


Motivators and Deterrents to Diet Change in Low Socio-Economic Pakistani Patients With Cardiovascular Disease

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Abstract

This study explores factors that affect the people of low socioeconomic status regarding food choices after diagnosis with cardiovascular disease. Qualitative approach was used to identify the important factors associated with dietary changes as a result of their disease. Twenty-four participants were interviewed from two cardiac facilities in Karachi, the largest metropolitan city of Pakistan. Data were analyzed to identify the themes using the interpretative description approach. While most participants understood the need for dietary changes, few were able to follow recommended diets. Their food choices were primarily influenced by financial constraints as well as cultural, familial, and religious values and practices. The challenge for health care providers lies in understanding the economical, sociocultural, and religious factors that influence behavioral changes which, in turn, affect dietary choices. It is apparent that cardiovascular risk and disease outcomes for the people of low socioeconomic status are likely to escalate. Thus, it is necessary to address the sociocultural, religious, and behavioral factors affecting dietary choices. Achieving this imperative requires an intersectorial, multilevel intervention for the prevention of cardiovascular diseases in people of low socioeconomic status.

Keywords

cardiovascular disease, low socioeconomic status, healthier diet, dietary change, Pakistan

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Background

A healthy diet is a key factor in the prevention of cardiovascular disease (CVD). Dietary guidelines from the American Heart Association, European Society of Cardiology, and other sources, such as the Pictorial Canada food guide, healthy eating booklets, and food pyramid pamphlets, are intended to reduce the burden of CVD, by imparting dietary knowledge, particularly in low- and middle-income countries (Bhupathiraju & Tucker, 2011; Fuster & Kelly, 2010; Graham et al., 2007; Lichtenstein et al., 2006). Although these dietary guidelines are not different for any income categories, as they are universal in nature, the problem for people from low socioeconomic status (SES) lies in not being able to adhere to these guidelines (Owolabi et al., 2016) due to various factors such as level of poverty, scarcity of available resources, and social and cultural norms and beliefs. Promoting healthy eating may be challenging, as it is linked with individual and societal values, beliefs, and attitudes as well as contextual factors such as the environment, health systems, and social structures (Reddy & Anitha, 2015). The

interrelation of the contextual factors described above, may explain why people of low SES have higher cardiac risk factors, rates of readmission, and case fatality rates (Marmot, Shipley, & Rose, 1984).

CVD is the leading cause of death in Pakistan with 34% of the deaths attributable to it (Jafar, Jafary, Jessani, & Chaturvedi, 2005; World Health Organization [WHO], 2014). Evidence shows that the people with low SES, both in the developed (Psaltopoulou et al., 2017) and developing countries, are known to be at a higher risk of CVD than people belonging to other groups of SES (Janati, Matlabi, Allahverdipour, Gholizadeh, & Abdollahi, 2011). This

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finding is most likely due to people from middle to high SES being more educated about CVD risk factors, able to afford healthy dietary items, and compliant with appropriate dietary and exercise regimens to prevent CVD in comparison to the low SES population (Mirowsky, 2017).

One of Pakistan's critical challenges is the alleviation of poverty, with at least one-third of the population is living below the poverty line (WHO, 2014). It is imperative to address the economic challenges that may hinder the food choices of people who live below the poverty line (Molony & Duncan, 2016). The country's four provinces currently have a cumulative population of 180 million; 64% living in rural settings which are further compromised in terms of access to health care resources (Barolia, Clark, & Higginbottom, 2013) and may potentiate an increased risk of becoming penurious, primarily because of health care costs that have risen significantly, contributing to increased expenditures. In such circumstances, illness affecting breadwinners greatly impacts their potential to earn; which diminishes the overall family income (Nishtar et al., 2010).

In addition, multiple ethnic groups living across Pakistan have their own distinct languages, origins, cultures, dietary habits, individual/family beliefs, and behaviors, which may contribute to the distribution, prevalence, and complexity of CVD risk factors. These diverse social patterns, along with the range of poverty levels, greatly affect the food choices and other measures taken for the prevention of CVD in Pakistan (Clark, Duncan, Trevoy, Heath, & Chan, 2011; Harwood & Clark, 2011). This study considers multiple factors that either promote or impede healthier food choices among Pakistanis belonging to the low SES, in relation to their CVD risks.

