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Study on Consumption of Chicken Eggs in Hyderabad District

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Abstract: A survey based study on consumption of chicken eggs in house holds of Hyderabad district was carried out on pre-tested questionnaire during 2006-2007. For this purpose, 200 consumers were selected for interview and mostly were educated, married and having monthly income in the range of 1000-10000 rupees. According to the majority of religious groups, 86% representation was to Muslims and 14% to Hindu consumers. Among consumers, 40% were public sector employees, while 60% were from the private sector business. Majority of the consumers liked commercial eggs and their perception on nutritive value was partial. A weaker frequency of purchase was distinguished. Majority of consumers (51%) purchased and consumed eggs daily. Most of the consumers prefer commercial eggs over desi eggs. Omelet was the most preferred item after cooked by wives of the consumers. The eggs were more frequently consumed in winter season as compared to other seasons. The purchasing capacity of egg consumers was very weak and 73% consumers could purchase 1-3 eggs. Within family disliking of poultry was also observed. However, high frequency (71%) preferred to eat whole egg rather to take yolk or white. Eggs were the preferred item at breakfast over other food items. In case of disease outbreak in chicken, 54% consumers eat eggs and also 57% consumers use eggs when increased price in the market. Consumers also sacrifice egg in disease condition as old myth.

Key words: Chicken eggs, consumption patterns, cooking methods, sacrifice

INTRODUCTION

Pakistan is the fast growing country having growth rate 2.2% annually with total population of 172,800,000. (Anonymous, 2007). Most of peoples are engaged in agriculture producing food for her nation. The food is derived from agricultural products such as vegetable and animal products. Animal products are the traditional sources of milk, meat and eggs consumed by people since pre-historic times. They provide not only the essential amino acids but also the minerals, fats and vitamins. (Ajay *et al.*, 2007). Among animal products, the egg is the most consumable item in the families especially in the children. (Carlaroserios, 2008). Chicken eggs are a most common food and one of the most cooking item contains 65, 35, 12, 11, 1 and 11% water, dry matter, protein, fat, carbohydrates and ash respectively. The chicken egg also contains 163 cal/100 g. (Ahsan and Massod, 2002). The boiled and omelette are the major cooking item used in diets regularly. The egg acts as a nutritional powerhouse and can help the body to prevent as well as get rid of different ailments. Eating a raw egg is similar to consuming a good health tonic, whereas having boiled eggs is equally beneficent. The breakfast time is the best time to consume eggs daily. (Jillon *et al.*, 2008). There are many benefits of egg including maintains health, provides nutrition and protects immune system. In Pakistan, 10712 million numbers of eggs are produced for the consumption.

(GOP, 2008). The per capita egg consumption of chicken is 50-60 number eggs. This is very low in comparison to 261 in USA (Melinda, 2000) Commercial and desi are the types of eggs consumed in the country but consumption of commercial egg is high due to cheaper in price and easily availability than desi eggs. Awareness in consumption is increasing day by day through print and electronic media but still there is a deficiency. The culture, traditions, customs are influenced on egg consumption in rural and urban societies. (Khan, 2005). On the consideration and importance of eggs and its consumption, the study was planned to know the consumption and cooking patterns. Very limited information is available on the consumption and cooking patterns of chicken eggs in urban and rural families of Hyderabad District. This study will be much use in future planning for better poultry farming in the country.

MATERIALS AND METHODS

To know the utilization and preparation pattern of chicken eggs, a survey based study was designed and pre-tested questionnaire was prepared. The interviews were taken from 200 egg consumers of Hyderabad district during 2006-2007. The questions about their age, sex, education, marital status, language, monthly income, religion and occupation were asked. In addition, questions regarding nutritive value, price information,

quantity, liking and disliking, cooking method and consumption in various time were also enquired. Finally, the data were input in MS EXCEL programme and the collected data was analyzed statistically according to the methods of Snedcor and Chochran (1980).

RESULTS

The data on age, sex, education, marital status, language, monthly income, religion and occupation as demographic status is presented in Table 1.

Age of egg consumers: The consumers of chicken eggs (respondents) were classified into various age groups. The data indicated that of 45% were between 38-45 years, 26% between 26-31 years, 23% were in the age group of 32-37 years and 6% consumers were in the age group of 18-25 years.

Sex of consumers: In all 200 respondents, 90 male and 10 female egg consumers were interviewed. Although this ratio showed no significance of stratum this representation very low but females are included in this study.

