

PJN

ISSN 1680-5194

PAKISTAN JOURNAL OF
NUTRITION

ANSI*net*

308 Lasani Town, Sargodha Road, Faisalabad - Pakistan
Mob: +92 300 3008585, Fax: +92 41 8815544
E-mail: editorpjn@gmail.com

Culture of Food Preservation among Bushehrian People in Iran

Maryam Ravanipour¹, Masoumeh Ravanipour¹, Shahnaz Pouladi¹, Hakimeh Vahedparast¹,
Mohammadreza Yazdankhahfard¹, Fatemeh Hajinejad¹ and Heidarali Abedi²

¹The Persian Gulf Tropical and Infectious Disease Research Center,
Bushehr University of Medical Sciences, Bushehr, Iran

²Isfahan University of Medical Sciences, Isfahan, Iran

Abstract: The correlation between food and health has been documented through many studies. Cultures have a fundamental role in the process of food selection, preparation and storage methods. It is important that health professionals and nutritionists develop a cultural awareness and use resources targeted toward a specific group. Because the main goal of this study was to find a description of cultural structures of food preservation among Bushehrian people, we used a qualitative method of research which deals with direct description of a group, culture or community-Ethnography-among Bushehrian people. Four main categories were emerged from the findings: 1) foods tendency of the families, 2) economic-environment point of view, 3) paradox between tradition and technology and 4) believes about the foods. Health considerations were placed in the core of all categories. So, it can be the main point of attentions for interventions for health care professionals.

Key words: Food preservation, ethnography, culture, Bushehrian people, Iran

INTRODUCTION

The correlation between food (diet) and health has been documented through many nutrition and health policy studies (Panelli and Tipa, 2009; Heinrich and Prieto, 2008). The dietary pattern approach reflects individuals' dietary behaviors and therefore can provide more detailed information about nutritional etiology of chronic diseases (Esmailzadeh *et al.*, 2008). Food, like place, is never a discrete, fixed or bounded phenomenon in space or time. Instead, food stuffs and food practices engage people in connections with multiple places, meanings and power relations (Panelli and Tipa, 2009). Food and the social rituals of mealtimes have multiple layers of meaning, including life-giving nutrition, comfort, caring, celebration and family ties (Wu and Barker, 2008). Recent researches have demonstrated that a number of environmental or contextual factors contribute to how food is perceived (King *et al.*, 2008). Food consumption satisfies a primary biological need. But the ways of satisfying this need are not exclusively biological. Cultures have a fundamental role in the process of food selection and preparation. Humans are omnivorous creatures and they elaborate norms, beliefs, learning skills and techniques in order to classify and manage potential foods (Sanchez and Casilli, 2008).

All kinds of foods require some energy for their production, harvesting, preservation, storage and preparation (cooking). There are a number of approaches for building a food storage program. Whatever is the reason for storing food beyond immediate needs, planning must be done to avoid waste (Brennand and Hendricks, 1995). The

understanding of actual food habits and social conducts surrounding the human act of eating is complementary to the study of the organic and biomedical determinants of the complex relation between nutrition and health (Sanchez and Casilli, 2008). To plan diets for individuals or groups that are appropriate from a health and nutrition perspective, it is important that health professionals and nutritionists develop a cultural awareness and use resources targeted toward a specific group (Mahan and Escott-Stump, 2004). Being aware of one's own cultural values avoid imposing them on others (Escott-Stump, 2002). The cultural, ethnic or religious rules can have an effect on one's access to food, food choices; preparation and storage methods by finding the answer of the questions like "Do any food handling, Preparation, or storage considerations compromise food safety?" Since there is not any official study about culture of Bushehrian people in the realm of methods of food preservation; a need for increased knowledge about culture of food preservation in public health work within health and education seems to be a requirement; because it has said that health professionals may help for better recommendations (Mahan and Escott-Stump, 2004). So, it is imperative the factors that influence the Bushehrian culturally preferences on food processing and preservation are understood.