The main research questions that this qualitative research study posed was: What are the various factors that affect the decisions of consuming a healthy diet, and promote or inhibit the consumption of a healthy diet in Pakistani people of low SES, who have been diagnosed with CVD? This question is further explored in the subquestions as follows:

(a) What are the various factors that affect Pakistani people of low SES in making decisions on consuming healthier foods after diagnosis with CVD?; (b) What are the factors that promote the consumption of healthy diets in people of low SES who have CVD?; and (c) What factors inhibit people of low SES with diagnosis of CVD from consuming healthy diets?

Methods

This study was guided by the tenets of critical realism (CR), which views individual behavior as the complex interplay between individual and contextual factors. It seeks to explain why people behave as they do (Clark, Lissel, & Davis, 2008). The theory helps researchers understand the outcomes that can occur in a complex, multifaceted natural setting. CR also supports the use of qualitative, flexible, semistructured

interviews to delay the complexity of this phenomenon and to broaden the understanding of social structures which can influence behaviors, such as SES, gender, and race. Through this lens, it is recognized that, although such factors may be obscured at an individual level, these factors are undeniably present, and significantly influence behaviors and lifestyle patterns of individuals (Thorne, Con, McGuinness, McPherson, & Harris, 2004).

Study Design, Setting, and Sample

Interpretive descriptive (ID) methodological approach was used for data collection and analysis. This methodology answers complex, experiential, and contextually based research questions that are relevant to nursing and other health care disciplines (Bradshaw, Atkinson, & Doody, 2017; Sandelowski, 2010). This approach is characterized by an agile and continuous process of data collection and analysis, with each iteratively informing the other.

Interviews are recorded and transcribed, while field notes capturing the observations made during the interviews assisting the researchers to contextualize the data during the analysis. This process helps to maintain the integrity of the participants' stories and consistency through the identification of patterns and themes from qualitative data related to various clinical phenomena (Thorne, 2008).

Participants were recruited using purposive sampling from the two cardiac facilities in Karachi, the largest metropolitan city of Pakistan, as potentiating representation of the ethno-linguistic diversity of the country. The inclusion criteria included participants aged 30 years and above, diagnosed with CVD (self-reported), previously attended a cardiac rehabilitation program or received teaching related to secondary prevention, earned CAD\$1.25 (Rs 113; self-reported) or less daily (per definition), spoke English or Urdu, and voluntarily agreed to participate. Individuals not meeting the inclusion criteria or were unwell at the time of data collection were excluded from the study.

Data Collection

Twenty-eight eligible participants were recruited, with four (4) withdrawing from the study for personal reasons. The remaining 24 participants were interviewed face to face using the interview guide. The interview questions were guided by theory of CR to understand the contextual and individual factors that determine the participants' dietary choices after being diagnosed with CVD.

These open-ended questions targeted elicitation of participants' knowledge about healthy diets, who decides food item purchases, how they make these decisions, how successful they are in changing their diets, and difficulties faced in selecting food items. The interviews also focused on financial, cultural, and religious factors that either motivated or hindered their dietary changes.

Interviews were analyzed simultaneously, so that participants could be interviewed twice to validate the findings or get any further clarification on their responses, if required. Each participant was assigned a pseudonym. Each interview lasted from 60 to 90 minutes and a small honorarium of Rs 250 (approximately CAD\$3) was given at the conclusion.

Data Analysis

After completing each interview, the first author, with the assistance of a bilingual research assistant, translated and transcribed the recordings. Out of the 24 participants, 12 were Urdu speaking and the remaining 12 were English speaking. In the case of the Urdu-speaking participants, the transcripts were done in Urdu, then translated to English and back-translated to Urdu (by a bilingual research assistant) to ensure that the interview translation were accurate. Subsequent interviews were also conducted to refine or verify the initial themes.

