we scratched him

Table 1. Theme, domains, categories and sub-categories of high and low SES participants' perceptions of CVD

Theme	BALANCE AND HARMONY						
Domain	Local perceptions of CVD		How to prevent CVD			Health promotion strategies	
Category	Heart disease is dangerous	The cause of heart disease	Men have no time for health	Women are caretakers for health	Different information-seeking pattern	The role of community leader	Patterns of lay people's action
High SES sub-category	Heart disease kills	Biomedical mechanisms	Men manage their health	Women as family reminders about health	Various choices of information	Passive role	Individual action
Codes	Sudden death Heart disease frightens Heart disease kills	Little physical activity Over-nutrition causes heart disease Unstable mental condition Smoking is unhealthy but needed Dirt clogging blood vessels	I have no time Medical examination to control health Get medical treatment when necessary	Health is women's domain Women have heavy task but possible Women's household activities Women maintain family-community relationships	Give a real story to describe threat Explaining message Direct and indirect resources Self-directed information-seeking	Leader seeking support from member Leader as a symbol Leader is invited when necessary	Self-decision to action Activist initiates organisation No initiator no action
Low SES sub-category	Heart disease kills	Destiny mechanisms	Men fighting against destiny is useless	Women are responsible for the health	Limited choice of information	Active role	Collective action
Codes	Sudden death Heart disease frightens	Who will get heart attack is destiny Poor are unhealthy anyway Smoking is a must More physically demanding job	No time for health We are struggling today Death would not matter	Health is women's domain Women improve knowledge about health Women work for community health	Give a real story to describe threat Direct education Want concise written material	Leader is a role model Leader should be a motivator Leader maintains harmony Leader shows transparency Leader should convince	Influencing each other to decide on collective action Being happy when attending gatherings Feel sense of belonging of member Agreeing to any group decision

but then he did not move (died). (Participant from low SES group)

The cause of cardiovascular disease (CVD)

There is considerable difference of opinion between SES groups regarding the cause of CVD. Participants of high SES describe the cause as being an unhealthy lifestyle, e.g. too much fat intake, stress and smoking, which create deposits in blood vessels and results in heart obstruction. Male participants of high SES recognise that smoking is unhealthy, however, they argue that smoking is needed to support their job, and, in order to avoid the negative health effects of smoking, they balance it with sports. On the other hand, participants of low SES report that they do not understand the cause of CVD. They realise that their environment is unhealthy and that they are at risk of being afflicted by common diseases including CVD, however they believe that suffering from CVD is destiny. Smoking is regarded as only slightly dangerous and is seen as a must for men, and they claim that sport is unnecessary as they have physically demanding jobs.

> Sediment of fat or salt obstructs our blood vessels . . . the process of sedimentation has been for years because of wrong dietary habits . . . if the blood vessel gets narrower, the oxygen supply to the heart will be disturbed. (Participant from high SES group)

> When they get stressed, looking for inspiration, or happen to be stressful. They smoke to get relaxed . . . Those who happen to get ill, I think it's just a coincidence . . . because in reality there are still many people who are healthy though they're smoking . . . ha. (Participant from low SES group)

Prevention of cardiovascular disease (CVD)

Men have no time for health

Men from both SES groups stressed that when they are healthy they are busy working and do not think about preventing illness. They also said that men are responsible for earning money. Men of high SES believe in the benefits of a healthy lifestyle, but do not have time to pursue it, and that they can maintain their health with necessary medical examinations and medical care. Men of low SES claimed that they are busy struggling to survive and, in contrast to high SES, said that health prevention is useless in changing their destiny regarding a fatal illness such as heart disease.

> but we often get too busy with our daily activities so we neglect this deadly syndrome. . . . There are so many examples around us. (Male participant from high SES group)

> there are many options of private institutions where we can get immunisations etc . . . we can go to the local clinic or other places. (Male participant from high SES group)

> Our people here are the group who accept 'darwis' . . . that is *modar yo uwis* (being dead wouldn't matter). It's like that, if we die, then our debts would be wiped-off . . . ha ha (all in audience were laughing). (Male participant from low SES group)

Women are caretakers for health

High SES wives stated that in addition to domestic tasks and employment, it is their responsibility to care for the sick and remind family members to stay healthy. These wives are also responsible for keeping the family in contact with their community. Women of low SES stated that in addition to domestic tasks and employment, their responsibilities regarding health include curing the sick with the cheapest treatment, which requires women to improve their health knowledge and practices. Low SES wives are also responsible for health activities at the community level, through women's community organisations, such as PKK and Posyandu. PKK stands for Family Welfare Movement, and is a popular women's group that encourages community participation to improve community-wide family welfare. Posyandu stands for Integrated Health Service Centre, which facilitates women's work to support the health of the community. Thus men are positioned as the breadwinners and, as they are too busy with that role, they delegate the health of the family to women who are considered as the caretakers for health.

