

HOW PAKISTANIS EAT: A QUALITATIVE STUDY OF FOOD CHOICES IN TYPICAL PAKISTANI HOME FOOD PREPARATION

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Abstract

The use of qualitative data in health care settings is becoming increasingly popular as a means of exploring individual's beliefs, cultural norms and food intake. Dietary patterns and food choices are the blueprint on which any culture places its traditional food intake including food craving and food availability which in turn are influenced by a host of factors. The objective of the current study was to assess the factors influencing food choices and eating behavior using focus group discussion as a means of collecting qualitative information. Systematic random sampling was done and 18 Focus Groups were randomly selected from 9 towns of Lahore, representative city of Pakistan. These 18 focus groups encompassed 412 participants. Qualitative data collected from focus groups was analyzed using constant comparative method. Results indicated that numerous factors influenced how Pakistani eat which included food choices, convenience and easy of cooking method, taste, familiarity, likes and dislikes of family members which typically included fondness for type of meat consumed, besides specific meat type was preferred for specific dishes like chicken was preferred for "Murgh Biryani" and mutton was preferred for "Yakhni Pulao". One-pot combination dishes were prepared for variety and sensory attributes. The study concluded that qualitative data from focus group can effectively be used as a means of exploring dietary habits and factors affecting food choices. Based on the current findings further study can be formulated to explore the recipes and cooking methods with the aim of developing food groupings derived from traditional Pakistani dishes for integration in Food Exchange List.

Keywords

C-RAN (Cloud-based Radio Access Network), F-RAN (Fog-based Radio Access Network), IoT (Internet of Things), latency, 5G networks

1.Introduction

The importance of diet in health and its role as the major determinant in healthy lifestyle behavior cannot be over emphasized (WHO, 2002). What we eat is critical to our physical and mental wellbeing, not only in terms of providing nutrients to the body, but also in terms of the influence it exerts on our thinking, feeling, action and many other socio-psychological aspects of life (Rozin, Fischler, Imada, Sarubin & Wrzensiewski, 1999). An individual chooses food for many reasons and foods selected overtime can make a significant difference to the health of that individual (Freeland-Graves & Nitzke, 2002). Food preferences is important for comprehending social norms and reasons affecting food choices including food craving and food availability which is influenced by a host of other factors. Those factors include personal preferences, habits, ethnic heritage, and tradition (Pollard et al., 2002). While at households, the choice of food is determined especially by quality, taste, health and economic factors and especially determined by the price factor (Gupta 2009). As in Pakistan rural households preferred to consume items from dried fruits and nuts, oilseeds, and locally preserved foods during the severe cold weather. But Differences in perceptions can be observed between the consumers in the different cities of a country (Liu et al., 2007). Commonly consumed Pakistani dishes included pulses, vegetable curries on their own or with meat etc. and they are found to eat more traditional meals. While in Pakistan food patterns changes across the seasons and resulted in dietary diversity and calorie intake too. (Kassam-Khamis, Judd & Thomas, 2000). Dietary patterns and food choices thus becomes the blueprint any culture places on its traditional foods; which in turn has an effect in developing one's eating habits. These traditional variations and food choices may affect food and nutrient intake. Similarly, cultural diversity of cookery may involve the use of ingredients not ordinarily used in cooking elsewhere (Nastasi & Schensul, 2005). Understanding of dietary patterns relative to nutrient adequacy and health outcome thus becomes an important task that cannot be overlooked (Kant, 2004). It involves the use of qualitative research method for

collecting descriptive data from sub groups within the population (Bender and Ewbank, 1994). Different methods have been devised for cultural anthropology studies which include observation, in-depth interviews and focus groups. Amongst them the most popular method for studying cultural variation is through focus group (FG). Focus group has been used as an effective tool for extracting culturally sensitive information regarding tradition, cultural norms, food habits and food choices for over 80 years (Onwuegbuzie, Dickinson, Leech & Zoran 2009). That provides an informal setting where the individuals interact and are free to give their opinion on subject of discussion. This form of in-depth interview is not readily used in Pakistan as a means of data collection, since most of the researches are focused on quantitative rather than qualitative data. However, FG can provide insight in the complexity of cultural effect on food intake and can help uncover type of information not readily available by other methods (Billson, 2006). Therefore, the present study was aimed to explore the use of focus group in order to quantify the factors that influencing food choices in typical Pakistani households.