All the transcripts were read to gain an understanding of the overall perspective and to gain insights into the data. Once the transcriptions were completed and verified, a multistep analysis process was undertaken using a qualitative analysis software called ATLAS.ti™. The ATLAS.ti™ software facilitated the organization of the data and arrangement of the data sets at different levels of the analytic schemes (Table 1). The demographic data of all 24 participants was collected and then entered into IBM SPSS™ Statistics Version 22 software to obtain a descriptive analysis.

A coding scheme was inductively developed and used to identify categories, themes, and patterns. The coding scheme consisted of creating the codes from the transcripts, collapsing the codes, and grouping the codes to construct the categories. Finally, categories deemed to have similar meanings were merged into themes (Miles, Huberman, & Saldaña, 2013).

Participant experiences were examined and compared considering their age, gender, level of education and occupation, and the influence of these factors on dietary patterns (Table 1). It is noted that this process was conducted in an iterative manner which led from the objective to subjective forms of questioning aligning with the use of ID methodology. The process was reviewed and guided by an expert consultant, who was part of the research team.

Results

During the analysis, contextual, structural, and individual factors were assessed. Structural factors included social trust, informal social activities, family engagements, level of poverty, and family harmony. Contextual structures included household environment, transportation, neighborhood, and social support. Individual factors included motivation to change the individual lifestyles.

Table 1. Demographic Information on the Study Participants.

Demographic information	Frequency	%
Number of participants	24	100
Sex		
Male	12	50
Female	12	50
Age		
30–40	6	25
41–50	6	25
51–60	5	20.8
61–70	5	20.8
>71	2	8.3
Level of education		
None	7	29.1
Primary	8	33.3
Secondary	8	33.3
Graduation	1	4.1
Occupation		
Unemployed	4	16.6
Housewife	8	33.3
Labor	9	37.5
Other (salesman and teacher)	3	12.5
Family members in household		
1–10	19	79.1
11–20	4	16.6
21–30	1	4.1
Range of income		
None	4	16.6
Rs 5,000 or less	11	45.8
>Rs 5,000	9	37.5
Diagnosis		
Myocardial infarction	16	66.6
2-vessel disease	3	12.5
Valvular disease	4	16.6
Rheumatic heart disease	1	4.1
Received diet teaching		
Yes	23	95.8
No	1	4.1
Received teaching materials		
Yes	17	70.8
No	7	29.1

The thematic analysis revealed a rich account of the profound meanings, influences, facilitators, and barriers associated with dietary changes as a result of CVD. Overall, there were mixed views on what helps or hinders changes in behavior. Participants were greatly concerned about their disease, medications, surgery, and frequently voiced a desire to prevent any recurrences. They spoke about the limitations and challenges faced in reducing dietary elements of daily use, such as salts, spices, and fats. Factors that facilitated dietary change included formal and informal support from the family members or the community. Major structural, contextual, and individual challenges hindered their compliance