MATERIALS AND METHODS

The main goal of this study was to find a description of cultural structures of food preservation among Bushehrian people. Such a structure can be discovered by social study of the way people do in their lives. Two

principal data collection methods are used by social scientist to study food consumption: open-ended interviewing and observation. Both methods rely heavily on qualitative data (Shils *et al.*, 1999). A research method which deals with direct description of a group, culture or community is ethnography. Applying ethnographic method helps health professionals to contextualize the behavior, beliefs and feelings of their clients (Holloway and Wheeler, 2002). Ethnography describes and analyzes aspects of the ways of life of particular cultures, subcultures, or subculture groups (Burns and Grove, 2001). So, in this ethnographic study we have searched for the cultural bases of food storage among the Bushehrian people in which the researchers were from there, in order to find better health assessment and recommendations.

Participants: A total of 14 Bushehrian fellow citizens participated in this study. The data was gathered from the community-dwelling citizens. The following criteria were used to select participants: being originally Bushehrian and be able to explain their beliefs and points of view and also being interested in doing this. According to the findings of constant comparative analysis, we considered some other criteria in order to select next informants; like: being employee, the distance of house from stores, having freezers or not. All informants participated in semi structured interviews.

Data collection: Purposive sampling was used to understand the nature of the phenomenon under study. Data was collected through interviews with the informants and observation. Duration of each interview session varied between 45-90 min, based on the informants' tolerance and interests. The interviews took place in the informants' home and were tape recorded and transcribed verbatim and read several times by the authors in order to elicit themes. We also used observation as data sources. In the observation sessions, researchers observed the informants' methods of storing nutritional foods and asked some questions about the reasons and the process which has been done for storing the foods, why some special kinds of food are preferred to be stored like that and so many questions in this realm.

The sample of individuals in qualitative research is generally small (Holloway and Wheeler, 2002). The number of participants in a qualitative study is adequate when saturation of information is achieved in the study area. Saturation of data occurs when additional sampling provides no new information, only redundancy of previously collected data (Burns and Grove, 2001).

Ethical considerations: The informants were informed about the study both verbally and in written they also were assured of confidentiality and anonymity. It was

made clear that they could withdraw from the study at any time. All participants gave written consent.

Data analysis: All interviews and observations were analyzed by several steps: ordering and organizing the collected material; rereading the data; breaking the material into manageable pieces; building, comparing and contrasting the categories; searching for relationships and grouping categories together; recognizing and describing pattern and themes; interpreting and searching for meaning (Holloway and Wheeler, 2002). This article presents selected verbatim quotes capturing informants' opinions, views and symbolic associations.

RESULTS

The considerations which has been done from different interviews and observing have shown that the Bushehrian participants are aware and familiar with environmental situations, kinds, nature of current foods in this area and customs of living in the past about keeping of foods such as making dry, freezing, making cool and salinizing; so based on their tendency toward different foods, decide to keep foods according to their methods and believes. By consideration of factors and methods which have been achieved from study of different people we come to the conclusion that people procure and preserve foods based on their needs during years, season, month, week and/or daily; therefore there are four principal factors as the cultural structure in manner of food preservation in Bushehr. These factors are as followings: 1) foods tendency of the families, 2) an economic-environmental point of view, 3) paradox between tradition and technology and 4) believes about the foods. Details of the factors will be discussed in the following:

Foods tendency of the families: From the point of view of the informants in this study, staying of sweet smell, taste and generally quality of the foods and also the taste of the members in the family have affected the method of foods preservation. For example, most of the people pay attention to the sweet smell and the good appearance of some vegetables (drying sweet basil) for making their foods. Some other also believe in cleaning fish scales after freezing rather than before freezing; then it will have better smell, appearance and taste; they were not interested in freezing so, it has affected their method of preservation and prefer to use meals daily rather than freezing. The informants by experience of preservation and consumption of foods have found that what foods in what manners and in what time buy and preserve in order to stay in its quality. They were interested in consumption of foods which are available just in special seasons like Black Cherry or Okra and then they preserve in different methods such as freezing, drying

and making sour for using in a longer time. The taste and interest of the members of the family and lack of interest would affect on preservation of different kinds of foods, for example the interest of the families in fishes rather than red meat have caused to preserve fish more than other kinds of meat.