2.Methodology

The research was exploratory which aimed at identifying different socio-psychological factors influencing food choices among Pakistani Households. Focus group was the choice means for collection of the qualitative data as it has been used extensively for exploring eating behavior (Hargreaves, Schlundt & Buchowski, 2002) and studying personal and contextual factors that affect food choices (Neumark-Sztainer, Story, Perry & Casey, 1999). Criterion based selection was done using multi-stage random sampling for selection of the focus group participants. The study population was Lahore, since it is a metropolitan and second largest city of Pakistan besides being the capital of the largest province Punjab in terms of population. Lahore comprises of approximately 1462623 households (Population Census of Pakistan, 1998) which is administratively divided into 9 towns and these towns are further divided into 146 Union Councils (UCs) which became the primary sampling unit for the study; while randomly (Fish Bowl technique) selected household were the basic sampling unit;

whereas the person doing the cooking and befitting the selection criteria was selected for the FGD, as depicted in Table 1.

Sample Size Calculation

Sample size was calculated using the following formula:

$$n = \frac{NZ^2 P (1-P)}{\alpha^2 (N-1) x (Z)^2 x P(1-P)}$$

n = sample size (when population is more than 10,000)

N = total number of households in Lahore = 1462623

P= Prevalence = 50% => 0.5

Z= 95% confidence interval => 1.96

α = Type of error => 0.05

$$n = \frac{1462623 \times (1.96)^2 \times 0.5(1-0.5)}{(0.05)^2 \times (1462623-1) \times (1.96)^2 \times 0.5(1-0.5)}$$

$$n = \frac{1433370.54}{3583.42} \Rightarrow 400$$

Non response was estimated at 10%; therefore, a total of 440 household were included in the study.

Multi stage random sampling frame was used to select the sample as the technique is comprehensive and more representative of the population (Singh, 2006). First stage of sampling procedure encompassed the use of simple random sampling using Fish Bowl technique (Teddlie & Yu, 2007) for selecting two UCs from each administrative town as a primary sampling unit. Complete list of towns and UCs was obtained from the internet and 18 union councils were selected through the use of Fish Bowl technique of random sampling. One focus group discussion was carried out from each of the selected union council.

Second step of sampling involved household selection as the basic sampling unit for inclusion in the focus group.

The number of the household representing each union council was obtained by:

$$\text{Number of households} = \text{Total number of sample size}$$

$$\text{Selected number of UC} = 440 \frac{\text{households}}{18\text{UC}}$$

$$= 24 \text{ households per UC}$$

The Counselors from the selected union councils were approached and requested to randomly select 24 households from his UC using Fish Bowl technique.

The UC office was used for conducting focus group discussion and 18 structured focus group discussions were held for 24 housewives (in one focus group) who cooked for their families to ascertain factors influencing food choices.

Standard protocol for conducting a focus group was followed and questions were carefully designed so as to address the context, process and evaluation (Thomas, 2003). Two main questions were formulated in such a way so as to derive the required information from the participants which include identification of the most commonly cooked dishes in the household; reasons for cooking those dishes frequently including preferences of family members.

Constant Comparison Analysis was used to analyze the Qualitative data using basic forms of interpreting (Mayring, 2003). Structuring and filtering technique was employed for grouping relevant content out of the whole into specific categories. Themes and patterns within the data were identified through highlighting similarity and differences across data sets (Braun & Clarke, 2006). Theme construction was based on coding, grouping data in categories and abstraction to draw out the general explanation of the research topic (Elo&Kyngas, 2008). Categories or themes were developed by identifying the most recurrent or repetitive terms (Ryan & Bernard, 2000) as initial or open coding

Next data was grouped together to reduce the number of categories as focused coding. Each category was initialed using the characteristic content word and sub-categories were generated from within to further explicate the content (Dey, 2003).

3.Results & Discussion

Qualitative data which comprised of identifying information regarding dietary pattern and most factors that influenced food choices was collected from the housewives across Lahore with the help of Focus Group Discussion. 440 housewives were invited to be part of 18 focus groups in the current study; 24 housewives were invited for each focus group, but the number of the participants varied from

19 to 24 housewives amongst various focus group.

Constant Comparison Analysis identified the salient themes of Focus Group Discussion and the results of the study were organized around 2 major themes “Convenience” and “Personal Preferences”.

Major factors identified by FGD that affect the dietary intake in Pakistani households

“Convenience” was one of the major emerging determinant that effected food choices. Globally whenever convenience is referred in relation to food, it is often taken as food that is ready-to-eat, ready-prepared food or readily available like fast food and these food choices are generally referred to less healthy eating habits (Jabs & Devine, 2006). However, the case is not the same when it comes to the Pakistani household as it was observed that “Convenience” was interpreted as homemade food that required limited time in preparation and cooking as majority of the participants agreed that they take three meals a day and enjoyed eating ‘Traditional Pakistani Food’ and would like their children to develop the same habit. The Pakistani household further translated “Convenience” into ‘Time’ ‘Availability’ and ‘Familiarity’ which merged as sub-themes.

