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Pattern of Food Procurement among Families with Varying Size and Ses

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Abstract:

Food procurement pattern is a rough indicator of food consumption in families. Socio economic status is the major affect or component while family size alters the per capita food availability.

Objective: To study the effect of Socio economic status (SES) and family size on food procurement.

Methodology: 350 Households each from Karkala and Moodbidri taluks (total 700), were selected. Cluster sampling was adopted. Demographic information of the households and food procurement pattern was obtained through standardised questionnaires.

Results: Family size varied from <4 to more than 8 members, 90% Households had < 6 family members. Percent of households in low, middle and high SES were, 50-55%, 37-40% and 8-10% respectively. Pattern of food procurement was essentially similar across the SES groups as well as with different family size except for flesh foods.

Conclusion: The procurement pattern was essentially similar regardless of SES. Family size has no influence. Low SES consumed non vegetarian foods less frequently.

Keywords: Family size, food procurement, Households, SES

1. Introduction

Family is the primary unit in all societies, it plays a vital role in shaping the dietary habits and it's known to vary with socioeconomic status, with those in higher social classes having more healthful diets than those in lower social classes [1-3]. In a developing world context, people have less ability to financially secure food than those in the developed world [4] and the family size are of even greater significance with long term associations between psychosocial and diet among the population [5-6]. Pattern of food procurement can also be viewed as a function in which the household combines its time and buy market commodities to produce tangible or non-tangible goods (warmth, nutrition and health) that ultimately enters its utility function. The 'Sustainability' measure is the outcome of availability and accessibility; it measures the standard of living and economic and social standing of the country in the world, the family within the country. It is therefore important that individual families should either have the capacity to produce adequate food for all the members or have purchasing power to acquire it. Food procurement is food availability, which depends on food production and imports which depends on purchasing power [7] which is the key to access [8].

2. Materials and Methods

2.1. Selection of Subjects

700 households from Karkala and Moodbidri taluks of South Kanara district were included for the study. 350 households each from the two regions were selected according to cluster sampling. Also, the households who incorporated to provide complete information were preferable selected. The wives of male head of the family were approached to elicit the information. The study was approved by Institutional Human Ethical Committee (IHEC), University of Mysore, Mysore, India. A consent letter was obtained from the participants. The content of the letter was read by the contractor/ head and explained to the labour groups.

The demographic information such as family size structure, education and employment status was elicited using pre tested and standardised questionnaire. The male heads and their female counterparts were assessed for height, weight, mid upper arm circumference (MUAC) and Waist circumference were measured using non flexible fiberglass tape. The methods of measurement was as described by Jelliffe [9]. Body weight was measured using electronic body weighing machine waist recorded nearest to 0.1Kg. The machine was checked in standard weights everytime before use. Height was measured using a height scale, measurement was made nearest to 0.1 cms. Descriptive analysis was used to present the data; Chi-square analysis was employed for comparisons between variables.

3. Results and Discussion

The demographic profile of the selected households is presented in table 1. Nuclear families formed 67% and joint families are 24%. 97% of the families comprised of less than 6 members, and had children ≤ 4. Our observation was similar to other reports since nuclear family systems seen predominant in most of the urban areas of developing countries [10-11]. Majority of the participants practised Hinduism followed by Jainism. There was an essentially similar distribution of the families practising vegetarianism/Non vegetarianism. Family size has a greater relevance to the distribution of family resources among family member and is an important index of security [12].