An economic-environment point of view: To be familiar with the nature of different foods, region ecological condition atmospheric condition and degree of light in each season and the importance and the role of feeding in the management manner of life especially economical problems were important factors in this group. Based on these findings, informants by experience and use of traditional conditions, have found moisture, light, temperature and chemical effects of some foods on another would affect on quality of foods in a longer time. For example for protection of onion and potato it is better to keep it in a dark, cool and dry place. For preservation of uncooked rice for several months it should be keep in a dark and cool place and salt and/or garlic should be added to it. Spices and grains in hot season will be corrupted very soon. So, people will buy it in a low volume and keep it in the refrigerator or in a cool place.

The expenditure of procurement and preservation of foods was another important point that was considered by informants in this study. In fact they paid to different items in keeping foods such as having a better quality, staying in a longer time and the time which it take to be ready. The informants tried to choose the best method in preservation for example decide to provide the food products at home or buy the prepared ones from stores. One of the informants said that in summer which is the season of fishing and shrimping, we will buy shrimp for consumption of one year and we keep it in freezing and drying method. The price of this product in summer is cheap, we buy it in a large scale, so it takes us large amount of money, we save this amount from some months before buying time.

Paradox between tradition and technology: The informants pointed out to environment necessity, food requirement and limitation of equipments used in tradition method in preservation of foods in the past. Because of new technology and availability of food, in most of the seasons and some of the new methods observe the cleanness; so traditional methods are used less than before. Although some other traditional methods are used because of personal integrity with past history and also in some cases because of some healthy points. One informant said that "in the past there was no refrigerator so, in special seasons, they made special salty fishes that is very delicious and now sometimes I do it. Although we should be very careful about its effects on blood pressure". Another informant

said that "according to the ancient people, 7 year garlic sourness has many benefits; because it will subside so many illnesses in the body".

New technology of manufacture and protection of foods was another factor which has affected the culture of preservation of foods between people. Some of the families who were busy (employed in another job) for saving their time, used conserved foods while were aware of benefits of healthy fresh foods and they tried to use these two methods in some occasions. There were also some special marks of foods which according to the informants' experienced or their family or friends recommendations have better quality, taste and smell and had affected their method of procurement and preservation too.

Believes about the foods: This category has been emerged from two sub category: health believes and religious believes about the foods. Health believes in procurement and preservation of foods was an important element and it overshadowed other factors. For example the informants mostly paid attention to have diversity in consumption the red meat, chicken, fish, shrimp and grain also as a source of protein even between the people who were not well educated or low economical status. So, food variations seem to be very important for health reasons, even although it was against the interest of family members in some cases. The people used both new technology and also imitated from past tradition in preservation of foods and observance of cleanness. They were interested in using safety fresh foods and almost all of the informants emphasized on "cold" and "hot" foods, they tried to make balance between them in the body, so they keep both of them in their houses. One of them said: "in our city (Bushehr) most of the foods have "hot" nature especially in summer, which may causes "hot" condition in the body; so I preserve vegetables such as barberry and chicory which have "cold" nature in time of use. Or I preserve spearmint at home for the cases someone faces with distention".

There was a controversy between informants about the method of keeping vegetables or meats. Some of them said they first cut the vegetables or meats to pieces and then washed them whilst the others said vice versa (first wash and then cut to pieces). Both of these groups interestingly had the same reason for their method of food preservation: saving the foods' quality for health reasons as much as possible but in two completely different methods. This subject was the same for eggs, some for healthy reasons washed it then put it in the refrigerator and some of others put it in the refrigerator without washing.

Religious believes was another important matter for preservation of foods especially in Ramadan month. Some people believe that the special foods which are

not available in this month of season must be preserved in different methods in order to be used in this time. Some other informants made special foods in this blessed (Holy) month and divided it between others; they believed this kind of food bringing good luck and has curable effects. So, every body should eat it and if somebody from the family is not here to eat, they will put it in freezing for them.