Education level of the consumers: The data gathered on educational status of egg consumers that 34% were graduates, 24% could complete only primary education, 21% accomplished intermediate, 18% studied up to matriculation level and only 3% consumers were illiterate. The situation of the study area in relation to literacy rate was so promising and 97% of the representative consumers were literate.

Marital status of egg consumers: Marital status is a demographic characteristic generally required for knowing the family status of the respondents. The

information regarding marital status of the egg consumers that majority of the respondents (85%) were married and 15% were unmarried.

Income of the egg consumers: Most of the consumers (68%) in the study area had monthly income in the range of Rs. 1000-10000, while 23% of the consumers had their monthly incomes in the range of Rs. 11000-20000. Only 2% of the respondents disclosed that they have monthly income around Rs. 21000-30000 and 7% of the egg consumers told that they have monthly income more than Rs. 30000.

Religion of egg consumers: Table 1 exhibited that 86% of the sample size depends upon the Muslim consumers, while egg consumers belonged to Hindu community represented 14%. However, no representation was found from other minority groups i.e. Christians and Sikhs, etc.

Language of egg consumers: Majority (62%) interviewees belonged to Sindhi community, 30% were Urdu speaking, 4% Punjabi speaking and 4% were Pukhtoos. No other major ethnic group in the study area was found.

Occupation of consumers: The occupation of egg consumers were also studied and it was noted that majority of them (60%) were engaged with the private sector, either having their own business or on job in any private enterprise. However, 40% of the representative consumers were in government jobs and none of them were in any Non-governmental Organization (NGO) or jobless.

After demographic status of egg consumers, the data on nutritive value, price information, quantity, liking and

Table 1: Demographic information of the Consumers (n = 200)

Age (Years)	Frequency/Percent	Sex	Frequency/Percent
18-25	6	Male	180
26-31	26	Female	20
32-37	23		
38-45	45		
Education	Frequency/Percent	Marital status	Frequency/Percent
Primary	24	Married	85
Matriculation	18	Unmarried	15
Intermediate	21	Widow	0
Graduate	34	Widower	0
Illiterate	3		
Language	Frequency/Percent	Income	Frequency/Percent
Sindhi	62	1000-10000	68
Urdu	30	11000-20000	23
Punjabi	4	21000-30000	2
Pukhtoon	4	Above 30000	7
Religion	Frequency/Percent	Occupation	Frequency/Percent
Muslim	86	Govt. servant	40
Hindu	14	Private	60
Christian	0	NGOs	0
Sikh	0	Nil	0

disliking, cooking method, consumption and sacrifice of eggs in various times are presented in following tables.

Knowledge of consumers on nutritive value: Table 2 indicates that the people are not fully aware of the nutritive value of eggs and they just responded negative in view of their unauthenticated knowledge on this aspect.

Source of purchase of eggs: The egg consumers of Hyderabad were enquired to express the source of purchase; the responses are given in Table 3. It was known that 5% consumers purchase eggs from the nearest poultry farms, while remaining 95% purchase eggs from the local market (nearest shop).

Price information about eggs: During survey, they were asked to express their source of information for egg prices. The responses are presented in Table 4. 87% egg consumers contact poultry market for knowing the prices of eggs and remaining 13% read newspapers for knowing the prices of eggs in the market.

Availability of eggs in market: The availability eggs was questioned from the consumers of Hyderabad and 98% consumers responded optimistically and perceived that the eggs are always available in the market. However, only 2% consumers responded negatively, with the comments that sometimes the eggs are short in the market of Hyderabad (Table 5).

Liking of consumers towards egg: The consumer preference in relation to their liking enquired and its was perceived from their responses (Table 6), 97% of the consumers were positive in liking of chicken eggs in their diet, while only 3% showed negative response and did not like poultry eggs in their daily diet due to religious restriction.

Disliking of eggs by family members of consumers: Generally it is observed that liking and disliking by the persons of the same family vary considerably and some of the family members like to use an item of consumption, some other family members may dislike the same. The responses of survey presented in Table 7 indicated that 3% of consumers had one family member who disliked eggs, 18% of studied consumers had 2 family members disliked eggs, 11% of the consumers had 3 members of their families who disliked eggs and 11% consumers had 4 family members who disliked poultry eggs. However, 57% of the consumers had no family member to disliked eggs.

Preference towards purchase in type of eggs: The consumers were subjected to enquire for their preference/liking in type of egg, the responses to this effect are presented in Table 8. It was noted that 95% consumers liked to consume commercial eggs, while only 5% showed their preference for desi eggs.