> It is the best among many things . . . there was presentation (health education) . . . each household has one father, mother, children and then it was represented by the mother (to attend the education). (Participant from high SES group)

> I would trust my wife instead . . . instead of the doctors. It's because . . . when my children get ill, my wife is the one who takes care of them. . . . Just mention the illness and she would remember all the medicines needed. (Man from low SES group)

Information-seeking patterns

Participants from both high and low SES groups expressed that they are frightened by CVD, particularly following the experiences of close relatives, which prompts them to seek information about the disease.

Both husbands and wives from high SES households actively seek health information from various sources, such as mass media, magazines, television, websites and from health professionals. They want information to be complete and logical regarding CVD as a disease, and also prevention of it. By contrast, it is the wives within low SES households who are obliged to seek health information, and they feel that their information resources are limited primarily to health officers and the

experiences of their peers. Participants pointed out that written information should be concise.

> Yap . . . I get it by myself . . . I mean I find it by myself. I join with a mailing list, it is not a health mailing list but there is a member who is concerned and delivers health information . . . Furthermore, if it is related to any lifestyles there are magazines, with much information inside. (Participant from high SES group)

> So, my wife knows various kinds of medicines . . . for digestive problems for example . . . she'd know it. Well, from friends or from somewhere else I think, maybe a relative. . . . or their own experiences, or advice from the elders, all of them. (Male participant from low SES group)

Health promotion strategies

The role of community leaders

The role of community leaders within high SES neighbourhoods is regarded as rather unimportant and passive, compared with the low SES neighbourhoods where leaders are regarded as important and active. Study participants who are leaders from high SES communities conveyed that they are familiar with community activities but not in detail, and are usually invited to participate by whichever community member proposed the activity. By contrast, leaders from low SES groups stated that they are the manager of a community activity, and should act as a good role model to motivate lay people.

> The head of sub-village . . . oh . . .yes, well if there is a certain event he will be invited or told about it, but the initiative comes from the bottom. (Female participant from high SES group)

> There had been a community security control activity . . . we (as the leaders) were also scheduled to participate on a certain date . . . if the leader was attending, why then wouldn't the community members attend, just simple. (Leader from low SES group)

Patterns of lay people's action

We found different mechanisms at work regarding the community action of lay people in high and low SES groups. Lay people from high SES communities act individually, whereas in low SES groups they act collectively. Furthermore, high SES participants stated that each individual decides what they do, initiate community action individually, gradually initiate group activity, and then invite community leaders to start community-level action. By contrast, low SES participants explained that their habits are influenced by peers and close friends, and that activities are initiated by their community leaders.

People of high and low SES have different preferences regarding social gatherings within their neighbourhood; people within high SES groups do not enjoy interacting with common people in their neighbourhood, whereas people from low SES groups enjoy their community gatherings, tolerate diversity within them and respect their leader.

> Yes, we built it (the badminton field) together, ourselves. I supply the electricity, they only need to buy the ball and pay a small amount of money to care for the facility, the electricity is free, I supply it. (Female participant from high SES group)

> the Yasinan (read Qur'an) prayer gathering is also well attended . . . I'd say it's rather pleasant and cheerful . . . Yes . . . pleasant and cheerful. (Male participant from low SES group)

Balance and harmony

A theme of balance and harmony runs through all categories of both low and high SES groups to different degrees. Balance in life was emphasised by participants, and was used to mean a balance between one's habits in order to bring harmony, and, in turn, wellbeing, to one's life. Regarding heart disease perception categories, both low and high SES groups believe that an imbalanced lifestyle results in disease. High SES groups recognised that the imbalance could result in heart disease, however low SES groups did not recognise this.

> I think heart disease is caused by the imbalanced diet. For example, the high cholesterol level causes blocking. Second, it is possibly because of exhaustion where there's imbalance on energy burning. There's a lot of dirt in the heart and the heart is blocked. (Male participant from high SES group)

> That's what I think . . . smoking is fine but should be balanced with exercise . . . light exercise would be fine. (Man participant from low SES group)

Participants also demonstrated that balance can be expressed at the family level as a way to prevent heart disease. At the family level balance refers to the division of tasks between husband and wife. High SES participants claimed that this balance requires earning of money and domestic work (of which health is a part) be shared between men and women, while low SES participants maintained a more strict division of tasks between men and women, with men responsible for earning money and women for domestic work (and therefore health).