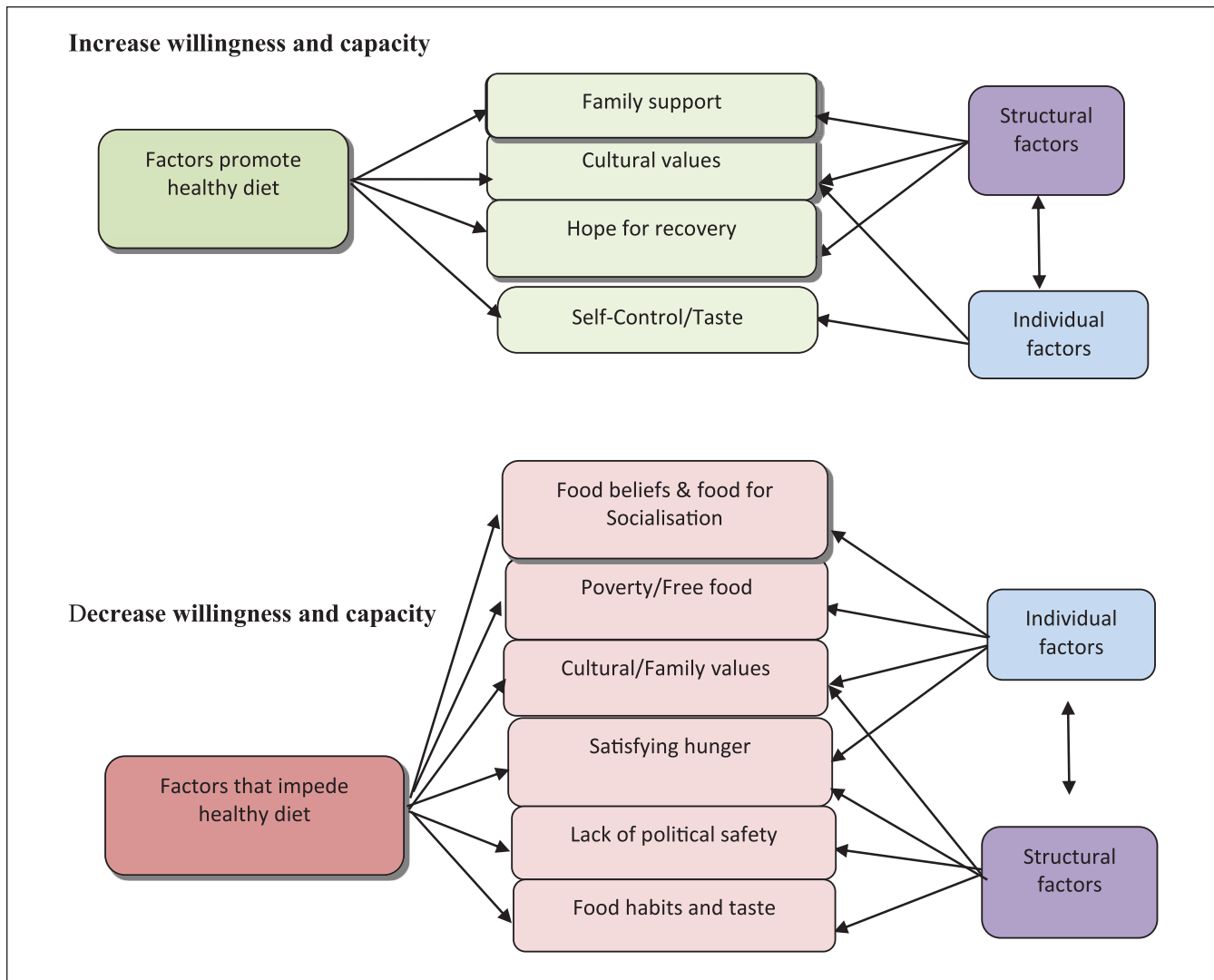


Figure 1. Structural and cultural factors that promote/impede dietary changes in low-income CVD patients.

Note. Arrows depict the relationships of the factors with finding from participants interviews. Double arrows show the two-way relationship. CVD = cardiovascular disease.

with a CVD friendly dietary regime. These factors reflect both individual and structural “motivators” (i.e., increase willingness and capacity) and “deterrents” (i.e., decrease willingness and capacity) to change their dietary behaviors (Figure 1).

Through the analysis process, seven major themes were elicited from the participants’ interviews including: (a) meaning of food and healthy diet: a social dimension; (b) poverty and a healthy diet: not a matter of choice; simply to satisfy hunger; (c) health promotion as a political issue: survival is difficult because of the current political unrest in Karachi; (d) hope for recovery and family support: motivation for dietary change; (e) family support and family relationships affecting dietary change; (f) self-control and self-determination: choosing between taste and health; and (g) cultural and family values that promote or hinder dietary

change. Each of these themes are further explored herein. To protect the participants’ confidentiality, pseudonyms are used in reporting the findings.

Meaning of Food and Healthy Diet: A Social Dimension

The study participants did not only relate food to their physical health or their diseases, but connect it to their culture, attitudes, and beliefs. Under this theme, participants shared three interrelated aspects of how dietary changes related to CVD patients’ lifestyles including: (a) *perhezi* diet; (b) food: a symbol of socialization; and (c) food as a blessing from God.