DISCUSSION

Most of the informants were wives and two of them were husbands who helped their wives in house works. Mothers and wives are virtually responsible for feeding their families in all societies and have effects on the nutrition status of their family members (Shils *et al.*, 1999). It is recommended that an improvement in societal infrastructure, better maternal education and nutrition are needed to maintain the children' nutritional status in several rural areas of Sudan (Abdalla *et al.*, 2009). Food choice is a seemingly simple, but in fact very complicated behavior that is influenced by many interacting factors. Moreover, these factors each belong to the traditional domains of one of a large diversity of scientific disciplines and as a result each of these disciplines claims to have at least a partial answer to the central question in food choice research: "why does who eat what, when and where?" (Köster, 2009). Many participants in our study procured and preserved foods based on their needs during years, season, month, week and/or daily. In a study reveals that many of Indian people purchased flour on monthly basis. More than half of them purchased whole wheat and rice yearly (Gupta and Panchal, 2009).

Among the 14 informants in this study, 4 main categories were emerged: food tendency of families, economic-environmental attitude, paradox between technology and tradition and believes about the foods. The descriptions on each category in general, depict a common concept among them all, which was striving for maintains and promoting their health as much as possible. Interesting in the methods of preservation foods which they think are the best in both taste and in health; efforts to find the best method of food preservation and storage based on environmental and economical situation; affinity in applying technologies which are thought to be much more healthy and safe, all were the participants' main concern in their cultural base in food preservation.

It is argued that in the last decades consumer demands in the field of food production have changed contribute directly to their health. Today foods are not intended to only satisfy hunger and to provide necessary nutrients for humans but also to prevent nutrition related diseases and improve physical and mental well being of the consumers (Siró *et al.*, 2008). In Chinese culture also, food is much more than something to eat. What, how

often in what season and what order food is eaten are all carefully planned (Mahan and Escott-Stump, 2004). 27% of respondents in a study had become vegetarian for health reasons (Fox and Ward, 2008). It is also concluded that herbal medicines are being widely used in the world because of better cultural acceptability, least injurious with none or much reduced side effects (Marwat *et al.*, 2009a,b). Some of our informants talked about "hot" and "cold" foods for health reasons as well. Hispanic cuisine and Mexican and Latin American foods also are based on the concept of foods having "Hot" and "Cold" properties and on beliefs about foods contribution to health and well-being (Mahan and Escott-Stump, 2004). These terms do not refer to food temperature 'Hot' and 'Cold' foods may be used specially during : pregnancy or illness (for health reasons) (Escott-Stump, 2002). According to the EU project FUFOS (Functional Food Science in Europe) coordinated by ILSI (international Life Sciences Institute), a food can be regarded as functional if it has been satisfactorily demonstrated to affect beneficially one or more target functions in the body beyond adequate nutritional effects in a way that is relevant to either an improved state of health and well-being and/or a reduction of risk of disease (Ares *et al.*, 2009).

Religious beliefs also had some effects on the methods or reasons of preservation some special kinds of foods. It has been said, numerous population subgroups in the United States have specific cultural, ethic, or religious beliefs and practices that must be considered. These beliefs can have an effect on access to food, food choices, preparation and storage methods (Mahan and Escott-Stump, 2004). The periodic and voluntary denial of food intake-fasting- as well as the more or less prolonged drastic restriction of the components of the diet in quality and/or quantity has been considered as a preventive exercise with positive impact on health and wellbeing (Heinrich and Prieto, 2008).

Our findings indicate that an important element in food preservation is family food interests; which provide support to other findings like: despite the different theoretical approaches on adolescents influences in family food decision making: severe common resource-dependent, motivational, attitudinal, social and behavioral factors are suggested to influence the family decision process and outcomes. There are also some social constructs in food decision makings: socio-oriented communication about healthy eating, concept-oriented communication about food choice, social norms as expectations of others and descriptive norms as parents, preferences (Olsen and Ruiz, 2008). Good appearance of preserved foods was another important factor which our informants pointed it out as an effective factor into the preferred methods of food preservation. This finding confirmed by what has been stated by other researchers; texture of muscle foods is a crucial factor of

acceptability, particularly in meats characterized by very large postmortem tenderness variations, such as beef. However, texture of fish is also considered to be an important quality attribute for fish products palatability (Morzel *et al.*, 2000).