> Well, as we are a family, we should be (work) together, if my child gets sick, we will try to find the medicine to heal her. If I get sick, my wife will find the medicine. If she gets sick, I will massage her, I will do coin-scratching so she will recover soon. As we are a family we should be (work) together. (Male participant from high SES group)

> Often the wives are the ones who have more time to participate in the elders programme . . . because the husbands are busier. (Male participant from low SES group)

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Participants described balance and harmony as being applicable at the community level, and discussed how they keep balance and harmony between their household and community. In high SES neighbourhoods, lay people claimed that balance and harmony in their society is defined by them individually, which is in contrast to low SES neighbourhoods, where lay people claimed that balance and harmony is built by them collectively.

> Hmmm . . . uh . . . something that can make them join? . . . uh . . . usually I don't analyse . . . eh . . . special reason except giving respect and make it crowded. (Male participant from high SES group)

> So, the community awareness depends on ourselves . . . if we think that we can solve it, let's do it, from us, by us and for us. So our awareness is built up by us. (Leader from low SES group)

Discussion

Balance and harmony of the individual, family and society

Perhaps the most important finding from this study is that participants attach great importance to the concept of balance and harmony, which is a notion strongly embedded in the mindset of Javanese people in Yogyakarta, not only regarding how health is defined, but also regarding family and social harmony. With regard to understanding and definitions of health, we argue that this notion of balance and harmony reflects a mixture of Eastern and Western thinking. Eastern philosophy is strongly influenced by Chinese traditional therapy that focuses on the balance of energy, as well as Indian traditional therapy that focuses on a balance of lifestyle (29). Western biomedical science, on the other hand, distinguishes between the different functions of body and mind (30). A mixture of Western and Eastern philosophy is obvious in high SES people, which might indicate their greater exposure to Western knowledge. For those from low SES, infiltration of Western philosophy is less compatible, therefore, they regard sickness as the result of destiny, which could cause a feeling of hopelessness and powerlessness in relation to the health sector, as well as in other sectors of life (24). Belief in destiny could also be a reflection of the strong influence of religion and culture, which includes a belief in the power of the macrocosmic over their lives (31).

The importance of balance at the individual level is apparent in the case of smoking habits. Men from both high and low SES groups consider smoking to be important, which is in line with Ng et al.'s study (32) in Central Java, which found smoking to be deeply embedded in the cultural context. To cope with this 'bad' smoking habit, men balance it with a 'good' habit, e.g. sports.

The present study also found that within family, participants try to maintain balance in their families in order to sustain harmony. In Javanese culture, the husband is the leader and decision maker in the family, but his decisions are based on family members' opinions and a discussion between husband and wife (33). The husband is responsible for the family's income, and the wife for domestic tasks. In contrast to the biology-based role of giving birth, women's responsibility for domestic tasks is based on cultural norms (34). In Javanese culture, this burden is even greater for women since they are also expected to help with the family income, which is particularly true for women from low SES families (33).

In this study we found that it is most important to maintain social relationships in order to retain harmony within society, thereby maintaining health. In Javanese culture, even though a family is an independent unit of society, it is also bound by societal values. Kindness, consideration and appreciation for others are important aspects (35). Furthermore, it is important to respect the community leader, obey society's decisions and support its actions (33) in order to maintain social relationships. Particularly in the case of low SES families, we found that the task of maintaining social relationships between family and society was part of the domestic duties of a wife. Based on the gender differences that emerged from the FGDs, CVD prevention and health promotion might target women and men differently in accordance with their social roles as husbands and housewives.

Local perceptions about cardiovascular disease (CVD) and its prevention

Our results show that, when occurring in the community, CVD is a source of anxiety for participants. This finding is in line with the results of a study of deaths among close relatives, which concludes that these gave rise to feelings of bereavement and vulnerability in relation to the underlying causes of death (36). The study also found that this feeling of fear existed not only at the individual level, but also at a micro-cultural level (37).