“Time” has always being influencing factor effecting food choices especially for women who prepare food for themselves and their families. Recent surveys and research studies have indicated that the time spent on cooking has come down to only 33 minutes per day that includes both cooking and clean up (Hamrick, Andrews, Guthric, Hopkins & McClelland, 2011). Comparatively, the meaning of time in terms of cooking is not the same in Pakistani households as Pakistani women enjoyed cooking for their families and spent majority of their day cooking as they generally prepared fresh food every day. “Time” spent on cooking would vary day to day and between households in a typical Pakistani community and would depend on the time any women cooking for their families were willing to spend. Choice for daily cooking was mainly dependent upon the *availability* of ingredients at home or easy access in market so as to save time. Therefore, routine cooking mainly comprised of common dishes that were easy to prepare and always had a standard method of preparation. This

trend has seen a decline in developed countries since the turn of the century (Smith, Ng, & Popkin, 2013).

Household cooking generally incorporates multiple influences with a broad spectrum of practices (Mills, White, Wrieden, Brown, Stead, Adams, & Fujiwara, 2017), yet “*familiarity*” remains one strong determinant of food choice in Pakistani households. Pakistani women would try out new recipes especially due to the availability of different cooking shows and channels, but those dishes were prepared only occasionally and routine cooking still comprised of dishes and recipes the housewives were familiar with. Generally speaking the most frequently cooked dishes were traditional Pakistani dishes as the house wives found it easy to prepare food usually prepared in their in-laws or their own homes before marriage as the participants were familiar with the taste, appearance, aroma, method of preparation and serving style.

“Personal Preferences”. The second major factor that affected the intake of food in a typical Pakistani household is “Personal Preferences” which came out as a major theme of Constant Comparison Analysis of the qualitative data of focus group discussion. “Personal Preferences” dictated food choices more than taste perception and other attributes while selecting specific food dishes (Paasovaara,

Luomala Pohjanheimo & Sandel, 2012).

These “Personal Preferences” were further sub-divided into “Likes & Dislikes”, “Preference for “Meat and “Sensory attributes” which came out as sub-themes.

“*Likes and dislikes*” of the family members were given importance by the females preparing food in Pakistani household. The participating housewives were responsible for deciding the daily menu of their families and in doing so they took into consideration mostly likes of the head of the family, their children and other members of family. The most frequently cooked dishes in the household would be those that are liked by all members of the family.

“*Preference for Meat*” is very specific globally and overall the consumption of red meat and chicken has not changed significantly (Resurreccion, 2004); but when it comes to the meat consumption in the Pakistani preference for meat is seen for specific dishes. Majority of the participants

preferred chicken while cooking a meat dish alone like Murgh Karahi (Chicken in a Wok), Murgh Handi (Chicken in a Pot) and Murgh Korma (Chicken Curry). Whereas, mutton was preferred for one-pot combination dishes with vegetables (non-starchy and starchy) like Kudu Gosht (Bottle Gourd & Mutton Gravy), Shaljam Gosht (Turnip & Mutton Gravy), Palak Gosht (Spinach & Mutton Gravy) and Aloo Gosht (Potato & Mutton Curry). Discussing minced meat, it was seen that most of the participants in the focus groups preferred mutton over beef and chicken. Mince mutton was consumed alone as Bhuna Keema (Stir Fried Mutton Mince) or in combination with starchy vegetables like potatoes and peas in the form of Aloo Keema (Potatoes & Mutton Mince) and Matar Keema (Peas & Mutton Mince) respectively; other non-starchy vegetables were also used with mutton mince like onions in the form of Keema Piyaz (Mutton Mince with Onions). Fish was only consumed occasionally and that too was specific to the winter season. Besides this, meat preference was also seen for specific dishes in which chicken was preferred for “Murgh Biryani” (Boiled Rice layered with Chicken Gravy) and mutton for “Yakhni Pulao” (Rice in Mutton Broth). Similarly, preference for type of meat in relation to specific dishes was also seen universally as beef was a choice meat for the traditional Jordanian Malfoufmihsy (cabbage leaves stuffed with rice and minced beef) dish (Bawadi & Al Sahawneh, 2008); fish for Malian Zamai, rizgras (fried rice with blue fish and vegetables) and turkey for mole poblano' (turkey in deep- brown sauce) a typical Mexican dish (Cusack, 2000).