Variables	Characteristics	Karkala Tq (%)No.	Moodbidri Tq (%) No.	Chi-square
Family Type	Nuclear	82.0 (289)	54.0 (188)	67.293***
	Joint	15.0 (52)	38.0 (134)	
	Extended	3.0 (9)	8.0 (28)	
Head of the family	Female headed	10.0(35)	16.0(56)	---
	Male headed	90.0(315)	84.0(294)	
Family Size	2-4	61.0 (215)	55.0 (193)	0.749 ^{NS}
	5-6	38.0 (132)	44.0 (153)	
	7-8	1.0 (3)	1.0 (04)	
No. of children	1-2	79.0 (280)	91.0 (320)	22.099***
	3-4	19.0 (68)	7.0 (26)	
	>5	1.0 (2)	2.0 (4)	
Religion	Hindu	73.0 (256)	75.0 (264)	16.923**
	Muslim	6.0 (21)	5.0(19)	
	Christians	16.0 (57)	9.0 (30)	
	Jainism	5.0 (16)	11.0 (37)	
Type of Diet	Vegetarian	28.0(97)	33.0(115)	2.449 ^{NS}
	Non-vegetarian	72.0 (253)	67.0(235)	

Table 1: General Profile Of The Study Population
 P<0.01, *P<0.0001 & Ns-Non Significant

Table 2 presents other characteristics of the participants. Male members were more educated than female members, although all participants were literates. However, the association was not significant. 59 & 20% of females were homemakers and daily wagers respectively; the rest were engaged in different occupational activities like teacher, professionals and government officials. Among the male participants, 56% were business men and government officials, 21% were teachers & professionals and 15% were daily wagers. The pattern of occupation was found to have statistically extremely significant association.

Variables	Characteristics	Karkala Tq			Moodbidri Tq		
		Males % (No.)	Females % (No.)	Chi-square	Males % (No.)	Females % (No.)	Chi-square
Education	Attended schools	53.0 (188)	62.0 (217)	21.029**	60.0 (208)	70.0 (245)	11.070*
	Graduates	31.0 (108)	51.4 (110)		28.0 (101)	24.0 (83)	
	Profession-Dr./B.E/LLB	16.0 (54)	6.6 (23)		12.0 (41)	6.0 (22)	
Occupation	Home makers	---	50.0 (174)	292.442***	---	48.0 (169)	272.201***
	Labourers-Agriculturalist/Others	33.0 (117)	20.0 (68)		35.0 (121)	26.0 (92)	
	Professionals/Teacher	15.0 (54)	21.0 (75)		17.0 (58)	16.0 (55)	
	Business/Govt Official/Agriculturalist	38.0 (133)	8.0 (29)		39.0 (137)	5.0 (18)	
	Others	13.0 (46)	1.0 (4)		9.0 (34)	5.0 (17)	
	SES	Low	50.0(176)		55.0 (191)		
Middle	40.0(140)		37.0(131)				
High	10.0(34)		8.0(28)				

Table 2: Education, Occupation And Income Status Of The Study Population
 *P<0.05, **P<0.01 & ***P<0.0001

A perusal of table 3 indicates that 51-55% of families regardless of SES purchased cereals once a month. A considerable percentage of families varying from 12-16% purchased cereals annually. A small percentage of families mentioned to purchase cereals daily (8% of low and middle, 1% of high SES). Others mentioned to purchase once a week to once a fortnight. From the table, it may be noted that, there was no difference seen across the SES in purchasing pattern of cereals. A similar pattern of purchase was noted for cereals among families with varying family size. Pattern of legume purchase was essentially similar. 53-55% families in low-high SES purchased thrice a week. None of the families mentioned to purchase legumes monthly or annually. A similar frequency was seen among families with varying family size, family with large size were negligible. The pattern of purchase obtained for cereals and legume purchase table 3 appears to be similar indicating purchasing practices for different SES groups to be similar. Economic development seems to have lead improvements in intakes of all foods (legumes and vegetables) these changes may be beneficial. However improved socio-economic status was associated with reduced intakes of coarse cereal grains and increased reliance on highly polished varieties may reduce the intakes of dietary fibre [13]