According to participants, CVD prevention is often neglected despite fears of the threat of this disease. Participants said that, unless they feel seriously ill, they are too busy with daily activities to be concerned with prevention, which is similar to the findings of a study in Central Java, where participants did not consider mild malaria a disease unless it disturbed their daily activities (38). These findings support the humanistic theory that defines health as the product of physical, psychological and social wellbeing (39). Thus, in line with the Health Belief Model (40), participants in Yogyakarta did not feel threatened by CVD since they perceived themselves as healthy, and therefore saw no need for preventive action. Based on this, intervention should clarify misunderstandings regarding the threat of CVD, which could mean that

the benefits of prevention are more greatly appreciated and could, for example, motivate lay people to learn to identify CVD cases in their own community.

Community health promotion

In line with Sorokin's (41) theory of social interaction in rural areas, we also found that social interaction is important within low SES society in this urban setting, where resources are limited, people are more similar in terms of background, and relationships between members are based on geographic closeness. Added together, these factors can result in strong and sustainable personal interactions. By contrast, social interaction has been found to be weak in urban areas but greater in frequency (41), which is similar to our findings in high SES groups.

Javanese people still respect cultural leaders for their supernatural power, which is achieved through meditation and ascetic life (*lelaku*) (33). Similarly, respect for community leaders is grounded in people's appreciation of leadership in community activity, which was particularly apparent in low SES groups.

The importance of social interaction and respect for local leaders in low SES groups provide favourable conditions for the development of a health promotion programme, which should obviously be developed according to the SES of the target population. For high SES groups, such a programme should be more individually tailored, whereas in low SES groups it should be based on existing collective activities. Health promotion efforts should also be based on the local culture. For example, WHO's promotion of physical activity (42, 43) through sports in Colombia (44) would not be effective in Yogyakarta, since those from low SES groups have physically demanding jobs and, therefore, are already very active.

Our findings illustrate that limited understanding of risk factors of CVD in low SES groups might hinder the promotion of healthy lifestyles. It might even be perceived as a threat to the value of maintaining balance and harmony. Thus, the programme has to be developed based on combining opportunities and reducing hindrances. Smoking among men is a sensitive issue and is a strongly embedded value, which is why we must be careful not to violate the existing balance and harmony when promoting a smoking ban. Exposing the communities to the testimonies of smokers with smoking-related diseases might be one example of how to increase awareness of the danger of smoking. The involvement of wives is another possibility, and could be important as health is perceived as the woman's domain. Advice and guidance from the community leaders might reinforce efforts to promote a healthy lifestyle.

In the Proriva project, the target audience was drawn from the baseline survey, whereas the intervention strategies were developed based on the present qualitative study. Thus, it can be regarded as a formative evaluation that attempts to identify what intervention strategies would likely be effective, because it adopts a customer-oriented perspective, which is a basic concept of social marketing techniques (45, 46).

Methodological consideration

Validity of the data has been ensured using data triangulation and researcher triangulation. Data were gathered from different sources: lay people, community leaders and government officers. Differences between women and men were also explored in order to learn more about the importance of gender roles in attitudes towards health and CVD. The involvement of researchers with different professional backgrounds has enabled richer interpretation and negotiation of the results (27). The researcher team included a physician, medical sociologist and community intervention designer.

A limitation of this study is that it does not explore the perceptions of government officers towards CVD and its prevention – and the subsequent gap between this and the perception of lay people – which requires further study.

We had initially sought to conduct FGDs with five to eight participants, which is the optimal number set out by Barbour and Kitzinger (26) in order to encourage people to express their experiences and views. Unfortunately, because many curious people showed up at the interview sessions, some of the groups became larger.

The results of this study cannot be seen as representative of the Javanese population in terms of statistical generalisation, yet they do reflect the Javanese condition, especially in Yogyakarta City. The results might, however, be applicable to other settings with a similar social context (27).

Conclusion

This study suggests that health is considered a prerequisite to accomplish daily activities, and that people do not tend to take preventive action as long as their daily activities have not been hampered. Although a CVD attack may have a fatal impact, CVD risk factors do not hamper daily activities, therefore people are unlikely to take preventive action.

Patterns of social action differ according to which SES people belong to. Those belonging to low SES communities prefer to take collective action, involving housewives and leaders. By contrast, people from high SES communities prefer to be more independent, but still involve housewives. Regardless of their socio-economic background, people share values of balance and harmony at the individual, family and society level in relation to their health-related lifestyle.

In order to motivate people to participate in preventive action, we conclude that health promotion programmes should be tailored according to the socio-economic

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background and gender roles of the target population. Integrating the programme into existing social activities is an example of how the programme can respond to the values of balance and harmony that have been identified as important by our study participants. In future interventions it is also important to question the traditional gender relations, which rely heavily on a male breadwinner vs. female housewife model, so that power relations and gendered patterns of health behaviour can be highlighted.