Perhezi diet (Urdu for restrictive diet). The term “*perhezi* diet” is an Urdu term that is commonly used by many cultural

groups across Pakistan. It is used to describe a particular diet tailored specifically for sick people, which essentially are restricted diets that most Pakistanis do not consider as part of a regular diet. *Perhezi* foods lack rich traditional flavors, as they are prepared with lesser quantities of oils, salt, and spices. Both male and female participants, who were knowledgeable about their prescribed diet, described it as a *perhezi* diet. The female patients spoke more about *perhezi* food than about a prescribed diet or healthy foods. Kulsum, a 40-year-old lady, described the *perhezi* diet as a plain diet and explained that “those who are suffering from a heart attack or any other heart illness must eat more simple food [*perhezi* diet], mostly boiled, without salt; avoid animal fats, fried foods, heavy foods, ghee (purified butter). It is difficult.”

Food: A symbol of socialization. Men described the depth of this challenge, as it is customary for men in Pakistani culture to frequently socialize and eat together, making food an element of social bonding. Mr. Javed described feeling isolated and frustrated because the dietary restrictions have impacted his entire lifestyle. His socialization has been challenged because of being expected to eat whatever is served in front of him, and any refusal is considered as insult to the host, as described in the following quotation:

Now I have minimized visiting relatives and adopted a simple lifestyle. I do not enjoy eating; I am prohibited from eating certain meals. I feel isolated and very weak. I do not attend parties and family gatherings anymore because they force you to eat, and when you refuse, it looks rude and it is not respectful. To avoid the difficulty, I force myself to stay home.

Food as a blessing from god. Faith and religion play a central role in managing illness, and religious beliefs are strongly intertwined with eating and other activities within Pakistani society. Female participants who attend Madrassa (a highly traditional Islamic schooling) and do not receive secular education tend to link food consumption as part of their religion (Islam). They considered food as a gift from God and stated that food should not be categorized as good/bad or healthy/unhealthy. Participants also perceived their religious obligation to be thankful, regardless of their troublesome circumstances due to any occurrence of diseases or sufferings, which they considered as a test from God and a part of fate.

Poverty and a Healthy Diet: Not a Matter of Choice; Simply Satisfying Hunger

Participants described the difficulties they face in changing their diets, while they lamented their vulnerabilities and seemingly helpless situations. They highlighted the lack of food, unavailability of desired food items, and linked their insufficient purchasing power or buying capacity as a direct consequence of poverty which greatly impacted their dietary choices. Their main concern was filling their stomachs to

reduce hunger rather than considering nutritional values or the impacts of their food choices. Many indicated that they do not have sufficient time or money to prepare food for themselves because of their lengthy working hours. Participants with some knowledge were willing to eat healthy foods; however, the lack of resources and individual capacities hindered implementing of these changes. This disconnect presented as a challenge to the participants who encountered medical staff and health care workers and were unthinkingly prescribed healthy dietary changes without being offered any means to fulfill such expectations.

Searching for an opportunity for free food: A solution to satisfy hunger. Several participants, particularly those living in large families with two or three wage earners, expressed their desire for having free food. These desperate individuals, and often their children, attended funerals, where poor people are offered free food (*lungar*). They also visit religious places, such as shrines, where pilgrims and believers are offered free meals. Describing his eating habits, a father of seven children described his vulnerable situation “I eat whatever is there in *lungar*.” They work in shrines or religious places, working as guards or house cleaners, or performing religious duties for visitors to partake in the traditional foods brought by the visitors. Many indicated that they will choose oily (less healthy) foods rather than remaining hungry.

Unable to meet the expense of healthy food and the additional cost of transportation. As participants struggled to change their dietary patterns to eat suitable homemade foods, they also faced different problems, such as unavailability of fresh fruits, lack of an affordable transportation, and greater distances to the food markets. Their accounts indicated significant problems ranging from the inability to purchase proper food to the additional cost of transportation incurred due to the lack of proximity to food markets. Most participants used public transportation to get back and forth from work. They cannot bear the additional cost of separate transportation to travel to the vegetable markets; therefore, they resort to purchasing stale or suboptimal food from nearby outlets, which sell leftover vegetables and fruits at cheaper rates. Distance and transportation were important factors; however, participants’ willingness and age-related mobility also affected dietary changes.