		CEREALS						LEGUMES					
SES	N	Daily	Weekly		Monthly		Annual	Daily Once	Weekly		Monthly		
			Once	Twice/Thrice	Once	Twice/Thrice			Once	Twice	Thrice	Twice/Thrice	
% (n)													
Low	367	8.0 (30)	11.0 (42)	5.0 (19)	51.0 (188)	11.0 (40)	13.0 (48)	3.0 (12)	20.0 (75)	9.0 (34)	53.0 (194)	14.0 (52)	
Middle	271	8.0 (23)	9.0 (25)	4.0 (11)	51.0 (138)	15.0 (40)	13.0 (34)	4.0 (10)	17.0 (47)	7.0 (19)	54.0 (145)	18.0 (50)	
High	62	2.0 (1)	11.0 (7)	3.0 (2)	53.0 (33)	15.0 (9)	16.0 (10)	0	22.0 (14)	15.0 (9)	53.0 (33)	10.0 (6)	
Family size													
2 - 4	408	8.0 (32)	10.0 (41)	4.0 (18)	54.0 (220)	11.0 (46)	12.0 (51)	3.0 (13)	19.0 (77)	10.0 (40)	53.0 (217)	15.0 (61)	
5-8	292	7.0 (20)	11.0 (32)	8.0 (24)	51.0 (148)	13.0 (37)	14.0 (40)	3.0 (8)	20.0 (59)	7.0 (21)	54.0 (157)	16.0 (47)	

Table 3: Influence Of Ses And Family Size Of Food Procurement: Cereals And Legumes

Greens, fruit and vegetables purchases are given in table 4. The pattern of curve obtained of purchases indicates a peak at once a week (31-35%), with a wide base spread between daily to twice a week for low and middle SES. On the other hand high SES purchased these foods daily in higher percentage. However, majority of families in the entire SES group purchased greens, fruits and vegetables once a week. Although these foods are perishable distinct differences in the pattern of purchase was not seen across SES. Purchases were spread essentially evenly across daily purchases and multiple purchases per week. Since frequency of purchase seen from the table among the different income groups was not marked, it could be possible that quantity of purchase may be different.

GREENS, VEGETABLES & FRUITS						
SES	N	Daily	Weekly			Occasionally
			Once	Twice	Thrice	
Low	367	20.0 (74)	34.0 (126)	20.0 (75)	14.0 (51)	11.0 (41)
Middle	271	21.0 (58)	35.0 (96)	22.0 (60)	15.0 (38)	7.0 (19)
High	62	27.0 (17)	31.0 (19)	18.0 (11)	16.0 (10)	8.0 (5)
Family size						
2 - 4	408	24.0 (100)	36.0 (147)	20.0 (83)	13.0 (53)	6.0 (29)
5-8	292	21.0 (60)	30.0 (85)	26.0 (77)	15.0 (45)	8.0 (25)

Table 4: Influence Of Ses And Family Size Of Food Procurement: Greens, Fruit & Vegetables

It is obvious from table 5 differences in procurement due to SES and size of the families was not marked. 45-50% of families from low, middle and high SES purchased once a month. Daily purchases varied with income. High percentage of low income families purchased fats and oils daily as compared to 1% in high income group and 7% in middle income group. 50% families procured fats and oil once a week to thrice a week. This pattern was essentially similar in families with varying family size from the table 5

and indicates the pattern of purchase of meat which was spread from one to three times a week to 1-2 times a month. Daily purchases were low.

FATS & OILS							
SES	N	Daily	Weekly			Monthly	
			Once	Twice	Thrice	Once	Twice
Low	367	10.0 (37)	18.0 (67)	16.0 (56)	6.0 (22)	45.0 (165)	5.0 (20)
Middle	271	7.0 (18)	15.0 (40)	17.0 (45)	4.0 (12)	51.0 (138)	6.0 (18)
High	62	1.0 (1)	21.0 (13)	26.0 (16)	3.0 (2)	46.0 (28)	3.0 (2)
Family size							
2 -4	408	8.0 (33)	19.0 (76)	15.0 (60)	5.0 (19)	48.0 (198)	5.0 (21)
5-8	292	8.0 (24)	15.0 (43)	19.0 (57)	7.0 (17)	45.0 (133)	6.0 (18)