Participants tended to hold the belief that preventive action is unimportant as long as their daily activities are undisturbed. Despite this, it is still possible to introduce a health promotion programme as long as it is appropriate to the SES of the individual. Such programmes should be available as multiple forms of intervention within various settings and over a sufficiently long period of time.

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References

1. World Health Organization. Department of Chronic Diseases and Health Promotion. Preventing chronic diseases: a vital investment: WHO global report [electronic book]. Geneva: World Health Organization; 2005. Available from: http://whqlibdoc.who.int/publications/2005/9241563001_eng.pdf [cited 6 October 2005].
2. Ministry of Health of Indonesia. Indonesia health profile. Jakarta: Ministry of Health of Indonesia; 1999.
3. World Health Organization. The impact of chronic disease in Indonesia [updated 2002]; 2002. Available from: http://www.who.int/chp/chorni_disease_report/en/ [cited 21 November 2008].
4. Prescott E, Hippe M, Schnohr P, Hein HO, Vestbo J. Smoking and risk of myocardial infarction in women and men: longitudinal population study. BMJ 1998; 316: 1043–7.
5. Parish S, Collins R, Peto R, Youngman L, Barton J, Jayne K, et al. Cigarette smoking, tar yields, and non-fatal myocardial infarction: 14,000 cases and 32,000 controls in the United Kingdom. BMJ 1995; 311: 471–7.
6. Fletcher G. Physical inactivity as a risk factor for cardiovascular disease. Am J Med 1999; 107: 10S–1S.
7. Dubbert PM, Carithers T, Sumner AE, Barbour KA, Clark BL, Hall JE, et al. Obesity, physical inactivity, and risk for cardiovascular disease. Am J Med Sci 2002; 324: 116–26.
8. Bas M, Altan T, Dincer D, Aran E, Kaya HG, Yuksek O. Determination of dietary habits as a risk factor of cardiovascular heart disease in Turkish adolescents. Eur J Nutr 2005; 44: 174–82.
9. Lock K, Pomerleau J, Causer L, Altmann DR, McKee M. The global burden of disease attributable to low consumption of fruit and vegetables: implications for the global strategy on diet. Bull World Health Organ 2005; 83: 100–8.
10. Dahlen GH, Stenlund H. Lp(a) lipoprotein is a major risk factor for cardiovascular disease: pathogenic mechanisms and clinical significance. Clin Genet 1997; 52: 272–80.
11. Hubert HB, Feinleib M, McNamara PM, Castelli WP. Obesity as an independent risk factor for cardiovascular disease: a 26-year follow-up of participants in the Framingham Heart Study. Circulation 1983; 67: 968–77.
12. Calle EE, Thun MJ, Petrelli JM, Rodriguez C, Heath CW. Body mass index and mortality in a prospective cohort of U.S. adults. N Engl J Med 1999; 341: 1097–105.
13. Haffner SM. Pre-diabetes, insulin resistance, inflammation and CVD risk. Diabetes Res Clin Pract 2003; 61: S9–18.
14. Peggy CW, de-Hoggen V, Fesken EJM, Nagelkerke NJD, Menotti A, Nissinen A, et al. The relation between blood pressure and mortality due to coronary heart disease among men in different parts of the world. N Engl J Med 2000; 342: 1–8.
15. Sotoodehnia N, Zivin A, Bardy GH, Siscovick DS. Reducing mortality from sudden cardiac death in the community: lessons from epidemiology and clinical applications research. Cardiovasc Res 2001; 50: 197–209.
16. Emberson J, Whincup P, Morris R, Walker M, Ebrahim S. Evaluation the impact of population and high-risk strategies for the primary prevention of CVD. Eur Heart J 2004; 25: 484–91.
17. Grundy SM. Primary prevention of coronary heart disease: integrating risk assessment with intervention. Circulation 1999; 100: 988–98.
18. World Health Organization. Cardiovascular disease prevention and control. Translating evidence into action; 2005. Available from: http:whqlibdoc.who.int.publications/2005/9241593253_eng.pdf [cited 23 September 2006].
19. Ng N, Stenlund H, Bonita R, Hakimi M, Wall S, Weinehall L. Preventable risk factors for noncommunicable diseases in rural Indonesia: prevalence study using WHO STEPS approach. Bull World Health Org 2006; 84: 305–13.
20. Winkleby MA, Flora JA, Kraemer HC. A community-based heart disease intervention: predictors of change. Am J Pub Health 1994; 84: 767–72.
21. Bulc M, Fras Z, Zaletel-Kragelj L. Twelve-year blood pressure dynamics in adults in Ljubljana area, Slovenia. Contribution of WHO Countrywide Integrated Noncommunicable Diseases Intervention Program (CINDI). Croat Med J 2006; 47: 469–77.
22. Thomas AG, editor. Psychosocial intervention. New York: Oxford University Press; 2000.
23. The Health Office of Yogyakarta Province. Laporan akhir survey pencegahan penyakit Kardiovaskuler [The survey to prevent cardiovascular disease, The final report]. Yogyakarta; 2004.
24. Mundayat AA. Ritual and politics in new order Indonesia. A study of discourse and counter-discourse in Indonesia. Melbourne, Australia: Swinburne University of Technology; 2005.
25. Filmer D, Pritchett LH. Estimating wealth effects without expenditure data – or tears: an application to educational enrollments in states of India. Demography 2001; 38: 115–32.
26. Barbour RS, Kitzinger J. Developing focus group research: politics, theory and practice. London: Sage; 1999.
27. Lincoln SJ, Guba EG. Naturalistic inquiry. London: Sage; 1985.