“Sensory attributes” were also considered important motives for food choice (Sylwia Żakowska-Biemans 2011) in Pakistani households. Combinations of different food groups were also seen for enhancement of sensory attributes like Split Bengal Gram and Bottle Gourd Gravy (Chanay Ki Daal aur Kudu) were cooked together as a combination dish for purpose of improved flavor and texture. Similarly onions were added to Okra (Bhindi Pyaaz) for improvement in appearance and texture. Hence, sensory attributes also had a major influence on food choices.

Thus, the present study while analyzing qualitative data from population-based study of female Pakistani adults to ascertain the

factors effecting food choices saw that the food choices revolved around the convenience of the housewives responsible for daily cooking along with the personal preferences of the family members.

4. Conclusion

Findings of current study suggest that focus group is an appropriate framework for attaining information that how food choices of typical Pakistani households are influenced by different complex factors. There was a general perception that convenience meant time, availability and familiarity and Personal Preferences included into likes & dislikes meat choices and sensorial attributes.

5. Recommendations

Avenues for further research on the dietary pattern analysis of ‘Traditional Pakistani Diet’ should be explored. Information attained regarding dietary pattern analysis and factors associated with determining food choices of individuals can help in developing ‘Dietary Guidelines’ and ‘Culturally Sensitive Food Exchange Lists

6. Limitation of the study

The specific cultural background of the participants was not taken into consideration which remained as one of the limitation of the study; however extensive coverage of the nine administrative towns of Lahore during the sampling procedure provided the cultural insight in the dietary pattern of Pakistan which was important to the study as it provided baseline data for the research.

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Table 1.Selected Union Councils as Primary Sampling Unit

Sr. #	Towns	Selected Union Councils	Union Council Code	No. of Households	No. of Participants/Focus Group
1.	Ravi Town	AndaroonBhaati Gate	UC-29	11068	23
		Shahdra	UC-7	10751	19
2.	Shalamar Town	Begum pura	UC-18	9820	24
		Shad Bagh	UC-23	9986	24
3.	Wagha Town	SalamatPura	UC-40	11175	20
		Daroghawala	UC-42	10879	24
4.	Aziz Bhatti Town	Mughal Pura	UC-48	8558	21
		Mian Meer	UC-54	8664	24
5.	Nishtar Town	Boston Colony	UC-134	9641	24
		Farid Colony	UC-137	8974	22
6.	Data GunjBukhsh Town	Kareem Park	UC-69	9207	24
		Mozang	UC-79	11881	23
7.	Gulberg Town	PaakDaaman	UC-75	10517	23
		Makkah Colony	UC-98	10017	24
8.	Samanabad Town	RehmanPura	UC-107	10167	22
		Gulgasht Colony	UC-88	8811	23
9	AllamaIqbal Town	NiazBaig	UC-118	11480	24
		Chungi	UC-121	9018	24

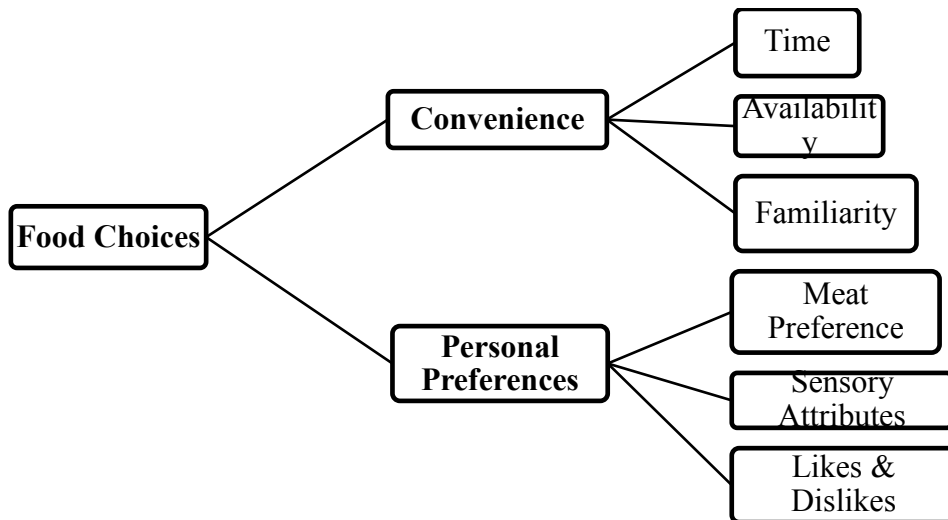


Figure 1 Factors affecting Food Choices