Managing multiple financial commitments with low income and the high cost of food. A fundamental issue that arose in the participants’ discussions related to managing their multiple day-to-day expenses, which resulted from their low SES. A number of participants viewed their socioeconomic context, such as housing, unemployment, and house rent payments, as a more urgent concern than the purchase of healthy food items. They described their difficulties in managing multiple financial commitments and the high fiscal requirements of keeping a healthy diet. Mrs. Saeeda tried to manage all of the household expenses on her husband’s limited income:

My buying capacity is very limited. I have to pay the expenses for the whole month: school fees, transportation, bills, and rent has increased by Rs2000. So I have Rs4000 left over to last another 20 days. I cannot pay for fresh vegetables and fruits and fish or chicken. When I go shopping—I have to keep the price range in mind. I go in the evening, and I buy only leftover, rotten things. One kilogram of flour is Rs35, and a small amount of fruit is Rs120. Fruit is out of the question. I always buy open oil, not oil that is healthy.

These challenges not only impede them in improving their cardiovascular health but also deprive them from earning a decent livelihood, thereby creating a vicious and oppressive cycle.

Health Promotion Is a Political Issue: Survival Is Difficult Because of Political Unrest in Karachi

Lack of safety and security also hindered the participants' daily life activities, including food selection and choices. Almost all of the respondents expressed deep concerns regarding the existing political turmoil, which influenced curative and preventive measures. They lamented that since the city remained in a state of chaos, how could they think of eating healthy and fresh foods, when the survival itself is so difficult. Banu, who was unable to attend her doctor's appointment because of her arthritis, discussed the heart-friendly food chart that cardiac patients receive during their first visit, in the following comment:

Eating healthy and heart-friendly food has become a dream. Even being able to get enough food for survival has become questionable when life itself is not safe. In such a frenzied atmosphere, I do not know how we are able to keep on going. In Karachi, rich, poor, all are uncertain of their next breath, Madam.

Political disruption damages the economic infrastructure, destroys human assets, and contributes to health problems. Many participants suggested that access to healthy food items is dependent upon safer political circumstances and a salubrious social life.

Hope for Recovery and Family Support: Motivation for Dietary Change

Despite the challenges that the participants identified in being unable to change their dietary patterns, a few were moderately successful in doing so. They reported that certain factors motivated their lifestyle changes, such as the fear of death, hope for recovery, and family support, which they considered major driving forces in changing their behavior. The participants were genuinely emotional about their struggle to change their eating habits. Some tried to reduce the salt in their diet, use less oil, or boil vegetables; while others

became involved in religious activities to reduce the stress. However, the likelihood of changing their diet was limited and highly dependent on the fact that their purchasing requirements must not exceed their earnings. The participants were motivated to change their diet out of fear of being a burden on others or being left alone because of their disease. The participants were concerned about their illnesses, surprisingly not because of death, but because of the burden of responsibilities. Some, especially the younger participants, indicated that if they were to die, there will be no one to look after their children.

Family Support and Family Relationships Affect Diet Change

Another major source of motivation for the participants to eat the recommended diet was the support of their family members, who not only advised and encouraged them to eat a less oily, less spicy, and less salty diet, but also changed the entire menu and the kinds of food that the family shared. Customary family practices also determined the food to be consumed, and all family members ate the same food prepared in the house. Thus, many family members consumed food that was prescribed only for the participants after their diagnosis of CVD. As a result, the participants ate a healthy diet, but felt guilt that their illness resulted in other family members failing to enjoy traditional foods.

The support that the participants received from their families to make this change is encouraging, but it also has a strong negative impact on the family and the cultural norms, particularly when social norms do not reflect the importance of dietary change for patients with CVD.

Self-Control and Self-Determination: Choosing Between Taste and Health

In addition to the social aspects, there were also distinct individual factors related to the difficulties faced in achieving dietary change. Some participants showed a lack of willingness despite a favorable environment; whereas, others demonstrated that their willingness and determination to make the dietary change possible. It was clear that one cannot assume that individual factors alone can change behaviors. The theme of self-control and self-determination reflects the individual characteristics of participants that influence dietary changes, conditional upon addressing applicable structural barriers.