28. Graneheim UH, Lundman B. Qualitative content analysis on nursing research: concepts, procedures and measures to achieve trustworthiness. Nurs Educat Today 2004; 24: 105–12.
29. Saylor C. The circle of health: a health definition model. J Holist Nurs 2004; 22: 97–115.
30. Lupton D. The social construction of medicine and the body. In: Albrecht GL, Fitzpatrick R, Scrimshaw SC, eds. The handbook of social studies in health and medicine. London: Sage; 2000, pp. 50–63.
31. Braten E. Varieties of Javanese religion: an anthropological account varieties of Javanese religion. Am Ethnol 2001; 28: 937–8.
32. Ng N, Weinehall L, Ohman A. If I don't smoke, I'm not a real man' – Indonesian teenage boys' views about smoking. Health Edu Res 2007; 22: 794–804.
33. Purwadi. Pranata sosial Jawa [Javanese social ethics]. Yogyakarta: Cipta Karya; 2007.
34. Zimmerman DH, West C. Doing gender. Gender Soc 1987; 1: 125–51.
35. Daryono. Etos Dagang Orang Jawa, Pengalaman Raja Mangkunegara IV [Javanese trading ethos, experience of The King of Mangkunegara IV]. Yogyakarta: Pustaka Pelajar; 2007.
36. Constantino JM, Smart CJ. Death among us: grieving the loss of a co-worker is a group process. AJN 2004; 104: 64C–64G.
37. McElroy A, Jezewski MA. Cultural variation in the experience of health and illness. In: Albrecht GL, Fitzpatrick R, Scrimshaw SC, eds. The handbook of social studies in health and medicine. London: Sage; 2000, pp. 191–209.
38. Utarini A, Winkvist A, Ulfa FM. Rapid assessment procedures of malaria in low endemic countries: community perceptions in Jepara district, Indonesia. Soc Sci Med 2003; 56: 701–12.
39. Grönblom-Lundström L. Health as a measure of rehabilitation: outcome for patients with low back pain. Physiother Theory Prac 2001 1992; 8: 67–77.
40. Nancy KJ, Victoria LC, Victor JS. The health belief model. In: Glanz K, Rimer BK, Lewis FM, eds. Health behaviour and health education: theory, research and practice, 3rd ed. San Francisco, CA: Jossey-Bass; 2002, pp. 45–66.
41. Sorokin PA. Contemporary sociological theories. New York: Harper & Row; 1928.
42. World Health Organization, Department of Chronic Diseases and Health Promotion. Global strategy on diet, physical activity and health. Geneva: World Health Organization; 2004.
43. World Health Organization, Office of World Health Reporting. The World health report: 2002: reducing risks, promoting healthy life: overview. Geneva: World Health Organization; 2002.
44. Lucumi DL, Sarmiento OL, Forero R, Gomez LF, Espinosa G. Community intervention to promote consumption of fruits and vegetables, smoke-free homes and physical activity among home caregivers in Bogota, Colombia. Prev Chronic Dis 2006; 3: 1–13.
45. Neiger BL, Thackeray R, Barnes MD, McKenzie JF. Positioning social marketing as a planning process for health education. Am J Health Stud 2003; 18: 75–81.
46. Donovan RJ, Henley N. Social marketing, principles and practice. Melbourne: IP Communication; 2003.

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