Table 2: Knowledge of nutritive value of eggs

Response	Frequency	Percentage
Yes	134	68.0
No	66	32.0

Table 3: Source of purchase of eggs

Response	Frequency	Percentage
Farm	10	05.0
Market	190	95.0
Self rare	0	0

Table 4: Source of egg price information

Response	Frequency	Percentage
News paper	26	13.0
E-Media	0	0
Neighbour	0	0
Market	174	87.0

Table 5: Availability of eggs at shops

Response	Frequency	Percentage
Yes	196	98.0
No	04	02.0

Table 6: Liking in egg consumption

Response	Frequency	Percentage
Yes	194	97.0
No	06	03.0

Cooking of eggs by family members: The egg consumers Hyderabad were also investigated to inform, who prepare eggs for consumption and the responses are presented in Table 9. It was noted that 75% that their wives were responsible for cooking, at the homes, 11% consumers told that their daughters were responsible for cooking eggs and at 8% homes of the study area, mother/sister fulfill responsibility of cooking eggs. However, 6% respondents indicated self cooking of eggs at their homes.

Purchase of eggs by family members of consumers: The consumers of poultry products in Hyderabad were also instigated to inform, who purchases poultry eggs from the market and the responses are presented in Table 10. 73% consumers purchased eggs themselves, 17% were supported by their sons and 10% of the respondents were helped by their father/brother.

Frequency of purchasing of eggs by consumers: While examining the frequency of purchasing chicken meat, it was noted that 51% purchased eggs daily, 27% rarely, while 20% consumers purchased poultry eggs weekly. Only 2% of the consumers purchased once a month (Table 11).

Quantity of eggs purchased by consumers: The quantity of poultry eggs may vary with a number of reasons; however, the consumers in Hyderabad were asked to inform the quantity they purchase at a time. The

Table 7: Disliking in eggs by the family members of consumers

Response	Frequency	Percentage
1	06	03.0
2	36	18.0
3	22	11.0
4	22	11.0
No disliking	114	57.0

Table 8: Type of eggs liked by consumers

Response	Frequency	Percentage
Commercial	190	95.0
Desi	10	5.0

Table 9: Cooking of eggs by the family members of consumer

Response	Frequency	Percentage
Self	16	08.0
Son	0	0
Daughter	22	11.0
Wife	150	75.0
Mother/Sister	12	06.0

Table 10: Purchase of eggs by the family members

Response	Frequency	Percentage
Self	146	73.0
Son	34	17.0
Daughter	0	0
Wife	0	0
Father/Brother	20	10.0

Table 11: Frequency of egg purchasing by consumers

Response	Frequency	Percentage
Daily	102	51.0
Weekly	40	20.0
Monthly	04	2.0
Rare	54	27.0

response (Table 12) indicated 47% of the consumers purchase 1-3 eggs at one time, while 30% respondents had capacity to purchase 4-6 eggs, 20% of the consumers purchase 10-12 eggs at one time and only 3% of consumers purchased 7-9 eggs at one time.

Liking in egg parts: The egg has different quality in different parts and the consumers were asked to express their liking for various parts. It was noted that 71% egg consumers showed their liking for whole egg, 23% like egg yolk and only 6% consumers expressed their liking for white internal part for consumption (Table 13).

Seasonal consumption of eggs by consumers: The egg consumers in Hyderabad during survey were also asked to perceive seasonal consumption. According to their response, 80% consumes more eggs than usual in winter season and 20% enhance consumption in summer season (Table 14).

Consumption of eggs during disease outbreak: While enquiring the consumers whether they consume eggs

Table 12: Quantity of eggs purchased

Response	Frequency	Percentage
1-3	94	47.0
4-6	60	30.0
7-9	06	03.0
10-12	40	20.0

Table 13: Liking in egg parts by consumers

Response	Frequency	Percentage
Whole egg	142	71
yolk	64	23
white	12	06

Table 14: Seasonal consumption of eggs by consumers

Response	Frequency	Percentage
Summer	40	20.0
Spring	0	0
Autumn	0	0
Winter	160	80.0

Table 15: Consumption of eggs in disease outbreak

Response	Frequency	Percentage
Yes	76	38.0
No	108	54.0
Rare	16	08.0

in during any disease outbreak, 54% of the egg consumers responded in negative manner that they do not consume eggs during outbreak of disease, while 38% of the sample consumers were optimistic to consume eggs even during the outbreak. However, 8% egg consumers expressed that they use eggs during outbreak rarely (Table 15).