Table 5: Influence Of Ses And Family Size Of Food Procurement: Fats & Oil

It is evident table 6 that procurement of meat products (including sea foods) was relatively high in high income group. Highest frequency of purchase was seen once a week table 6 among high and middle SES families while high percentage of low SES families purchased twice a week. A review of the independent studies showed that eating sea foods even one to three times a month reduced the risk of heart attack or stroke, although eating seafood more than once a week gave the best results [14]. Many studies have shown that habitual fish eaters have a blood lipid profile with normal levels decreasing risk of heart attack [15]. Influence of family size on purchase of meat was essentially similar to that of SES and is presented in the table 6 .However it is obvious that small families purchased more frequently than large families. Every increase in family size resulted in decreased per capita food and nutrient availability and this decreases the quality of nutrition and health. This, in turn, has an effect on productivity and earnings which ultimately affects the overall economic development [16].

MEAT PRODUCTS							
SES	N	Daily	Weekly			Monthly	
			Once	Twice	Thrice	Once	Twice
Low	209	6.0 (13)	8.0 (17)	38.0 (80)	19.0 (40)	19.0 (39)	10.0 (20)
Middle	227	7.0 (17)	33.0 (74)	18.0 (40)	15.0 (36)	18.0 (40)	9.0 (20)
High	45	7.0 (3)	29.0 (14)	22.0 (10)	11.0 (5)	20.0 (9)	11.0 (4)
Family size							
2 -4	293	8.0 (23)	36.0 (105)	17.0 (50)	12.0 (35)	18.0 (53)	9.0 (27)
5-8	205	7.0 (15)	27.0 (55)	20.0 (40)	16.0 (34)	19.0 (39)	11.0 (22)

Table 6: Influence Of Ses And Family Size Of Food Procurement: Meat Products

Table 7: The pattern for purchase of ready to eat foods was essentially similar across the SES. High frequency of purchase was noted as once a week and once a month, hence daily purchases were minimum. Effect of family size on purchases was evident; the pattern varied for daily once a week and once a month purchase, wherein percent of large families was markedly high.

READY TO EAT FOODS							
SES	N	Daily	Weekly			Monthly	
			Once	Twice	Thrice	Once	Twice
Low	367	6.0 (21)	27.0 (101)	11.0 (40)	9.0 (32)	33.0 (122)	14.0 (51)
Middle	271	4.0 (12)	24.0 (64)	11.0 (30)	10.0 (26)	38.0 (104)	13.0 (35)
High	62	4.0 (2)	30.0 (18)	8.0 (5)	11.0 (7)	32.0 (20)	15.0 (10)
Family size							
2 -4	408	4.0 (15)	15.0 (62)	15.0 (63)	11.0 (44)	33.0 (136)	21.0 (85)
5-8	292	7.0 (21)	24.0 (71)	11.0 (32)	7.0 (20)	37.0 (107)	14.0 (42)

Table 7: Influence Of Ses And Family Size Of Food Procurement: Ready To Eat Food

4. Conclusion

The data about effect of SES and Family Size on pattern of food procurement suggests a similar trend to exist in purchases among the study population. Nevertheless, our results indicate that SES or the family size brought about a small change indicating that the dietary patterns of people in the study area to be similar regardless of SES. Socio cultural factors have strong role on food practices; seasonal availabilities of fruits and vegetable which is characteristic to this region may exert influence on food purchases. Among the Non vegetarians, sea foods occupied a major proportion. These items are available at reasonably low cost further depends on the variety and the cost; people have a choice to purchase low cost sea foods. Hence the similarity in the frequency of purchase across the income group validates the uniform pattern of purchases. It is rather surprising to note that family size had no effect on pattern of food purchase. Literature also supported our study indicating that family size affect food purchase and intakes.

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