Those who do not have a problem in accessing and affording healthy foods cited personal reasons related to lack of willpower and determination. For them, the tantalizing taste of food was more significant than their overall health. These participants spoke about their inability to continue eating a nontraditional (i.e., CVD friendly) diet. They explained that consuming plain food led to a decrease in their appetite, and

they eventually start feeling sick; it also increases their craving for unhealthy foods. In the interviews, some participants, such as Mr. Mazhar, said that they have an “addiction to traditional food” or “cannot change” their dietary habits:

Speaking truthfully, I tried but I cannot control sweet things. It seems that I cannot live without sweets. I am always craving them because I am addicted. I feel good if I eat sweets, because I used to eat these foods, but slowly I am controlling [my diet].

Culture and Family Values Promote or Hinder Dietary Change

The relationship between cultural and family values is an important factor affecting behavioral change. Many aspects of culture were found to affect the participants’ choice of food after their CVD diagnosis, with some beliefs being highly appraised in certain families and communities. Their food practices revealed an interplay between family values, cultural beliefs, and individual behaviors, which has made it difficult for some to change their dietary pattern. The most important aspects of their cultural beliefs are the consumption of the same food by all family members, cultural norms that affect food choices, and a belief in the difference between hot and cold nature of foods.

Cultural values can be major barriers for changing dietary habits in any context. In Pakistani culture, foods are replete with flavors and spices, and are essential in socializing and maintaining relationships. As strong family bonding is evident in Pakistani culture on occasions, such as Ramadan and Eid, the participants indicated that they often sacrifice their health to maintain their role and identity within their family and the society. Furthermore, it was stated that if they abandon their cultural and religious food traditions, they eventually feel left out and isolated.

Discussion

This study presents some pertinent factors that influence the consumption of healthy diets for low SES population with CVD in Karachi, Pakistan. The findings highlight that the meaning of food is intimately linked with cultural, familial, and religious values. Food holds a symbolic stature among various cultures and religions (Counihan & Van Esterik, 2012; Mabry et al., 2016; Vincent, 2009) and is frequently linked to moral and sentimental values. Often foods are linked to specific communal identities, socially aligned with specific ages, genders, and sects of a society (Barolia, Clark, & Higginbottom, 2017). However, the choice of food is highly dependent on the availability of resources.

A unique finding in this study lies in the meaning and interpretation of healthy food, which is exemplified and contextualized within the concept of perhezi diet. The interpretation by participants indicated that this restricted (perhezi) dietary regimen within the cultural context was hard to follow.

Another unique finding in this study is the relationship between a peaceful political environment and the ability to buy fresh fruits, vegetables, and other required nutritional goods, as well as accessibility to health services. Participants reported that they have felt insecure and anxious and had experienced mental trauma due to the unstable political conditions and suicide bombings. This perception indicates that promoting health will only be successful in peaceful environment.

Despite the fact that people are aware of healthy and unhealthy foods, the difficulty in adhering to the recommended dietary regimes results from various interrelated individual and contextual factors (Clark et al., 2011; Clark et al., 2008). Participants expressed difficulties in resolving competing life events and problems, such as safety and security; hence, food choice was often perceived as a lesser priority in their lives.

Participants considered food as a strong symbol of socialization; hence, diet/food choice changes have repercussions on social life. Several participants emphasized the significance of eating fried and spicy food as a social activity when participating in normalized activities. They associated eating with family and getting together with friends and valued the traditional tastes and varieties of food, which was seen as more important than nutritional value.

Another factor affecting the food choices is based on the social life of participants. Weekends are a chance for them to gather, socialize, and share food (Vaqar, 2015), yielding an untenable situation which hinders individuals from following their restricted (Perhezi) diet. The food choices during such gatherings are tantalizing and full of temptations leading them to eventually consume unhealthy or junk foods on such occasions. This circumstance is explained by the conflicting dyad of immediate gratification against delayed gratification (Cohen, 2017). It is difficult to refute the fact that the consumption of unhealthy and/or junk foods often gives an immediate sense of pleasure, while also preserving their sense of inclusion and full participation in social gatherings.