Attitudes toward environmental and economical situations were another influencing factor on formation Bushehrian food preservation culture. They paid attention to the climate situation, expenses of each method of preserving along with the maintaining of the food hygiene and their health in all.

The informants also pointed out to the effect of economy on the chosen ways of food preservation. In a study nearly 50% of 352 respondents have said if they had reduced income, they would make a change to their food shopping habits (Hunter and Worsely, 2009). A preliminary situation analysis revealed that transitional changes in the economic, demographic and social sectors have driven dramatic changes in people's life style, behavior and practices and that these changes affect food and nutrition security (Thwin, 2001). Although many urban households and individuals in Nigeria merely eat for survival; the results of a study revealed that 70% of them are food secure. The major coping strategies against food shortages were the purchase of less preferred food and reduction in the quantity of meals (Ibrahim *et al.*, 2009).

The Racial Segregation Conceptual Framework (RSCF) suggests that disparities in health are mediated by several factors, including race base residential segregation, socio economic position, social and physical environment, community stressors, health behaviors and social support (King *et al.*, 2009). Paradoxical interest in traditional or modern techniques of food preservation was another concept which has affected the Bushehrian culture of food preservation. So many technological developments are often in conflict with traditional and religious believes that are important part with of approach to eating and healing (Heinrich and Prieto, 2008).

It has been said, in the area of food and nutrition, various technological applications, which have resulted in novel foods, have emerged in the past decades. Many of these were related to prolonging the shelf life of foods and enhancing their safety, e.g. pasteurization and novel food packaging. A food preservation technology that has failed to reach widespread adoption is a food irradiation. Despite the fact that the scientific community recognized food irradiation as a safe and effective process, significant consumer resistance has inhibited the application the technology (Ronteltap *et al.*, 2007). Results of a study indicate that of the 13 sources of nutritional information, friends and relatives were most frequently quoted, while scientific publications as well as advertising on packaging material were most rarely quoted (Ulbricht, 2002). Findings of another study showed that acceptance of food products with health

claims is strictly linked to the way consumers make sense of those products and integrate them in their country's food habits (Sanchez and Casilli, 2008). The improvement in water vapor barrier properties jointly with the enhancement of mechanical properties when fiber was present, lead to the idea that the composite developed can be used to protect food and extend its shelf life (Famá *et al.*, 2009). A study on Portuguese consumers' perception of beef quality showed that brand was a predominant extrinsic quality cue; which was used as both for perception of intrinsic quality cues and for inference of quality expectations (Banović *et al.*, 2009). Korean people also consume some fermented seafood which traditionally has prepared by saltation and fermentation for a long period of time (few years) to develop taste. The garlic extract which has been used with this fermented seafood has an inhibitory effect on biogenic amine (Mah *et al.*, 2009). The garlic in our study was used for preserving raw rice for a longer time. The results of our study can be used in developing some cultural based health model, such as Health Belief Model. Particularly, a major feature of this model holds that the patients have choices and are able to make suitable decisions regarding their health. Considering that nutritional education has increased patients' knowledge using this model (Sharifirad *et al.*, 2009).

In all we can conclude almost all of informants more or less tried to preserve nutritional foods traditionally or by modern techniques. The important finding was that although they try to preserve foods based on their family preferences, economical considerations and the foods' nutritional properties; health consequences were in the core of all of them. Therefore, it can be the main point of the intervention for health care professionals in order to develop their training programs based on this item. So, in this way health and quality of life can be promoted in general. A qualitative study of this sort has some limitations in terms of its representativeness. Our qualitative study used purposive sampling, so we cannot generalize the proportions in these categories from our data.

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