Consumption of egg in case of increased egg prices:

The egg consumers were asked to express consumption in case of increased egg prices due to certain reasons, and 57% of the egg consumers had positive response, while 42% showed negative response to this aspect. However, 1% egg consumers in the study area expressed no response on this aspect (Table 16).

Way of cooking of egg: The egg consumers were asked to show their preference on type of dish they use to prepare from eggs, 57% cooked omelet, 24% liked eggs as mixed preparation, 8% of the consumers liked fried eggs and only 1% of the respondents liked curry preparation from poultry eggs and 10% consumer were prefer to boiled eggs (Table 17).

1st preference to eat by consumers at breakfast: A number of cooked food items are available on the table at breakfast and the respondents were enquired for their categorical choice on food items. It was noted that 44% consumers showed their 1st preference for poultry eggs, 31% had choice of butter and 14% showed preference for milk; while 11% expressed their preference for jam/jelly (Table 18).

Table 16: Consumption of eggs in increased egg price

Response	Frequency	Percentage
Yes	114	57.0
No	84	42.0
With held	02	01.0

Table 17: Cooking method of eggs by consumers

Response	Frequency	Percentage
Curry	2	1.0
Fry	16	8.0
Boiled	20	10.0
Omelet	114	57.0
Mixed	48	24.0

Table 18: 1st preference to eat by consumers on the table

Response	Frequency	Percentage
Eggs	88	44.0
Butter	62	31.0
Jam/Jelly	22	11.0
Milk	28	14.0

Table 19: Sacrifice of eggs by consumers

Response	Frequency	Percentage
Yes	128	64.0
No	24	12.0
Rare	48	24.0

Sacrifice of eggs by consumers: The study also contained an enquiry from the egg consumers, whether they sacrifice eggs when they are in very seriously sick and the responses are presented in Table 19, which indicates that 64% showed optimistic response to this direction, 24% rarely do this practice, while 12% responded against this practice with a negative answer.

DISCUSSION

Among 200 egg consumers of Hyderabad, mostly were Muslim, educated, married and having private job along with less monthly salary. The consumers having better knowledge of nutritive value and price information because of their education. They purchased eggs from market up to 1-3 eggs daily (47%) and 20% weekly after getting price information from market due to weaker frequency of purchasing. In a similar study in Nigeria, Adejoro (2001) argued that the decline in consumption was occurred due to a decrease in the income and purchasing power of consumers. A similar study was conducted by Ajay *et al.* (2007), they reported that (51.66%) households consumed chicken once a week, followed by 22 (36.67%) households consumed twice a week. Kelly (2004) also reported that eggs are eaten on an average of 1.8 times per week. These findings are also in agreement with the report by Ronald (2000) that people of low incoming status can use eggs as a source of many nutrients at a very economical price. Availability of eggs at market was reported throughout the year and seldom had they found any shortage. Most of consumers liked eggs and very few consumers

disliked eggs due to their religious restrictions. Although very few family of members consumers disliked eggs but they purchased regularly for their families. The majority of consumers purchased commercial eggs and very little consumers liked desi (indigenous eggs due to local myth that eggs are hot especially in summer season) but the majority condemned this myth and consumed in summer season. Omelet is the major preparation from the whole eggs and wives of the consumers are responsible for cooking or preparation at their homes. Supporting the present results, Klievonen *et al.* (2004) reported that 91% respondents bought eggs in groceries and consumption of well-cooked eggs accounted for 84%, consumption of soft-boiled eggs for 12% and consumption of raw eggs for 4% of the total amount of eggs consumed. The majority of the consumers also liked eggs in any disease outbreak and when egg prices are increased. Most of consumers eat eggs first frequently when eggs are available along with other items like butter, milk and jam/jelly at the breakfast. In a similar study conducted by Park (2008) and Meggie (2009), they reported that eggs can be used at breakfast frequently. Sacrifice of eggs is the old myth but still adopted in study area and consumers sacrifices the eggs over the head of themselves even on their family members in any severe disease problems. The consumers showed positive trend in egg consumption throughout year even their low purchasing power.

Conclusion: It was concluded that egg consumption showed positive trend and most of consumers preferred 1-3 commercial eggs daily especially at breakfast as first preference to eat omelet after cooked by their wives, but the low purchase power resulted weaker purchasing frequency. Egg consumption was increased in winter as compared to summer, in increasing egg prices and no considerable effect of any disease outbreak was found. Consumers sacrifice the eggs in serious sickness for their early healthiness/remedy from diseases. Consumers also showed positive response in consuming eggs in summer season as well.

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