Most of the participants understood the need for dietary change and wished to change their eating patterns but were generally unable to meet this goal. Financial constraints greatly affected their decision making with regard to reducing the dietary risk factors of CVD, and high food prices based on the global market, in addition to the country’s poor economy, has resulted in further deprivation. These individuals are plunged deeper into crisis when confronted with additional expenses, such as a family member’s sickness or urgent household repairs. The participants clearly expressed their guilt feelings, stressed, and anxious due to their disadvantaged economic situation and inability to comply with the requirements for a healthy diet. As a result, the participants report continuing to consume food simply to satisfy hunger as opposed to being healthy.

A few studies of low-income groups identified similar factors that impede individual capacity to make recommended changes in diet, such as limited purchasing capacity

(Clark, Duncan, Trevoy, Heath, & Chan, 2011; Kirkegaard, Edwards, Risør, & Thomsen, 2013), limited accessibility to healthy food markets, inability to manage multiple financial commitments because of their limited income (Arganini, Saba, Comitato, Virgili, & Turrini, 2012; Clark, Duncan, Trevoy, Heath, & Chan, 2011; King, Sanguins, McGregor, & LeBlanc, 2007; Kirkegaard et al., 2013), and increased prices of healthy foods. This study and the findings of other studies conducted with low-income groups of people in Canada and immigrants with chronic diseases in South Asia (Singh, Cinnirella, & Bradley, 2014) suggested that there are fundamental factors (i.e., meeting basic needs and accessibility) affecting the lifestyle and healthy behaviors of people of low SES. Unless these issues are addressed, people of low SES will be unable to change their diets, despite their willingness (Badruddin et al., 2008; Kirkpatrick & Tarasuk, 2003; Vaidya, Aryal, & Krettek, 2013). Concomitantly, other determinants (i.e., religious, social, and cultural influences) have an apparent effect on the dietary patterns of low-income groups in Pakistan (Nishtar, Bile, Ahmed, Amjad, & Iqbal, 2005).

The literature suggests that one of the reasons for the failure of health promotion programs is “placing the onus of risk factor reduction on individual responsibility and downplaying contextual factors” (Thorne, 2008, p. 161), which aligns with the perspectives of participants on the need to manage multiple household needs on a limited income, persistently high prices of healthy food, and poverty-related issues. Such programs must also address the social and political contexts in which individuals, families, care providers, and others are striving to implement and comply (Nishtar et al., 2013). Based on the study findings, the triad of individual/family-health system/structural-policy levels addresses the critical elements and holds the potential for an integrated health promotion model for dietary needs of low SES individuals with CVD.

Limitations of the Study

The interpretation of the study findings can be transferred in the people of low SES. Replication with a larger sample, beyond a single site, and even potentially on an international scale should be considered. Nonetheless, the interviews that were conducted in Urdu are translated by a bilingual native Pakistani, there is a possibility that a few terms and expressions in Urdu were not given the same meaning in English during translation. This shortcoming was explained during the second interviews with some participants. Some women were interviewed at their homes in the presence of their family members; their presence during the interviews may have had an influence while gathering some of the information.

Conclusion

Consuming a healthy diet is a complex human behavior and is informed by an array of interrelated individual and

contextual factors. This study highlights the importance of understanding the range of factors that strengthen or hinder CVD-friendly eating. To date, no substantial research is available that has fully explored the factors, gender dynamics, and issues related to the consumption of a healthy diet for people of low SES. This study informs the need for an intersectoral, multilevel approach to this complex and growing global issue.

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Author Contribution

RB drafted the manuscript. GAH, FK, AMC helped to refine the draft and PP extensively revised the manuscript. All the authors have approved the final manuscript.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Ethics Approval

The study was ethically approved through ethical review committees at the University of Alberta, Canada (2336) and the Aga Khan University, Karachi, Pakistan (31824).

Informed Consent

Informed consent was signed by the participants before interviewing the patients. The consent included details on voluntary participation in the study, potential benefits, and potential harm from participation in the study, as well as the right to withdraw from the study at any time without penalty. Participants' anonymity and confidentiality throughout the research process and during the dissemination and publication of the findings was also ensured.

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